FULL REPORT

DEBT MANAGEMENT OFFICE
NIGERIA

# 2015

# REPORT OF THE ANNUAL NATIONAL DEBT SUSTAINABILITY ANALYSIS (DSA)

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## GLOSSARY

| | |
|---|---|
| AMCON | Asset Management Corporation of Nigeria |
| ASI | All-Share Index |
| ATM | Average Time-to-Maturity |
| BDC | Bureau De Change |
| BOF | Budget Office of the Federation |
| CBN | Central Bank of Nigeria |
| CHF | Swiss Franc |
| CPIA | Country Policy & Institutional Assessment |
| DDR | Debt Data Reconstruction |
| DSA | Debt Sustainability Analysis |
| DSF-LICs | Debt Sustainability Framework for Low Income Countries |
| DSF-MICs | Debt Sustainability Framework for Middle Income Countries |
| DMO | Debt Management Office |
| ECFA | External Creditors Funding Account |
| EM-GBI | Emerging Markets-Government Bond Index |
| EM-LCBI | Emerging Markets-Local Currency Bond Index |
| FCT | Federal Capital Territory |
| FDIs | Foreign Direct Investments |
| FEC | Federal Executive Council |
| FGN | Federal Government of Nigeria |
| FMF | Federal Ministry Finance |
| GBP | British Pound Sterling |
| GDP | Gross Domestic Product |
| GIFMIS | Government Integrated Financial Management Information System |
| GNI | Gross National Income |
| ICM | International Capital Market |
| IGR | Internally Generated Revenue |
| IMF | International Monetary Fund |
| IPPIS | Integrated Payroll and Personnel Information System |
| ISPO | Irrevocable Standing Payment Order |
| JPY | Japanese Yen |
| $M_2$ | Broad Money Supply |
| MACs | Market Access Countries |

| | |
|---|---|
| Mbpd | Million Barrels Per Day |
| MDAs | Ministries, Departments and Agencies |
| MLT | Medium to Long-Term |
| MPR | Monetary Policy Rate |
| MTDS | Medium-Term Debt Management Strategy |
| MTEF | Medium-Term Expenditure Framework |
| NBS | National Bureau of Statistics |
| NIRP | National Industrial Revolution Plan |
| NPC | National Planning Commission |
| NPV | Net Present Value |
| NSE | The Nigerian Stock Exchange |
| NTBs | Nigerian Treasury Bills |
| OAGF | Office of Accountant-General of the Federation |
| Pb | Per barrel |
| PENCOM | Pension Commission |
| PIB | Petroleum Industry Bill |
| PV | Present Value |
| SF | Sinking Fund |
| SPV | Special Purpose Vehicle |
| ST | Short-Term |
| TSA | Treasury Single Account |
| TTM | Term-To-Maturity |
| WAIFEM | West African Institute for Financial and Economic Management |

# AN EXECUTIVE SUMMARY

## Background

The Nigerian economy has remained resilient over the last few years, due mainly to the various reforms instituted in the key sectors of the economy. In public finance sector management, fiscal discipline and prudent borrowings have ensured that public debt portfolio remained sustainable at 12.65 percent of the GDP as at end of December, 2014.

The 2015 DSA was conducted at a most challenging period, coming on the heels of a further deterioration in the fiscal numbers of the Government, given the steady decline in the oil prices. The recent developments in the international oil market have further amplified the risks and vulnerabilities faced by most oil exporting countries including Nigeria. This has posed serious challenges in terms of weakening growth prospects and deterioration of fiscal and external financial positions, which could affect the long-term sustainability of Nigeria's public debt, as further decline in global oil prices might exert pressures on the debt position in the medium to long-term, unless other fiscal measures are undertaken to bolster the country's revenue profile.

## Methodology

The exercise used the updated and revised version of the joint World Bank/IMF Debt Sustainability Framework for Low Income Countries (DSF-LICs) analytical tool, which was released in June, 30, 2015.

The 2015 DSA, Framework assessed the country's debt sustainability based on Baseline and Pessimistic scenarios over a 20-year projection period under varying assumptions. The exercise considered two main scenarios - Baseline and Pessimistic, in view of the recent developments in both the global and local economic environments, which include quantity shocks and price volatility in global oil market. The Baseline Scenario is anchored on the macroeconomic framework of the country, as outlined in the 2015 Federal Government Budget and the MTEF, 2015-2017, while the Pessimistic Scenario is premised on further adverse shocks on the various macroeconomic variables such as oil price (down to US$ 30pb) and current account position.

The scope of data for 2015 DSA comprised total public debt of the FGN, debts of the State Governments (external and domestic), and the FCT, FGN's contingent liabilities and private sector external debts.

## Summary of Key Findings

**The result of the 2015 DSA shows that Nigeria remains at a low risk of debt distress based on the output-based indicators.** As in the previous DSA, none of the thresholds were breached throughout the projection period under the baseline. However, debt sustainability remains mostly sensitive to the revenue shocks. The details of the key findings are outlined below:

*(i)* ***Output Indicator – (Debt/GDP)***

- ***FGN only***

  Given the projected size of the country's GDP, which shows that its average growth rate of 5.43 percent over the projection period outweighs the average rate of debt accumulation of 4.02 percent, the result obtained under the fiscal sustainability of the FGN only (External & Domestic Debt) indicates that FGN is at a low risk of debt distress. The PV of the Total Debt/GDP ratio, which is estimated at 11.7 and 11.4 percent for 2015 and 2016, compare favourably with the country's peer group threshold of 56 percent and country-specific threshold of 19.39 percent up to 2017.

- ***The Federation (FGN, States & FCT)***

  In like manner, the fiscal sustainability of the Federation (FGN + States and FCT debt data), show a similar trend with the FGN only. The PV of Total Debt-to-GDP ratio is projected at 13.6 and 13.1 percent for 2015 and 2016, respectively, which also compare favourably with the thresholds. The same reasoning justified this trend – that is, with the projected rising aggregate output (GDP) for the period, with an average growth rate of 5.43 percent over the projection period, outweighing the average rate of debt accumulation (4.02 percent) for the period, the downward trend in the output ratios was therefore, inevitable.

*(ii)* ***Revenue-based Indicator (Total Debt-to-Revenue)***

- ***FGN only***

  For the FGN only (External and Domestic debt), the revenue-based indicators, showed a faster rate of deterioration after 2017. The PV of Debt/Revenue for 2015 and 2017 were projected at 316.5 and 339.3 percent respectively, and were still marginally below the country-specific threshold of 350 percent. International threshold exist only for External Debt-to-Revenue, which is

250 percent. It is instructive to note that from 2018 up to the end of the projection period, the Total Debt-to-Revenue deteriorated faster and breached the country-specific threshold of 350. Thus, affirming the proposition for an urgent need to further diversify the revenue base of the country to avoid the risk of debt distress.

- ***Federation (FGN, States & FCT)***

  Meanwhile, the Debt/Revenue ratio of the Federation (FGN, States and FCT) looks fairly robust, in the short to medium-term. The projected Debt/Revenue ratio marginally breached the country-specific threshold of 350 in the long-term, from year 2026 at 353.5 percent. The explanation is that the addition of sub-national's revenue variable is proportionately higher than the debt stock variable.

*(iii)* ***Revenue – based Indicator (Debt Service-to-Revenue)***

- ***FGN only***

  For the Debt Service-to-Revenue, using only FGN debt service data, the outcome shows an immediate breach of the country specific threshold of 28 percent from 2015 (46.4 percent) up to the end of the projection period. This ratio deteriorates further and shows a rising trend in the medium to long-term.

- ***The Federation (FGN, States and FCT)***

  The Debt Service to Revenue for the Federation – also mirrors the outcome of the FGN only. While the ratio breached the country specific threshold of 28 from the first year of projection at 38.7 for 2015, and all through the projection period, the absolute figures were moderated, when compared with the FGN only.

All these highlight the fact that an increase in aggregate output (country's GDP), does not result to a proportionate increase in revenue, thereby making the debt portfolio susceptible to Revenue shocks. **There is, therefore, the urgent need for the authorities to fast-track efforts aimed at further diversifying the sources of revenue away from crude oil, as well as, implement far-reaching policies that will bolster exports and other forms of capital flows (e.g. foreign direct investments) into the country. This has become very critical, given**

**the continued volatility in the price of oil in the international commodities market.**

**Key Recommendations**

The key policy recommendations of the 2015 DSA exercise are as follows:

i The end-period NPV of Total Public Debt/GDP ratio for 2015 for FGN is projected at 11.7 percent. The difference between the projected ratio for 2015 (11.7 percent), and the recalibrated Country-Specific ratio of NPV of Total Public Debt/GDP for the medium-term, 2015-2017, estimated at 19.39 percent is 7.69 percent using a GDP estimate of US$544.24 billion for 2016.

ii Based on the foregoing, the **maximum amount that could be borrowed (domestic and external) by the FGN in 2016 and 2017 without violating the country-specific threshold is about US$42.00 billion (i.e. 7.69 percent of US$544.24 billion). This translates to about US$21 billion each year for 2016 and 2017.**

In line with the provisions in the MTDS (2012-2015), there is the need to rebalance the debt portfolio by substituting the relatively expensive domestic borrowing in favour of cheaper external financing. This recommendation has been reinforced, given the recent realities, particularly with respect to rising cost of domestic borrowing and the need to address the perception of crowding out of the private sector. These put together make further accumulation of domestic debt highly unattractive and needs to be curtailed. Currently, the difference in the cost of borrowing between domestic and external sources is about 800-1000 basis points. The recommended shift of emphasis to external borrowing would help to reduce the debt service burden in the short to medium-term and create a robust borrowing space for the private sector. **Taking into account the domestic market absorptive capacity and the External Borrowing Plan, the maximum borrowing of US$21 billion for 2016, is proposed to be sourced from both domestic and external sources as follows:**

**a. New Domestic Borrowing: US$5.0 billion (equivalent of about ₦1.0 trillion); and,**

**b. New External Borrowing: US$16.0 billion.**

In view of the country's acute infrastructure demands, advantage can be taken of the borrowing space, without breaching the country's sustainability threshold.

iii Given the recent deterioration in government revenue, occasioned by the drastic fall in the price of oil, government should now reinforce its initiatives aimed at diversifying the productive base of the economy and, thus, improve the non-oil revenue receipts. Towards this end, steps should be taken to broaden the tax base, especially, the incorporation of the informal sector into the tax net, effectively enforce existing tax laws for optimal compliance, consider the proposal to review upwards the Value Added Tax (VAT) rate from its present 5 percent (currently, the lowest in the ECOWAS sub-region) to about 10 percent and block revenue leakages. These would help to shore-up government's non-oil revenue, reduce the over-dependence on oil revenue, reduce domestic borrowing and, hence, ensure overall long-term fiscal sustainability.

iv Whilst efforts are on-going to aggressively diversify the economy away from over-dependence on crude oil, which has served as the main source of revenue to the country, the Federal Government should not relent on the on-going reforms in the oil and gas sector of the economy. These could be strengthened by accelerating the passage of the Petroleum Industry Bill (PIB) into law, which is expected to open up the investment space in the sector.

v It is also advisable for the Federal Government to commence the implementation of the International Public Sector Accounting Standards (IPSAS) accrual accounting in 2016, as planned, so as to make financial reports much more robust and informative for sound decision making. An IPSAS compliant report will make government's assets and liabilities become more apparent to users, and uses the accrual accounting principle that recongnises non-cash based assets, which will enhance the robustness of the DSA data.

vi In view of the adverse effect of the drop in oil revenue and the resultant reduction in statutory allocations on the finances of the sub-nationals, necessitating various forms of bail-outs by the Federal Government, there is the need for a full implementation of the Guidelines on External and Domestic Borrowings to forestall further relapse into debt unsustainability by the sub-nationals.

vii The DMO is expected to sustain its capacity building initiatives for the sub-nationals, so as to upscale their skills, and bring them to the level, where the staff of the Debt Management Departments would be able to conduct their own DSAs and Medium-Term Debt Strategy (MTDS). This will further help them to effectively advise their respective Governments on issues relating to public debt. The mechanism for collating and publication of sub-national debt data should be strengthened, so as to reduce delays in providing relevant data required for critical decision making.

viii Given the recent classification of Nigeria as a Lower-Middle-Income country and the anticipated transition from the use of the DSF-LICs analytical tool to Market Access Countries (MACs) Template used by emerging economies in the near term, there is an urgent need for requisite capacity building for staff of the DMO and those of the relevant stakeholders, for a proper understanding of the Template, prior to the commencement of its usage by the country in conducting the national annual DSA exercise, going forward.

ix In order to forestall the challenge of having deficits in both the fiscal and current account balances, the Federal Government should seek ways to gradually reduce fiscal deficits by moderating public expenditures and aggressively pursue the development of the real sector, particularly in the agriculture and manufacturing, so as to boost exports.

x Furthermore, it is imperative that the Federal Government sustains the on-going reforms in the various key sectors of the economy, which include: power, agriculture, transport, housing and education, in order to engender the needed inclusive economic growth.

xi Given Nigeria's enormous infrastructure needs vis-à-vis the revenue constraints, there is the need to creatively explore and consider other funding options to finance priority projects. This may include the setting up of an Infrastructure Development Fund, and the issuance of Infrastructure-tied Bonds, as well as, encouraging the private sector to participate in funding viable infrastructural projects through the Public-Private-Partnership arrangements, as well as, appropriate Sovereign Guarantees.

xii As part of efforts at liberalising public debt management knowledge and to engender the needed harmonious relationship with the various arms of Government, it is recommended that, going forward, some technical staff of the two Committees of the National Assembly - Senate and House of Representatives, overseeing public debt management, could be co-opted into the Technical Committee for the annual DSA Workshops/Fora. This is to enable the legislative arm of Government to further appreciate the full import of such an exercise, which will help to enhance its visibility and, thus, facilitate the implementation of its outcomes.

xiii In the same vein, there is also the need for the DMO to periodically organize targeted sensitization workshops or fora for relevant stakeholders, on the essence and outcomes of the DSA, as well as, their economic implications for an effective and prudent public debt management.

# CHAPTER ONE
# INTRODUCTION

The Nigerian economy has remained resilient over the last few years. Fiscal discipline and prudent borrowings have kept the public debt portfolio at 12.65 percent of the GDP as at end of December, 2014. This is low relative to the international threshold of 56 percent for Nigeria's peer group, however, the public debt service-to-revenue remains high. The recent developments in the international oil market have amplified the risks and vulnerabilities faced by oil exporting countries, including Nigeria. This has posed a serious challenge in terms of weakening growth prospects and deterioriation of fiscal and external financial postions, which could affect sustainability position of the Nigeria's public debt, as further decline in global oil prices might exert pressures on the debt position in the medium to long-term, unless other sources of revenue are developed.

The annual 2015 National Debt Sustainability Analysis (2015 DSA) Workshop was organized by the Debt Management Office (DMO) from August 17 to 23, 2015, in collaboration with relevant stakeholders in public debt management operations, namely: the Federal Ministry of Finance (FMF), National Planning Commission (NPC), Central Bank of Nigeria (CBN), Budget Office of the Federation (BOF), National Bureau of Statistics (NBS) and the Office of the Accountant-General of the Federation (OAGF). The West African Institute for Financial and Economic Management (WAIFEM), as in the past, provided technical support.

This exercise was aimed at updating the 2014 DSA. In addition, the conduct of DSA is part of the requirements of sound public debt management practices, so as to ensure that the nation's total public debt portfolio is, on an annual basis, subjected to appropriate qualitative and quantitative analysis. The exercise is aimed at evaluating the country's repayment capacity for its current and future debt obligations.

The 2015 DSA considered two main scenarios - Baseline and Pessimistic, in view of the recent developments in both global and local economic environments, which include quantity shocks and volatility in global oil prices. The Baseline scenario is anchored on the macroeconomic framework of the country as outlined in the 2015 Federal Government Budget and the MTEF, 2015-2017, while the pessimistic scenario is premised on the adverse shocks on macroeconomic variables, such as oil price and current account position. In line with public debt management strategies, the 2015 DSA also incorporated Government's policy objective of reducing the overall cost of borrowing of the government and at an acceptable level of risks.

## 1.1 Policy Objectives

The objective of the 2015 DSA is to evaluate the country's capacity to finance its policy objectives and service its debt obligations, without unduly large adjustments, which may compromise its macroeconomic stability, overall growth and development. The policy objectives include, to:

- i update the 2014 DSA, in view of the dwindling oil revenue caused by global fall in oil prices;
- ii assess the current and future public debt portfolio of the country with a view to determining its sustainability position, identify any vulnerabilities in the debt portofolio or government's polcy framework and proffer corrective measures;
- iii guide the government in its borrowing decisions, so as to ensure that the government's financing needs and future repayment ability are taken into account;
- iv advise the government on its borrowing limits for 2016 and financing options; and,
- v provide inputs into the national budget and information necessary for updating the Medium-Term Expenditure Framework (MTEF).

## 1.2 Methodology

The 2015 DSA exercise used the updated version of the joint World Bank/IMF Debt Sustainability Framework for Low Income Countries (DSF-LICs) analytical tool released in June, 30, 2015. The DSF-LICs is based on indicative debt burden thresholds that depends on the quality of a country's policies and institutions. The DSF classified countries into one of three policy performance categories (strong, medium and poor) using the Country Policy and Institutional Assessment (CPIA) index ranking, with a scale of 1 to 6, and using different indicative threholds for debt burdens depending on the performance category. Nigeria is currently classified as a Medium Performer with a score of 3.45 in the CPIA Index. Under the 2015 DSA the Framework assesed the country's debt sustainability based on Baseline and Pessimistic scenarios for over a 20-year projection period under varying assumptions. The outcomes of the exercise are used to compare the country's debt sustainability indicators to internationally established debt burden thresholds, which measure the solvency and liquidity positions of the country.

The revised DSF-LICs also provided for one solvency thresholds for the fiscal block (combined external and domestic debt), which is the: Present Value (PV) of Total Public Debt/GDP ratio set at 56 percent for Nigeria's peer group, while the Nominal Total Public Debt/GDP ratio is 60 percent. In addition, there are five (5) debt burden indicators in the external block – three (3) solvency and two (2) liquidity measures (Table 1.1). The solvency measures consist of the PV of External Debt/GDP ratio, 40 percent; PV of External Debt/Revenue ratio, 250 percent; and, PV of External Debt/Exports ratio, 150 percent. The liquidity thresholds include the External Debt Service/Revenue ratio, 20 percent and External Debt Service/Exports ratio, 20 percent.

**Table 1.1: Fiscal and External Debts Thresholds**

| Qualities of Policies and Institutions (CPIA) | Solvency Ratios | | | | Liquidity Ratios | |
|---|---|---|---|---|---|---|
| | Fiscal | External | External | External | External | External |
| | NPV of Debt as a % of | | | | Debt Service as a % of | |
| | GDP | GDP | Revenue | Export | Revenue | Export |
| Weak | 38 | 30 | 200 | 100 | 25 | 15 |
| **Medium** | **56** | **40** | **250** | **150** | **20** | **20** |
| Strong | 74 | 50 | 300 | 200 | 35 | 25 |

## 1.3 Scope of 2015 DSA Data Coverage

The scope of data for 2015 DSA comprised total public debt of the FGN, debt of the State Governments (external and domestic), debt of the FCT, FGN's contingent liabilities and private sector external debts. This is because of their wider implications for public debt sustainability. The State Governments' Domestic debt data for 2013 was, however, used in the 2015 baseline debt data, as collation of State Governments' domestic debt data for 2014, was being finalised at the time of the exercise. The analytical tool provided macroeconomic indicators and variables across the four sectors of the economy (real, fiscal, monetary and external), which are as follows:

i. FGN's contingent liabilities;

ii. Public Sector Revenue and Expenditure;
iii. Aid flows (total grants);
iv. GDP at current and constant prices, including the deflator;
v. Inflation, Interest and Exchange Rates;
vi. Current account balance, including net official transfers;
vii. Exports and Imports of goods and services;
viii. Net Foreign Direct Investments (FDIs); and,
ix. Accretion to External Reserves (flow).

The analysis was conducted using 10-year historical data[1], which was again projected for twenty (20) years to 2035, using 2014 data as base year, and 2015 as the first year of projection. This is based on the premise that debt sustainability analysis is a forward-looking concept that requires long-term projections.

### 1.4 Benefits of 2015 DSA

The outcomes of the 2015 DSA exercise provide the status of the country's debt sustainability relative to standard thresholds and other debt and macroeconomic indicators. The benefits for conducting 2015 DSA, amongst others, include the following:

i. evalute the solvency and liquidity status of the country's total public debt portfolio, with respect to current and future debt obligations;
ii. to determine the fiscal space available to the government with a view to setting the borrowing limit, given the current debt level;
iii. guide the government on optimal funding options for its projects and programmes;
iv. detect current and potentail future fiscal stress that might be caused by external shocks with a view to preventing and resolving the crises;
v. evaluate the risks inherent with the current total debt portfolio and proffer mitigating measures; and,
vi. examine the impact of on-going fiscal policy stance of the government and monetary policy objectives on public debt management strategies and provide policy advice in this regard.

[1]Nigeria, like most other countries, uses cash basis of accounting, which limits the DSA data to only actual cash flows, as against the accrual accounting principle that recognizes non-cash based assets. Hence, networth basis was not considered.

The Report is divided into seven chapters, including chapter one, which is the Introduction. Chapter two presents the recent macroeconomic developments in the global and domestic economies, as well as, provides future outlook. Chapter three provides analysis of the country's current debt portfolio as at the end of December, 2014. Chapter four reviews the risks associated with the current total public debt portfolio. Chapter five outlines the assumptions underpinning the Baseline and Pessimistic Scenarios. Chapter six analyses the results of the data simulation exercise, contains the determination of borrowing limit for 2016 and recommendations, while Chapter seven presents the key findings and recommendations of the 2015 DSA exercise.

# CHAPTER TWO
# RECENT MACROECONOMIC DEVELOPMENTS

## 2.1 External Developments

The global economy grew at 3.4 percent in 2014, same as in 2013, with uneven performances across countries and regions. According to the July, 2015 World Economic Outlook, published by the International Monetary Fund, the global output growth in 2014, reflected an improvement in growth in advanced economies from 1.4 percent in 2013 to 1.8 percent in 2014. The United States' economy experienced a marginal increase in growth from 2.2 percent in 2013 to 2.4 percent in 2014. The economic recovery in the euro area continued to be on track, from an output growth of -0.4 percent in 2013 to 0.8 percent in 2014, driven largely by higher growth performances in Germany and France. However, growth in the emerging markets and developing economies slowed down from 5.4 percent in 2013 to 4.6 percent in 2014. The slowdown reflected the dampening impact of lower commodity prices and tighter external financial conditions-particularly in Latin America and oil exporters, the rebalancing in China, and structural bottlenecks, as well as, economic distress related to geo-political factors-particularly in the Commonwealth of Independent States and some countries in the Middle East and North Africa. The Sub-Saharan African economies maintained a similar trend, with growth declining from 5.2 percent in 2013 to 5.0 percent in 2014. The growth forecast for the world economy was, however, revised downward to 3.3 percent from 3.5 percent projected in January 2015.

## 2.2 Domestic Developments

The performance of the Nigerian economy was modest in 2013 and 2014, inspite of volatile global economic environment and changing global oil map. The economy recorded an average GDP growth rate of 5.86 percent per annum during 2013-2014, as shown in Table 2.1. The economy grew by 6.22 percent in 2014, compared with 5.49 percent growth rate in 2013. This was largely driven by performance of the non-oil sector, particularly services, manufacturing, agriculture and construction. However, economic activities in the oil and gas sector contracted during the period with negative growth rates of 13.07 percent in 2013 and 1.32 percent in 2014. This was attributed to the disruption in production, due to oil theft and oil pipeline vandalism in the Niger Delta. The services and agricultural sectors remained the major contributors to economic growth and accounted for 52.16 and 22.9 percent of GDP respectively. With the country's population growth rate of about 3.2 percent per annum, the GDP per capita increased from ₦2,875.33 in 2013 to ₦3,071.14 in 2014. Nigeria also improved in its global ranking by nominal GDP from 23rd position in 2013 to 21st position in 2014. The nominal GDP in 2014 stood at ₦89,042.6 billion (US$561.6 billion). However, the real GDP recorded a sluggish growth of 3.96 percent in quarter one of 2015.

The consumer price inflation remained unchanged at 8.0 percent in both 2013 and 2014. The situation of the economy in the first half of 2015 was relatively difficult, following the prolonged declining price of crude oil in the international oil market, the 2015 general election, insecurity in the North East, as well as, the fuel scarcity in the country. The inflationary pressures have also built up with the increase in consumer prices by 9.2 percent in July 2015.

**Table 2.1: Nigeria's Recent Macroeconomic Developments, 2010-2014**

| Indicators | 2010 | 2011 | 2012 | 2013 | 2014 |
|---|---|---|---|---|---|
| Real GDP Growth Rate (%) | 6.7 | 5.09 | 4.21 | 5.49 | 6.22 |
| Annual GDP Deflator (2010=100) (% Annual Change) | 7.04 | 11.06 | 5.51 | 4.91 | 4.66 |
| Headline Inflation Rate (%) | 11.8 | 10.3 | 10.0 | 8.0 | 8.0 |
| Actual Overall Fiscal Deficit (% of GDP) | 3.8 | 3.0 | 2.4 | 1.4 | 0.94 |
| End-Period Exchange Rate (₦) | 150.60 | 158.27 | 156.05 | 155.98 | 169.68 |
| Current Account Position (US$'Billions)* | 14.6 | 10.76 | 17.52 | 19.21 | 1.28 |
| Total Public Debt-to-GDP Ratio (%) | 17.20 | 20.58 | 22.43 | 12.65** | 12.65** |
| External Reserve Stock (US$'Billion) | 32.54 | 32.64 | 43.83 | 42.85 | 34.24 |

Sources: NBS, CBN, OAGF, and DMO
Note: Total Public Debt-to-GDP ratio include States' Domestic Debt stock from 2011-2013
*Revised figures from CBN
**Total Public Debt-to-GDP ratio post-rebasing

Data available from the OAGF indicate that actual revenue and expenditure of the Federal Government for fiscal year 2014 were ₦3,287.77 billion and ₦4,123.41 billion, respectively compared with ₦4,031.8 billion and ₦5,185.3 billion in 2013. The overall fiscal deficit stood at ₦835.64 billion in 2014 with overall fiscal Deficit-to-GDP ratio, declined to 0.94 percent in 2014 from 1.4 percent in 2013. The revenue estimate of the 2014 Federal Government Budget was based on oil price benchmark of US$53 per barrel compared with US$79 in 2013.

In the external sector, provisional figures from the Central Bank of Nigeria revealed that the Balance of Payment (BOP) recorded an overall BOP deficit of 1.7 percent of GDP post-rebasing. This development was attributed to the depletion in the excess crude oil account, as well as, reduction in the growth of crude oil exports, which were reflected in the decline of the external reserves and capital reversals, lower trade balance among others. The external reserves fell by 20.2 percent from US$42.85 billion in 2013 to US$34.24 billion as at end-December, 2014, which could account for about 7.0 months of import financing.

The current account balance declined significantly and this was driven by lower trade balance and financial inflows from Nigerians in Diaspora, as well as, relative instability in the global oil market. Owing to intense pressure arising from excessive demand and capital reversal in the foreign exchange market towards the end of the year, the CBN supended the Wholesale Dutch Auction System (wDAS) for the Retail Dutch Auction System (rDAS), adjusted the mid-point of the official exchange rate from ₦155/US$ to ₦168/US$ and widened the exchange rate band by 200 basis points from ±3 percent to ±5 percent. As a result, the exchange rate depreciated at both the Official and Bureau De Change (BDC) segments of the foreign exchange market. The average exchange rate of the Naira at the rDAS segment showed that the exchange rate depreciated against the US dollar by 0.8 percent to ₦158.55 per US dollar in 2014. It also depreciated by 3.4 and 5.3 percent to ₦164.88 and ₦171.45 per US dollar at the interbank and BDC segments, compared with ₦159.25 and ₦162.45 per US dollar in 2013, respectively. This development widened the premium between the rDAS - Inter-bank and rDAS - BDC rates to 4.0 and 8.1 percent, in 2014 from 1.2 and 3.3 percent in 2013, respectively.

Provisional data for 2014 showed that Broad Money Supply ($M_2$) increased by 20.6 percent as at end of December, 2014, over the level as at end of December, 2013, in contrast to the growth of 1.3 percent in the corresponding period of 2013. The development reflected the increase in the net aggregate credit and other assets of the banking system. The Monetary Policy Rate (MPR) was increased to 13.00 percent from 12.0 per cent in the preceding year, reflecting the CBN's contractionary monetary policy stance aimed at sustaining the stability of the financial system. The weighted average prime lending rate fell marginally by 0.14 to 16.65 percent, while the average maximum lending rate rose by 1.23 to 25.74 percent during the year. In the Interbank money market, the weighted average inter-bank call rate fell to 11.82, from 12.01 percent, while the Open-Buy-Back (OBB) rate rose to 11.98 percent, from 11.87 percent as at end of December, 2013.

# CHAPTER THREE
# PUBLIC DEBT PORTFOLIO REVIEW

## 3.1 Nigeria's Total Public Debt Stock Outstanding

Nigeria's total public debt stock including States' domestic debt was US$67,726.28 million as at end of December, 2014, representing US$3,216.33 million or 4.99 percent increase from the US$64,509.95 million as at end of December, 2013, and accounted for 12.65 percent of the GDP. The external debt stock of the Federal Government as at end of December, 2014 was US$9,711.45 million or 14.34 percent of the total public debt stock, while the domestic debt stock of the Federal Government and States' Domestic debt accounted for US$47,047.77 million and US$10,967.45 million or 69.47 percent and 19.19 percent of the total debt stock respectively (Table 3.1). Table 3.1 further shows that the proportionate share as a percentage of GDP, external, domestic and sub-national debt constituted 1.81, 8.79 and 2.05 percent of the GDP, respectively, in 2014.

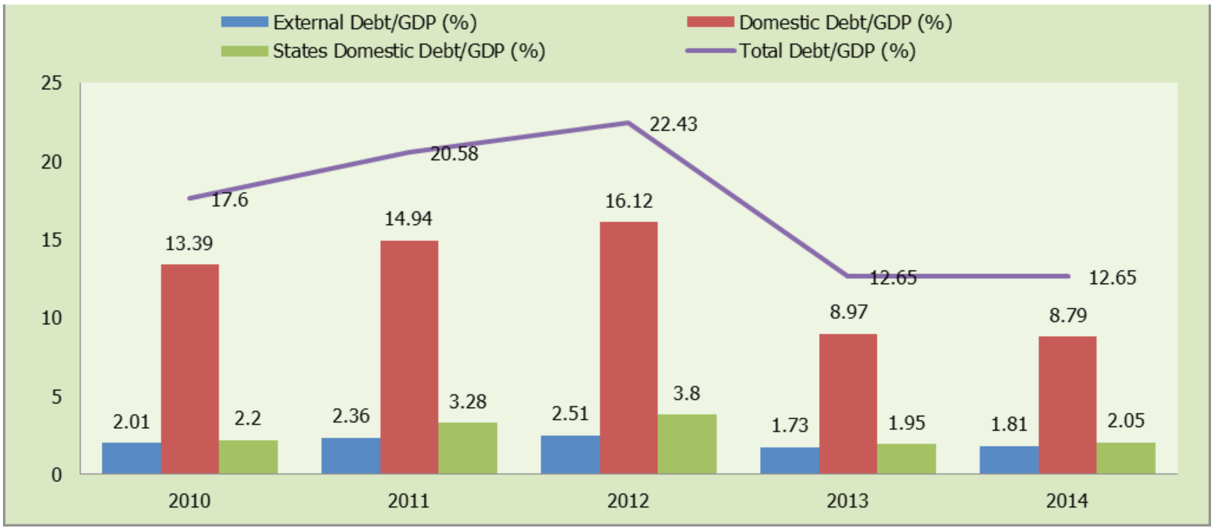
**Table 3.1: Nigeria's Total Public Debt Stock Outstanding, 2010-2014 (US$' Million)**

| | 2010 | 2011 | 2012 | 2013 | 2014 |
|---|---|---|---|---|---|
| External Debt Stock (US$'M) | 4,578.77 | 5,666.58 | 6,527.07 | 8,821.90 | 9,711.45 |
| (% share of total) | (13.05) | (13.64) | (13.46) | (16.17) | (14.34) |
| As % of GDP | 2.01 | 2.36 | 2.51 | 1.73 | (1.81) |
| Domestic Debt Stock (US$'M) | 30,514.33 | 35,882.86 | 41,969.16 | 45,722.41 | 47,047.77 |
| (% share of total) | (86.95) | (86.36) | (86.54) | (83.83) | (69.47) |
| As % of GDP | 13.39 | 14.94 | 16.12 | 8.97 | (8.79) |
| States' Domestic Debt (US$'M) | 5,006.90 | 7,870.42 | 9,894.19 | 9,965.64 | 10,967.06 |
| (% share of total) | 12.48 | 15.93 | 16.94 | 15.45 | (16.19) |
| As % of GDP | 2.20 | 3.28 | 3.80 | 1.95 | (2.05) |
| **Total Public Debt Stock** | **40,100.00** | **49,419.86** | **58,390.42** | **64,509.95** | **67,726.28** |
| As % of GDP | (17.20) | (20.58) | (22.43) | (12.65) | (12.65) |

Source: DMO

Figure 3.1 depicts the trend in Nigeria's public debt stock outstanding as a percentage of GDP. This shows that the ratio of public debt to GDP has been increasing since 2010, with a sharp drop in 2013 to 12.65 percent, as a result of the rebasing of the country's GDP in 2013. This ratio was also maintained in 2014. As a result, the Nigeria's total public debt portfolio has remained at a sustainable level, as against the country's peer group threshold of 56 percent, and the Country-Specific threshold of 19.39 percent, as well as, WAMZ convergent threshold of 70 percent.

**Figure 3.1 Nigeria's Total Public Debt as a Percentage of GDP, 2010-2014**




Source: DMO

## 3.2 Nigeria's Total Public Debt Service

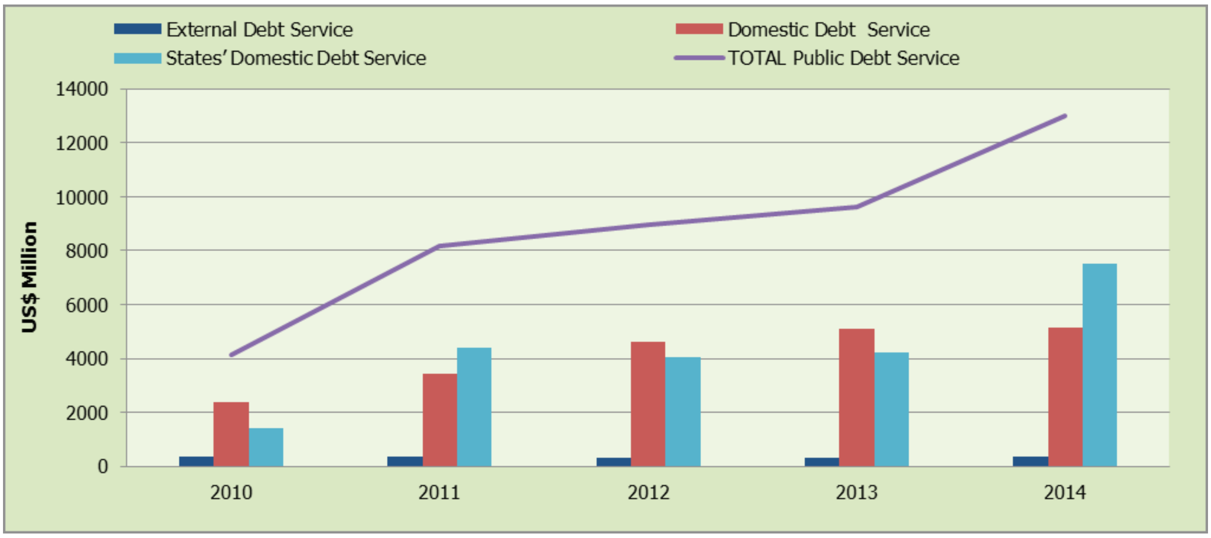
As at end of December, 2014, the Nigeria's total public debt service amounted to US$13,013.07 million compared to US$9,617.95 million in 2013 (Table 3.2). The increase of US$3,395.12 million or 35.29 percent was as a result of increase in stock of debt, emanating from additional loans and fluctuations in foreign currency exchange rates. The FGN external, domestic and States' domestic debt service in 2014, as a percentage of the total public debt service were 2.66, 39.60 and 57.74 percent, compared with 3.09, 53.03 and 43.88 percent in 2013, respectively. The trend in total public debt service is illustrated in Figure 3.2.

Table 3.2: Nigeria's Total Public Debt Service, 2010-2014 (US$' Million)

| Type | 2010 | 2011 | 2012 | 2013 | 2014 |
|---|---|---|---|---|---|
| External Debt Service (US$'M) | 354.42 | 351.62 | 293.00 | 297.32 | 346.72 |
| (% share of Total) | (8.53) | (4.31) | (3.26) | (3.09) | (2.66) |
| Domestic Debt Service (US$'M) | 2,373.98 | 3,429.42 | 4,625.72 | 5,100.19 | 5,153.63 |
| (% share of total) | (57.16) | (42.03) | (51.54) | (53.03) | (39.60) |
| States' Domestic Debt Service (US$'M) | 1,424.94 | 4,378.81 | 4,057.14 | 4,220.44 | 7,512.72* |
| (% share of Total) | 34.31 | 53.66 | 45.20 | 43.88 | (57.74) |
| **Total** | **4,153.34** | **8,159.85** | **8,975.86** | **9,617.95** | **13,013.07** |

Source: DMO
*2014 data on States' domestic debt service is provisional estimate as at the date of 2015 DSA.

**Figure 3.2: Trend in Nigeria's Total Public Debt Service, 2010 - 2014 (US$' Million)**




Source: DMO

### 3.3 Nigeria's External Debt Stock

Table 3.3 shows that Nigeria's total external debt stock outstanding as at end of December, 2014, was US$9,711.45 million compared with US$8,821.90 million as at end of the corresponding period in 2013. This represented an increase of US$889.55 million or 10.08 percent over the level as at end of 2013, which was largely attributed to additional disbursements from existing and newly approved loans that became effective, during the period, as well as, net adverse cross exchange rate movements between the different currencies in the external loan portfolio. The analysis of external debt stock over a five year period (2010-2014) shows an upward trend with the highest annual increment of 35.16 percent in 2013, which was largely on account of the issuance of US$1 billion Eurobonds in the International Capital Market (ICM) in the same year.

The Nigeria's external debt portfolio as at end of December, 2014, showed that debt owed to the Official Creditors constituted the largest portion accounting for US$8,211.43 million or 84.55 percent, while US$1,500.00 million was owed to Private Creditors (Table 3.3). The Official Creditors were Multilateral and Bilateral Creditors, which constituted 70.01 and 14.54 percent of total Official Creditors, respectively.

**Table 3.3: Nigeria's External Debt Stock by Source as at end of December, 2014 (US$' Million)**

| Source | 2010 | 2011 | 2012 | 2013 | 2014 |
|---|---|---|---|---|---|
| A. Official: | | | | | |
| 1. Bilateral | 163.20 | 453.83 | 703.03 | 1,025.70 | 1,412.07 |
| Non-Paris Club | | | | | |
| 2. Multilateral | 4,217.76 | 4,568.92 | 5,267.42 | 6,275.20 | 6,799.36 |
| **Sub-Total** | **4,380.96** | **5,022.75** | **5,970.45** | **7,300.90** | **8,211.43** |
| B. Private: | | | | | |
| 1. Eurobonds | 0 | 500.00 | 500.00 | 1,500.00 | 1,500.00 |
| 2. Other Commercial | 197.81 | 143.82 | 56.63 | 21 | 0 |
| **Sub-Total** | **197.81** | **643.82** | **556.63** | **1,521.00** | **1,500.00** |
| **Grand Total** | **4,578.77** | **5,666.57** | **6,527.07** | **8,821.90** | **9,711.45** |
| **Creditor Category as % of Total** | | | | | |
| A. Official: | | | | | |
| 1. Bilateral | 3.56 | 8.01 | 10.77 | 11.63 | 14.54 |
| Non-Paris Club | | | | | |
| 2. Multilateral | 92.12 | 80.63 | 80.7 | 71.13 | 70.01 |
| **Sub-Total** | **95.68** | **88.64** | **91.47** | **82.76** | **84.55** |
| B. Commercial: | | | | | |
| 1. Eurobonds | 0 | 8.82 | 7.66 | 17.00 | 15.45 |
| 2. Other Commercials | 4.32 | 2.54 | 0.87 | 0.24 | 0 |
| **Sub-Total** | **4.32** | **11.36** | **8.53** | **17.24** | **15.45** |
| **Grand Total** | **100** | **100** | **100** | **100** | **100.00** |

Source: DMO

### 3.4 Nigeria's External Debt Service

The Nigeria's external debt service amounted to US$346.72 million as at end of December, 2014, compared to US$297.32 million as at end of December, 2013, representing an increase of US$49.40 million or 16.62 percent. Multilateral creditors accounted for the highest debt service amounting to US$152.74 million or 44.05 percent of the total debt service in 2014, while the sum of US$48.93 million or 14.11 percent was to the Bilateral creditors. The sum of US$41.72 million or 12.03 percent, was paid in respect of Oil Warrants, while US$91.26 million or 26.32 percent was paid to the holders of the Eurobonds and the remaining US$12.07 million or 3.48 percent was payment made to Commercial creditors. Table 3.4 shows the detailed breakdown of debt service by creditor category.

**Table 3.4: Nigeria's External Debt Service, 2010 – 2014 (US$' Million)**

| Source | 2010 | 2011 | 2012 | 2013 | 2014 |
|---|---|---|---|---|---|
| A. Official: | | | | | |
| 1. Bilateral: | | | | | |
| Non-Paris Club | 24.18 | 51.52 | 45.28 | 41.08 | 48.93 |
| 2. Multilateral | 212.61 | 172.27 | 126.92 | 142.89 | 152.74 |
| B. Commercial: | | | | | |
| 1. Oil Warrants* | 41.72 | 41.72 | 41.72 | 41.72 | 41.72 |
| 2. Others (including commercial from China) | 75.9 | 69.23 | 45.32 | 37.88 | 0.01 |
| 3. Eurobonds | 0 | 16.87 | 33.75 | 33.75 | 91.26 |
| 4. ZTE | 0 | 0 | 0 | 0 | 12.06 |
| **Grand Total** | **354.41** | **351.61** | **293** | **297.32** | **346.72** |

Source: DMO
*Outstanding Oil Warrants, which were associated with the London Club debt exited in 2007.

### 3.5 Federal Government's Domestic Debt Stock

The securitized Federal Government's domestic debt stock as at end of December, 2014, was ₦7,904.02 billion. This represents an increase of ₦785.05 billion or 11.03 percent, over the ₦7,118.97 billion in the corresponding period of 2013. This development was due to net issuances of domestic debt instruments, which were used to partly finance the 2014 appropriated budget deficit and refinancing of matured debt obligations.

Further analysis on Table 3.5 shows that 60.63 percent of the domestic debt stock comprised mainly FGN bonds, 35.62 percent in Nigerian Treasury Bills (NTBs), while the balance of 3.75 percent in Treasury Bonds as at end of December, 2014.

**Table 3.5 Trend in FGN's Domestic Debt Outstanding by Instruments, 2010-2014 (₦' Billion)**

| Instruments | 2010 | 2011 | 2012 | 2013 | 2014 |
|---|---|---|---|---|---|
| FGN Bonds | 2,901.60 | 3,541.20 | 4,080.05 | 4,222.03 | 4,782.28 |
| NTBs | 1,277.10 | 1,727.91 | 2,122.93 | 2,581.55 | 2,815.52 |
| Treasury Bonds | 372.90 | 353.73 | 334.56 | 315.39 | 296.22 |
| Dev. Stock | 0.22 | - | - | - | - |
| Promissory Note | - | - | - | - | - |
| **Total** | **4,551.82** | **5,622.84** | **6,537.54** | **7,118.97** | **7,904.02** |

Source: DMO

## 3.6 FGN's Domestic Debt Service

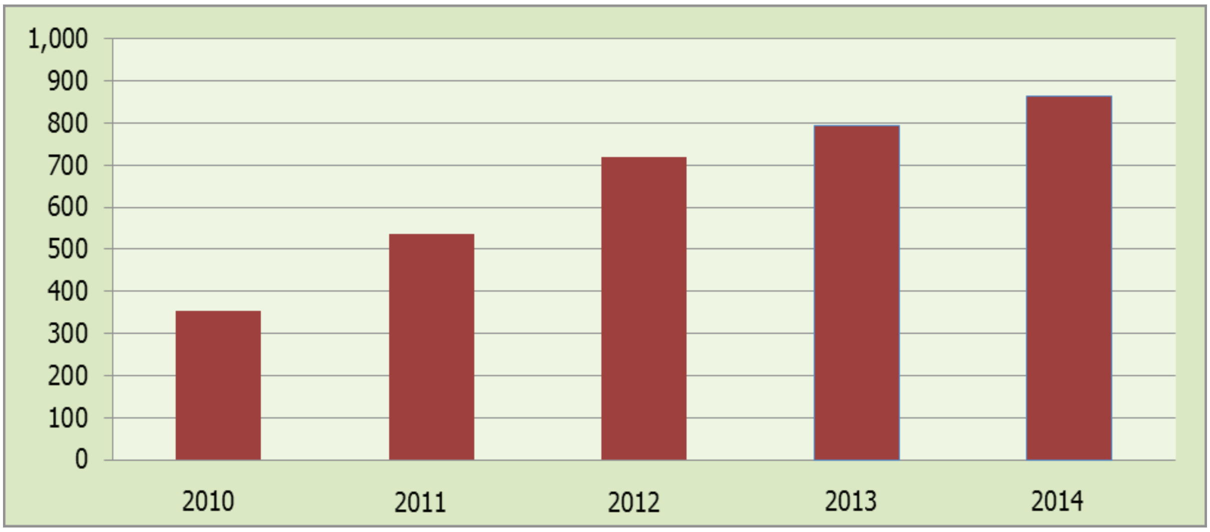
As at end of December, 2014, the total of ₦865.81 billion was paid as domestic debt service by the Federal Government of Nigeria. This represent an increase of ₦71.79 billion or 9.03 percent, over the ₦794.10 billion in the corresponding period of 2013 (Table 3.6). The domestic debt service by instrument-type, showed that debt service made in respect of FGN Bonds accounted for 59.11 percent of the total debt service payment, while payments made for the Nigerian Treasury Bills (NTBs), and Treasury Bonds were 34.68 and 6.21 percent, respectively. The trend analysis shows that domestic debt service payments has maintained a rising trend since 2010, to reflect the increase in domestic debt stock, coupled with higher market interest rates, which led to the rise in the cost of borrowing in the domestic market.

**Table 3.6 FGN's Domestic Debt Service Payments, 2010 - 2014 (₦' Million)**

| Instruments | 2010 | 2011 | 2012 | 2013 | 2014 |
|---|---|---|---|---|---|
| NTBs | 65,070.20 | 186,723.14 | 310,792.71 | 262,767,69 | 300,267.31 |
| FGN Bonds | 231,112.92 | 293,794.55 | 354.078.61 | 482,415.75 | 511,778.24 |
| Treasury Bonds | 57,597.63 | 56,639.13 | 55,680.63 | 48,916.56 | 53,763.63 |
| Development Stock | 346.25 | 233.75 | 0.00 | 0.00 | 0.00 |
| **Total Debt Service** | **354,127.00** | **537,390.57** | **720,549.95** | **794,104.93** | **865,809.18** |

Source: DMO

**Figure 3.3 Trend in FGN's Domestic Debt Service, 2010-2014 (₦' Billion)**




Source: DMO

### 3.7 States' & FCT's Domestic Debt by Maturity Structure

The total domestic debt of the thirty-six (36) States and the FCT in 2014 was estimated at ₦1,681.77 billion compared with the actual figure of ₦1,537.47 billion in 2013, indicating an increase of 9.39 percent. Further analysis of the States' and FCT's domestic debt by maturity shows that the share of short-term debt (54 percent) and the share of the medium/long-term debt (46 percent) were recorded in 2014, when compared with the composition of 34:66 in 2013 (Table 3.7).

**Table 3.7 States' & FCT's Domestic Debt by Maturity, 2010-2014 (₦' Million)**

| Description | 2010 | 2011 | 2012 | 2013 | 2014 |
|---|---|---|---|---|---|
| Short-Term Debt (ST)[1] | 684,685.11 | 566,087.31 | 682,804.53 | 524,380.20 | 906,644.02 |
| Medium/Long-Term Debt (MLT)[2] | 111,500.00 | 667,207.33 | 858,414.20 | 1,013,091.25 | 775,129.35 |
| **Total** | **796,185.11** | **1,233,294.64** | **1,541,218.73** | **1,537,471.45** | **1,681,773.37** |
| ST as a % of Total | 86 | 46 | 44 | 34 | 54 |
| MLT as a % of Total | 14 | 54 | 56 | 66 | 46 |

Source: DMO
Notes: [1] Debts with up to 1 year remaining maturity
[2] Debts with more than I year remaining maturity

# CHAPTER FOUR
# ANALYSIS OF RISKS IN THE PUBLIC DEBT PORTFOLIO

## 4.1 Introduction

The core objective of meeting government funding requirements in an efficient manner at the least possible long-term cost, and at prudent degree of risk is imperative in the efficient management of the country's public debt portfolio. To this end, identifying and managing risks associated with debt portfolio become necessary. This chapter presents the analysis of the inherent risks associated with the FGN's total public debt portfolio, excluding States' Domestic debt. These risks include interest rate, refinancing, exchange rate, credit and contingent liabilities risks.

**Table 4.1 Risk Indicators of FGN's Total Public Debt as at end-December, 2014**

| Description | Domestic Debt | External Debt | Total Debt |
|---|---|---|---|
| Amount (in million of US$) | 47,047.77 | 9,711.45 | 56,759.22 |
| Exchange Rate Risk | | | |
| Share of Total Debt (%) | 82.89 | 17.11 | 100.00 |
| Interest Rate Risk | | | |
| Debt with Variable Rate (%) | - | 0.40 | 0.47 |
| Debt with Fixed Rate (%) | 100 | 96.60 | 99.53 |
| Debt due to Re-fixing in one year (%) | 35.62 | 0.50 | 36.12 |
| Average Time-to-Re-fixing (ATR) (yrs) | 5.4 | 13.9 | 6.4 |
| Refinancing Risk | | | |
| Debt Maturing in 1 year (%) | 32.90 | 0.20 | 33.00 |
| Average Time-to-Maturity (ATM) (yrs) | 5.4 | 14.9 | 6.5 |

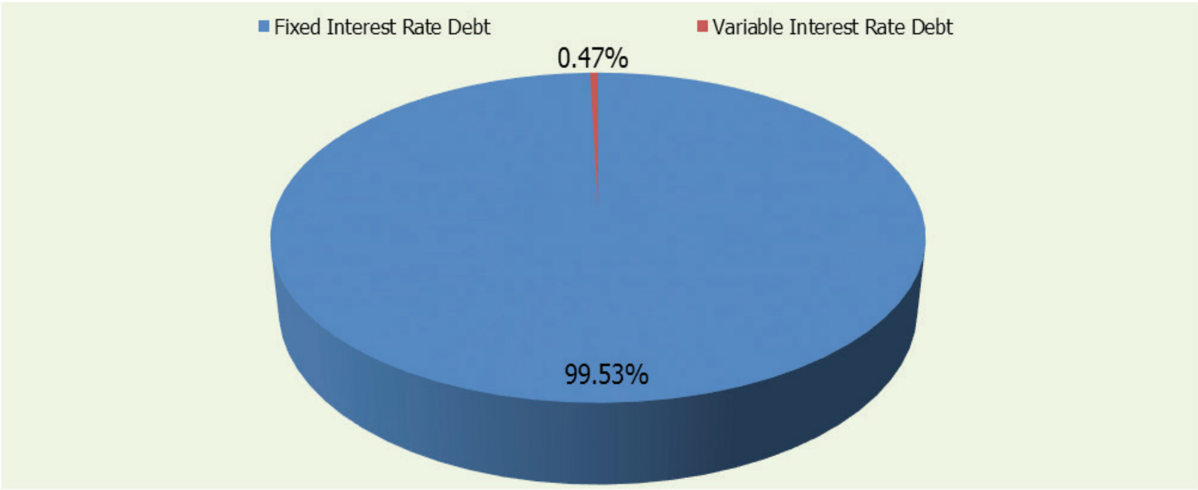
Source: DMO
Note: Data does not include Domestic debt of States

## 4.2 Interest Rate Risk

The exposure of the FGN's total public debt portfolio to interest rate risk is relatively low, due to the large volume of fixed rate debt in the portfolio. The long ATR of 13.9 years for external debt portfolio reflects the high proportion of multilateral concessional financing with fixed rates, relative to floating rate debt. The total public debt was largely comprised fixed rate debt accounting for 99.53 percent, relative to

0.47 percent of floating rate debt as at end of December, 2014. The ATR of the total debt portfolio of 6.4 years was moderated by low ATR of 5.4 years for domestic debt.

**Figure 4.1: Interest Rate Composition of FGN's Total Public Debt as at end of December, 2014**




Furthermore, Table 4.1 also shows that the exposure to interest rate risk appeared more significant in the domestic debt portfolio, due to the high proportion of debt that is maturing in one year and subject to interest rate re-fixing, which was 36.12 percent in 2014 – that is 35.62 percent for domestic debt and 0.50 percent for external debt. In this regard, to attain the strategic objective of 75:25 ratio for long and short-term debt instruments in the domestic debt portfolio, there is the need for a gradual reduction in the issuances of short-term debt instruments in the domestic debt market in favour of longer-term securities.

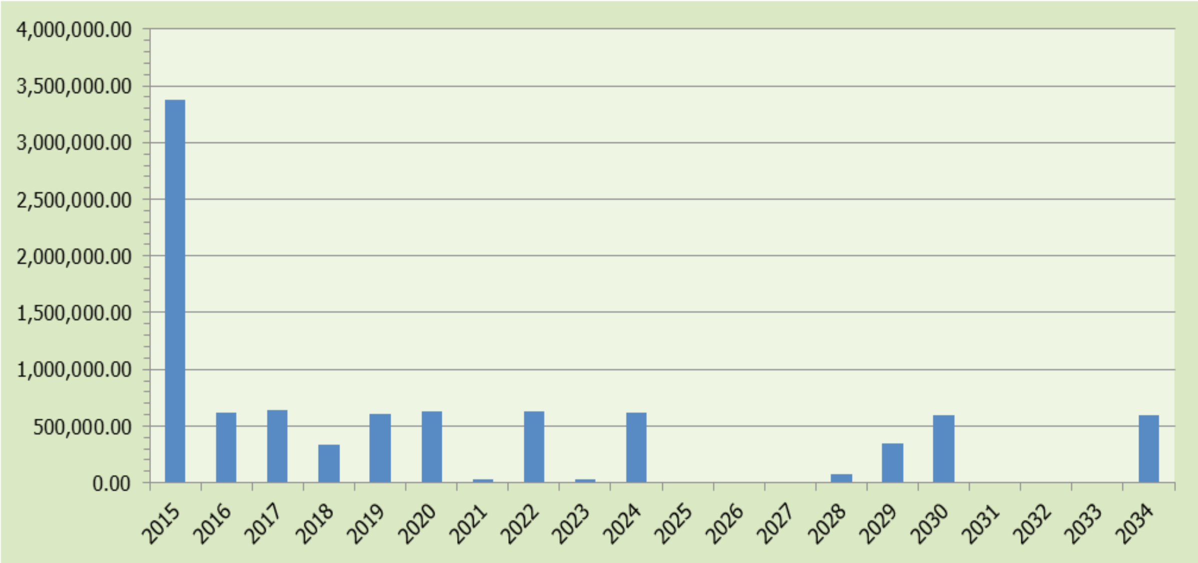
### 4.3 Refinancing Risk

Refinancing risk exposure was high during the year-2014, due to the high proportion of short-term debts in the domestic debt portfolio. The Average Time-to-Maturity (ATM) of the total public debt portfolio at 6.5 years, reflects the high proportion of short-term debt instruments in the portfolio. The ATM at 14.9 years for external debt portfolio indicates high component of concessional loans in the portfolio with original maturity periods of up to 40 years. The ATM at 5.4 years for the domestic debt portfolio is due to the presence of large proportion of short-term debt instruments. The proportion of total public debt maturing in one year was 33.00 percent in 2014, comprising 32.90 percent for domestic debt and 0.2 percent for external debt (Table 4.1). This implies that over 30 percent of the domestic debt in the total public debt portfolio would be required to be refinanced at a new interest rate in the next one year. This indicates close monitoring of the domestic debt portfolio, including the gradually reduction of the issuances of short-term debt instruments over a period, to attain the debt strategy of 75:25 for long and short-term debt instrument, respectively.

Figure 4.2 shows the redemption profile of external debt of the country. It reveals that the refinancing risk in the external debt portfolio is heavily concentrated in 2018, 2021 and 2023, which show spikes in those years, which are attributed to the redemption of the three (3) Eurobonds, namely: the debut 6.75 percent US$500 million 10-year Eurobond issued in 2011, the US$1 billion dual-tranche Eurobond, of 5.125 percent US$500 million 5-year and 6.375 percent US$500 million 10-year Eurobonds issued in 2013. Similarly, Figure 4.3 shows the redemption profile for domestic debt. An analysis of the redemption profile of FGN's domestic debt indicates a significant level of refinancing risk, due to high proportion of NTBs in the domestic debt portfolio, which would mature and be redeemed in 2015, highlighting the need to relatively reduce the volume of issuance of short-term debt instruments.

**Figure 4.2: Nigeria's External Debt Redemption Profile (US$' Million)**

**Figure 4.3: FGN's Domestic Debt Redemption Profile (₦' Million)**




## 4.4 Exchange Rate Risk

The exposure of the FGN's total public debt portfolio to exchange rate volatility, should there be any significant exchange rate fluctuations, does not pose an exchange rate risk to the portfolio. As at end of December, 2014, total public debt portfolio shows that the proportion of domestic and external debt were 82.89 and 17.11 percent, respectively (Table 4.1). The high proportion of domestic debt in relation to the total public debt makes the portfolio less vulnerable to exchange rate risk. The structure of the total public debt portfolio remained unchanged in 2014, although, it is still not within the government's strategic ratio of 60:40 for domestic and external debt, respectively. Accordingly, there is the need to shift the structure of the debt portfolio to the desired strategy, by gradually reducing the domestic debt accumulation in favour of relatively less expensive external debt.

**Figure 4.4 Currency Composition of FGN's Public Debt Portfolio as at end-December, 2014**

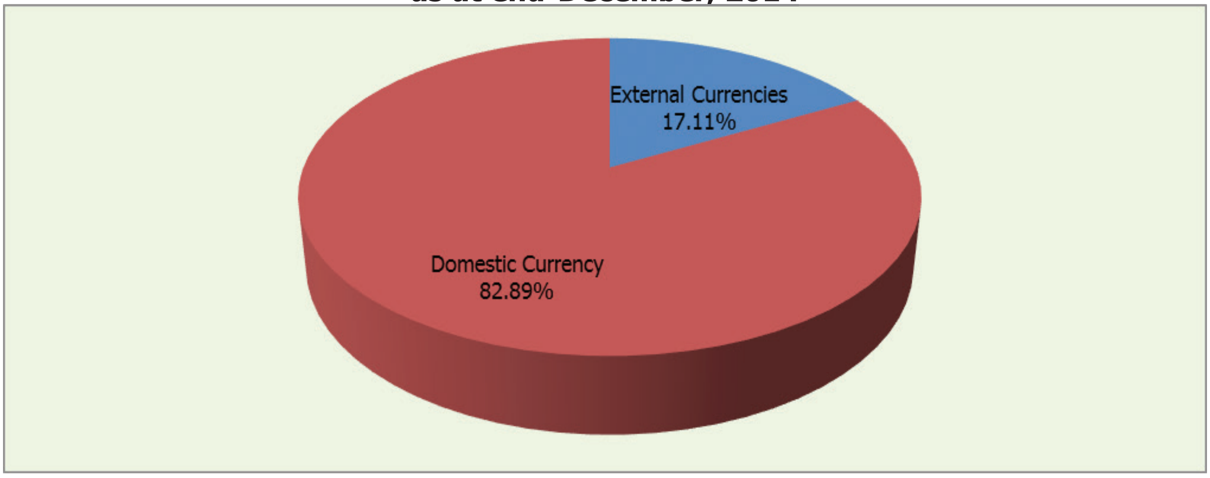


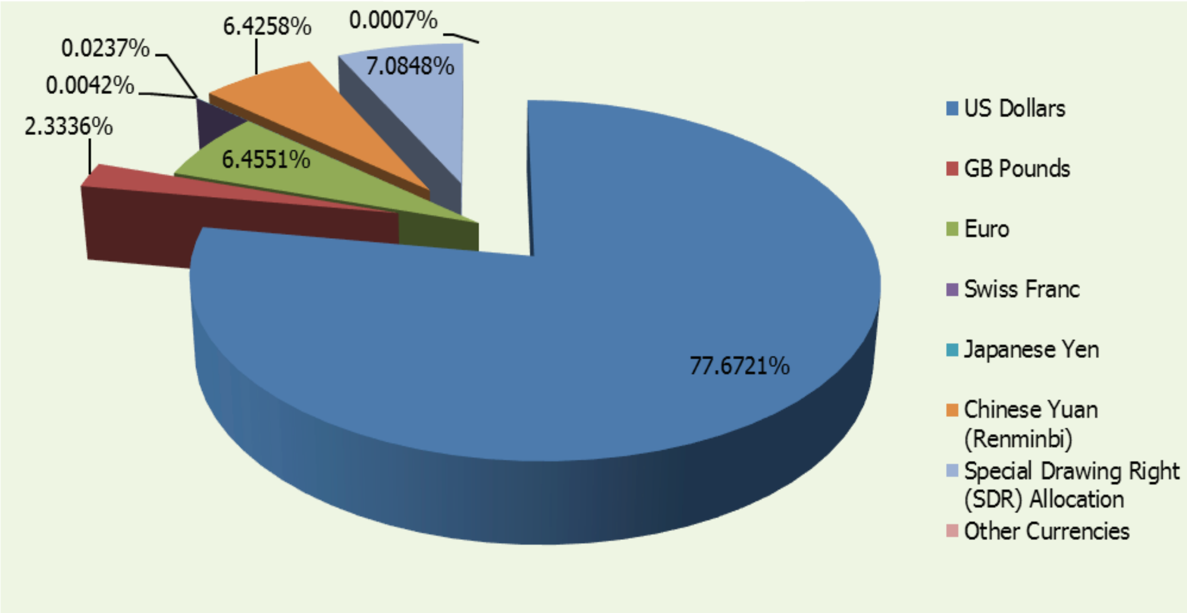

**Table 4.2: Composition of Nigeria's External Debt & Reserve Assets as at end of December, 2014**

| Currencies | US$ | GBP | EURO | CHF | ID | JPY | Yuan | SDR | Others |
|---|---|---|---|---|---|---|---|---|---|
| External Debt:<br>Currency Composition (%) | 35.83 | 0.34 | 2.37 | 0.07 | 0.24 | 0.19 | - | 60.96 | - |
| External Reserve:<br>Currency Composition (%) | 77.672 | 2.334 | 6.455 | 0.004 | - | 0.024 | 6.426 | 7.085 | 0.001 |

Figure 4.4 shows that the shares of domestic and external debt in the total dept portfolio were 82.89 and 17.11 percent, respectively. This indicates that exchange rate risk is relatively low in Nigeria's debt portfolio on account of low proportion of foreign currency denominated debt and large proportion of the domestic debt component in the total public debt portfolio.

Figure 4.5 further depicts the currency composition indicating that the external debt portfolio comprised debts denominated in Swiss Franc (CHF), Euro (EUR), British Pound Sterling (GBP), ID (Islamic Dinar), Japanese Yen (JPY), US dollar (US$) and, Special Drawing Rights (SDR), which respectively constituted 0.07, 2.37, 0.34, 0.24, 0.19, 35.83 and 60.96 percent, in 2014. The exposure of the debt portfolio to foreign exchange risk is largely mitigated, due to the composition of various currencies. Therefore, should there be unfavourable trend in foreign exchange rate in any of these currencies it would not be strongly felt over the debt servicing-related cost. Also, payment of external debt service, through the External Creditors Funding Account (ECFA), which is denominated in US Dollars (the prevalent currency) further provided strong cushion against exchange rate risk.

**Figure 4.5: Currency Composition of Nigeria's External Reserves as at end of December, 2014**




As at end of December, 2014, the total Nigeria's external reserves was US$34.24 billion, while the total external debt was US$9.71 billion. This reflects adequate protection and cover against any capital losses that could result from currency fluctuations. The currency composition of the foreign reserve assets were: US$ (77.672 percent), GBP (2.334 percent), Euro (6.455 percent), CHF (0.004 percent), JPY (0.024 percent), Chinese Yuan (6.426 percent), SDR (7.085 percent) and other currencies (0.001 percent) (Table 4.2 and Figure 4.5). Therefore, the current composition of external reserves does not pose any imminent danger since a significant part of the external debt is dominated in US dollars.

### 4.5 Contingent Liability Risk

In this context, the contingent liabilities of the Federal Government of Nigeria (FGN), relate mainly to guarantees issued by the FGN through the DMO and Pension Arrears for the MDAs. Table 4.3 shows that the FGN's contingent liabilities reduced significantly from ₦3,589.77 billion in 2013 to ₦1,714.06 billion in 2014, representing a decline of ₦1,875.71 billion or 52.25 percent. As a percentage of the GDP, the outstanding contingent liabilities of the FGN was 1.92 percent of GDP in 2014, as against 4.48 percent in 2013. The decrease in the level of contingent liabilities was due mainly to the redemption of the AMCON Bonds in 2013 (₦1.742 billion). Meanwhile, there were new FGN Guarantees issued in favour of Nigerian Ports Authority – Lekki Deep Seaport and Nigerian Export-Import (NEXIM) Bank in 2014. It is worthy to note that going forward, the FGN may have to issue more guarantees under the Public-Private Partnership (PPP), as alternative to direct budget funding of infrastructure, thus, ensuring debt sustainability.

**Table 4.3: FGN's Contingent Liabilities as at December 31, 2014 (₦' Billion)**

| S/N | Liability Type | 2010 | 2011 | 2012 | 2013 | 2014 |
|---|---|---|---|---|---|---|
| 1. | FGN Guarantee to AMCON | 1.00 | 1.00 | 1,742.00 | 1,742.00 | - |
| 2. | Local Contractors Debts | - | - | 233.94 | 233.94 | 233.94 |
| 3. | Federal Mortgage Bank of Nigeria (FMBN) | 32.00 | 32.00 | 32.00 | 32.00 | 32.00 |
| 4. | FBN Capital Ltd. and FBN Trustees Ltd. | - | 61.19 | 61.19 | 61.19 | 15.87 |
| 5. | Nigeria Ports Authority - Lekki Deep Seaport | - | - | - | - | 157.60 |
| 6. | Guarantee on Agriculture | - | - | 249.58 | 249.58 | - |
| 7. | Nigerian Export-Import (NEXIM) Bank | - | - | - | - | 39.40 |
| 8. | Pension Arrears for MDAs | 1,499.66 | 1,401.98 | 1,322.43 | 1,271.06 | 1,235.25 |
| | **Total** | **1,532.66** | **1,496.17** | **3,641.14** | **3,589.77** | **1,714.06** |

Note:
1. The FGN Guarantee to AMCON in respect of the ₦1.742 trillion 3-year Zero-coupon AMCON Tradable Bond expired on December 31, 2013, following the redemption of AMCON Bonds. The Guarantee did not crystallize.
2. The FGN Guarantee was given to cover the ₦233,942,080,700.00 Face Value of the 5-year 2016/2017 Split Coupon Bonds issued by the Special Purpose Vehicle (SPV) set up for the resolution of the Local Contractors Debts. ₦74,655,295,000.00 (Principal) will be redeemed in 2016 and the balance in 2017, while the first coupon payment was paid on June 8, 2015.
3. FGN Guarantee of FMBN Bond to enable the Bank raise funding from the capital market to refinance the sale of Federal Government Non-essential houses under the monetization programme of the Government. Matured obligations of ₦24.564 billion were redeemed on May 24, 2015, while the remaining obligations will mature in 2017.
4. The Guarantee was issued in favour of FBN Capital Limited and FBN Trustees Limited in respect of a bank facility granted to Deanshanger Projects Limited for the provision of integrated civil infrastructure, to Katampe District Abuja. The current outstanding utilized amount is ₦15.9 billion.
5. FGN Guarantee in favour of Lekki Port LFTZ Enterprise (Concessionaire) to cover the sum of US$800 million (₦157,600,000,000.00 converted at ₦197/$) of the investment by the Concessionaire for the purpose of funding the construction of a Deep Sea Port at Lekki Lagos, Nigeria, on a Build Own, Operate and Transfer basis, for a period of forty-five years, for and on behalf of the Nigerian Ports Authority.
6. Unconditional guarantee to the financiers (Banks) to cover 70% of the loan principal payment under the Programme for financing the supply of seeds and fertilizers to farmers for the 2012 farming season. The Client was the Federal Ministry of Agriculture and Rural development. The Guarantee expired in 2012 and did not crystalize.
7. FGN Guarantee to NEXIM for the US$200 million Master Line of Credit from African Development Bank (AfDB). Exchange rate: ₦197/$.
8. Data provided by PENCOM to DRSD, DMO: Outstanding Retirement Benefits Liability of the FGN for certain categories of its employees. The last employee would be retiring in 2039.

# CHAPTER FIVE
# UNDERLYING ASSUMPTIONS OF THE 2015 DSA

## 5.1 Baseline Scenario Assumptions

The Baseline Scenario is premised on assumptions outlined in the macroeconomic framework in the 2015 Federal Government of Nigeria Budget and the MTEF, 2015-2017 (Box 5.1).

### Box 5.1: Baseline Scenario Assumptions

**Real and Nominal GDP Growth Rates:** The baseline scenario assumes a less ambitious output growth with real and nominal GDP projected at 4.3 percent and 8.91 percent in 2015, respectively. In 2016, real GDP growth is expected to strengthen at 5.29 percent, while the growth in nominal GDP is projected at 10 percent. The growth rates of the real and nominal GDP could average 5.37 percent and 9.78 percent in 2015-2035, respectively. The performance of the economy is anchored on robust non-oil sector growth and blocking of leakages in the oil sector, including oil pipeline vandalisation. The global economy is expected to strengthen after 2015, with an increase in growth of global economy from 3.3 percent in 2015, to 3.8 percent in 2016, with no enhancement in global crude oil demand.

**Inflation Rate:** Headline inflation is projected to increase to 10.02 percent in 2015 and to drop to 9.81 percent in 2016. The projected double digit inflation in 2015, is based on the lingering impact of the devaluation of the Naira by the CBN in early 2015, exclusion of 41 items from accessing foreign exchange at the official market and fuel scarcity, which has increased the price of PMS in many States of the Federation. However, inflationary pressures are expected to moderate after 2015, as a result of increase in food production harvest and removal of food supply bottlenecks associated with insurgency and insecurity in North-East region of the country, given the current regional coalition force against Boko Haram, which is expected to make a headway in subduing the insurgence. The increase in capacity utilization of the domestic refineries and setting up of new private refineries are expected to reduce the pressure on the exchange rate, which will in turn reduce inflation.

**Crude Oil Production**

This is projected at 2.2782 million barrels per day (mbpd) in 2015, and is expected to increase slightly to 2.2972 (mbpd) in 2016, and marginally decrease to 2.277 (mbpd) and 2.2690 (mbpd) in 2017 and 2018, respectively. The expected slight increase in 2016, takes into account concerted efforts being made by the Government aimed at reducing leakages and wastages, occasioned by crude oil theft, illegal bunkering and vandalization of oil pipelines in the Niger Delta. The average production is projected at 2.3672 (mbpd) between 2019 and 2035.

**Crude Oil Benchmark Price**

The price for crude oil fixed at US$53 per barrel (pd) used in the 2015 National Budget is expected to decline to US$51(pb) in 2016, and maginally pick up to US$52(pb) in 2017 and 2018. The projected decline in global oil prices, is attributable to increase in discoveries of oil by more countries, rising output from non-conventional oil production sources such as shale oil production in North America, Iran Nuclear Energy agreement in August, 2015, and slow rate of recovery of global economy since 2012.

**Export:** Growth in aggregate export of goods and services is expected to be sustained, driven by the non-oil exports. The non-oil exports are expected to continue to drive and sustain the growth in exports, which are projected to improve in the long-term, in view of the expected positive impact of the power sector on industrial capacity utilisation.

**Current Account Position:** The current account is expected to swing to a deficit both in the short to medium-term, due largely to the instability in the global oil market, high imports and low accretion to reserves. However, in the long-term, the current account may record surplus, due to higher growth in non-oil exports and increase in capital inflow, particularly, foreign direct investment. Government's efforts at improving domestic refineries are expected to reduce import, and this may lead to imports being lower than exports, thereby, resulting in surplus in current account.

**Foreign Direct Investment:** The slow recovery of the global economy, slump in oil prices and current downturn in the Asian economy, particularly, in China, as well as, expected increase in interest rates by the United States Federal Reserve Bank is expected to modarte FDI flow to emerging markets. However, it is expected that this will be counter balanced by investors' continued quest for cheaper labour and lower cost of production in emerging markets, as well as, ready demand in frontier economies such as Nigeria. In addition, sustained political stability, improved corporate governance practices, reduced cost of doing business largely occasioned by improved communication services and current administration reforms in the public service would have positive impact on FDI in the medium to long-term.

**Remittances:** The improved economic performance resulting from the effective implementation of current government reforms in the public sector and political stability in the country would serve as an incentive for Nigerians in diaspora to remit more funds into the economy.

**External Reserves:** The accretion to external reserves is expected to remain stable and above the minimum import cover of three (3) months. Reduced import receipts, and other policy measures aimed at defending the local currency by the CBN, as well as, improved fiscal discipline by the three tiers of government are all expected to positively affect the accretion to external reserves.

**Fiscal Deficit**

The fiscal deficit is projected at ₦1.597 trillion or 1.52 percent of the GDP, averaging ₦1.557 trillion or 1.36 percent of GDP for 2016-2018. This will also average 0.97 percent of GDP from 2016-2035. This is based on the expected increased inflow of non-oil revenue arising from tax reform, budgetary discipline and projected reduction in personnel costs, due to the full implementation of the Integrated Payroll and Personnel Information System (IPPIS), Treasury Single Account (TSA) and overall improvement in Public Expenditure Management.

**Nominal Exchange Rate:** The Nominal Exchange Rate is expected to fluctuate within the official +/- 5 percent, but generally would remain stable both in the short-term, because of the CBN's recent reforms that suspended the official for the interbank rate and other measures to mitigate speculative demands in the foreign exchange market, as well as, government efforts to cut fuel importation.

**New Financing:** Sources of new financing is projected based on the recommendation of MTDS, 2012-2015, which recommended the need to substitute the more expensive domestic borrowing with relatively less expensive external financing. Therefore, there would be increase in external borrowing relative to domestic borrowing towards achieveing debt composition of 60:40 for domestic and external debt in the medium to long-term. In addition, new borrowing from the domestic market is projected at a ratio of 75:25 for long-term and short-term debts instruments, respectively. With reclassification of Nigeria as a blend country, there would be a gradual move away from concessional financing and to non-concessional multilateral and commercial sources. The private sector is expected to play a major role in the domestic debt market by accessing more long-term funds for investments in the real sector, as the FGN gradually reduces its domestic debt issuances, to create more borrowing space for corporates.

## 5.2 Pessimistic Scenario Assumptions

The Pessimistic Scenario assumes a reduction in the growth of the GDP, increase in the rate of inflation, decline in revenue accruing to the FGN, as a result of fall in crude oil prices, deterioration in fiscal deficit and current account balance, amongst others. Unlike in the 2014 DSA, where Pessimistic Scenario was mainly revenue-specific, 2015 DSA considered deterioration in a broad range of macroeconomic indicators and variables that could negatively impact on the total public debt portfolio.

**Box 5.2: Pessimistic Scenario Assumptions**

**Real GDP Growth Rate:** The GDP growth rate is projected at 4.3 percent in 2015 and 3.27 percent on average between 2016 and 2017. The average growth rate from 2018 to 2035 is projected to hover around 3.36 percent. The projected slow growth is as a result of further drop in crude oil price, following the anticipated return of Iranian oil to the international oil markets, advancement in fracking technology, which is likely to reduce the unit cost of producing shale oil, refusal of OPEC member countries and Saudi Arabia to cut oil production, and increased oil production in Russian, to make up for short fall in the budget. These are likely to increase the competition for Nigeria's crude oil, reduce exports, revenue, and consequently lead to widening the fiscal deficit.

**Inflation Rate:** The inflation rate is expected to increase from 10.02 percent in 2015 to 13.13 percent between 2016 and 2017. The CPI is also projected to average on 11.49 percent in 2018-2035. High consumer prices will be driven by weaker Naira, high cost of imported raw materials and capital goods. The protracted insecurity in the North East region of the country may hinder food production and supply in some parts of the country.

**Crude Oil Production**

Crude oil production is projected at 2.2972 (mbpd) in 2016, 2.277 (mbpd) in 2017 and 2.2690 (mbpd) in 2018, almost as in the baseline. Meanwhile, the non-passage of the PIB, high cost of investment, are expected to raise the risk factors in oil production in the medium to long-term.

**Crude Oil Price**

The worst case scenario of average crude oil price of US$30pb has been assumed in 2016 and for the entire projection period. This is premised on the preponderance of increasing sources of alternative sources of energy as against crude oil, new discoveries, which will result in lower global demand relative to supply, due to expected slow rate of recovery of the global economy, may lead to lower prices as envisaged under this scenario.

**Fiscal Deficit**

This is projected to widen to 2.0, 1.7 and 1.9 percent of GDP in 2016, 2017, and 2018, respectively. The deterioration in fiscal conditions would further increase the financing gap and would lead to increased public borrowing.

**Export:** Though aggregate exports is expected to rise, due to weak exchange rate, exports may be slow to respond to structural bottlenecks, such as lack of funding required to boost power supply, high cost of doing business amongst others.

**Current Account Balance:** The current account balance would record huge deficits, due to expected adverse impact of weak Nigeria's crude oil exports earnings and continuous dependence on imports, as well as, expected decline in demand for Nigeria's oil in the medium-term.

**Foreign Direct Investment:** High cost of production, poor implementation of the Infrastructure Master Plan - failure of power sector reforms, coupled with macroeconomic instability, may discourage inflow of foreign direct investments.

**Remittances:** There would be substantial deterioration in the inflows of remittances, because of weak economic performance of the global economy.

Nominal Exchange Rate: Heightened demand pressure in the foreign exchange market may lead to sharp depreciation of the exchange rate.

**New Financing:** The weakening in fiscal conditions is expected to give rise to higher rate of debt accumulation under much harder borrowing terms in the medium to long-term. In addition, it assumed that the government will be unable to compensate for the fall in revenue through tax collections in the short to medium-term, because of the rigidity of the tax laws.

# CHAPTER SIX
# RESULTS ANALYSIS

## 6.0 Introduction

The 2015 debt sustainability scenario analysis covers only the Baseline and Pessimistic Scenarios. This is premised on the outlook of the macroeconomic indicators, current and projected fiscal data, which all point to a weakening trend. Accordingly, the DSA Technical Team did not find it expedient to make any optimistic projections of the country's macroeconomic, fiscal and debt data.

## 6.1 Baseline Scenario

The Baseline Scenario results analysis is presented in three parts:

i. The analysis of the FGN's External Debt Sustainability. This covers both the FGN and Sub-national's (including FCT) external debts, given that under the law, all external debts are contracted by the Federal Government, while those belonging to the Sub-nationals are guaranteed and treated as on-lent loans.
ii. The analysis of the Fiscal Sustainability of the FGN, which covers its external and domestic debt.
iii. The analysis of the Fiscal Sustainability of the Federation, which covers the external debt and the domestic debt of both the FGN and Sub-nationals.

The Standard Stress Tests for each of these Baseline Scenarios were also discussed.

### *6.1.1 Analysis of the FGN's External Debt Sustainability*

The result of the 2015 DSA shows that FGN's external debt portfolio is at a very low risk of the distress. Table 6.1 presents the projected FGN's external debt burden indicators using the Baseline assumptions and these are benchmarked against the country's peer group thresholds. The results show that all the indicators would remain below the thresholds throughout the projection period. It is important to note that all the indicators show a rising trend throughout the projection period except the PV of Debt/GDP. As highlighted in last year's DSA, these mean that the increase in the country's GDP is not accompanied by a proportionate increase in exports and revenue thereby making the debt portfolio susceptible to both indicators. Specifically, the revenue indicators rose at a faster rate, approaching the thresholds towards the end of the projection period. The details of the results are shown in Annexure 1. This butteresses the need to diversify, as well as, increase the revenue base of the country in order to mitigate the risk of debt distress in the long-term.

**Table 6.1 FGN's External Debt Sustainability Indicators in Percent (2015-2035)**

| Descriptions | | Threshold | 2015 | 2016 | 2017 | 2018 | 2019 | Average '21-'25 | Average '26-'30 | Average '31-'35 |
|---|---|---|---|---|---|---|---|---|---|---|
| Solvency Indicators | PV of Debt/ GDP | 40 | 2.3 | 2.5 | 2.7 | 2.8 | 2.9 | 2.8 | 2.3 | 1.6 |
| | PV of Debt/ Exports | 150 | 24.2 | 28.1 | 30.0 | 31.5 | 33.7 | 35.4 | 40.2 | 44.7 |
| | PV of Debt/ Revenue | 250 | 61.2 | 82.6 | 93.9 | 109.8 | 123.3 | 159.0 | 188.7 | 182.9 |
| Liquidity Indicators | Debt Service/ Exports | 20 | 0.9 | 0.9 | 1.0 | 2.0 | 1.3 | 2.2 | 3.0 | 4.2 |
| | Debt Service/ Revenue | 20 | 2.2 | 2.6 | 3.1 | 7.3 | 5.0 | 9.7 | 14.1 | 17.0 |

### *6.1.2 Analysis of the Standard Stress Tests*

Annexure 1(a-f) illustrate the results obtained under the Standard Stress Tests. These show the alternative scenarios in which the key macroeconomic variables, such as the real GDP growth rate, primary balance, export growth rate and non-debt creating flows are shocked or discounted by 30 percent at their historical averages minus one standard deviation. The Stress Tests further assumed that new debts would be obtained under less favourable terms and a one-time 30 percent nominal depreciation in key flow variables (currency and interest rates) relative to the baseline (Annexure 3). These illustrate a situation of extreme shock or combined shocks such that all the macroeconomic indicators and variables are put under stress, due to external and internal factors.

Under the Baseline Scenario, all the debt burden indicators are below their respective thresholds, indicating that the country is at a low risk of debt distress. However, it is important to notice that the Debt Service/Revenue ratio (Annexure 1f) maintained an upward trend with sharp spikes between 2018 and 2023, when the Eurobonds will be due for principal repayment. It could also be observed that whereas the rate of debt accumulation trended downward over the projection period, under the most extreme shocks, PV of Debt/Revenue (Annexure 1d) and Debt Service/Revenue (Annexure 1f) ratios rose sharply towards the thresholds and they remained below the thresholds throughout the projection period. These confirm the earlier position that the country is highly susceptible to revenue shocks. There is, therefore, the urgent need for the authorities to fast-track efforts aimed at diversifying the sources of revenue away from crude oil, as well as, implement policies that will boost exports and other forms of inflows (e.g. foreign direct investments) into the country.

### *6.1.3 Analysis of the Fiscal Sustainability (FGN's External & Domestic Debt)*

This sub-section analyses the debt sustainability of the FGN, when the external and domestic debt are taken together. There is only one internationally recommended peer group solvency threshold with which the fiscal debt sustainability can be measured, namely, the PV of Debt/GDP ratio. **The result obtained under the fiscal sustainability indicates that the FGN is at a low risk of debt distress.** The PV of Total Debt/GDP ratio is estimated at 11.7 and 11.4 percent for 2015 and 2016 (Table 6.2), compared with 11.6 and 10.9 percent obtained under 2014 DSA. These compare favourably with the peer group threshold of 56 percent and the country-specific threshold of 19.39 percent for the period up to 2017. The result shows a declining trend of PV of Debt/GDP ratio from 2018 meaning that the growth rate of the GDP outweighed the rate of debt accumulation over the period. Details of these are shown in Annexure 2.

**Table 6.2 FGN's Fiscal Sustainability Indicators in Percent (FGN's External & Domestic Debt) (2015-2035)**

| Description | Threshold | 2015 | 2016 | 2017 | 2018 | 2019 | Average '21-'25 | Average '26-'30 | Average '31-'35 |
|---|---|---|---|---|---|---|---|---|---|
| PV of Debt/GDP | 56* | 11.7 | 11.4 | 11.6 | 11.1 | 10.6 | 9.0 | 6.8 | 4.9 |
| PV of Debt/ Revenue | Not Applicable | 316.5 | 378.5 | 339.3 | 428.2 | 444.6 | 499.1 | 557.7 | 552.3 |
| Debt Service/ Revenue | Not Applicable | 46.4 | 59.1 | 57.0 | 52.7 | 56.8 | 54.9 | 54.1 | 52.5 |

*Country-Specific Threshold is 19.39 percent up to 2017

### *6.1.4 Analysis of the Standard Stress Tests*

The results of the Standard Stress Tests are illustrated in Annexure 2(a-c). Annexure 2a shows the sensitivity analysis of FGN's total debt portfolio to the GDP and this is well below the peer group threshold of 56 percent and country-specific threshold of 19.39 percent. The Stress Tests show that the PV of Debt/GDP ratio rose in the second year of estimation before trending gradually upward throughout the projection period. The Stress Tests or combined shocks, when applied to the revenue indicators Annexure 2(b & c) clearly show that any persistent shock in revenue would lead to debt distress in the medium to long-term, if other sources of revenue are not developed to bridge the gap. (Details of the results of the Stress Tests are captured in Annexure 4.

### *6.1.5 Analysis of Debt Sustainability of the FGN, States and FCT*

This sub-section of the analysis of 2015 DSA results deals with the Total Public Debt of the Federation, which is defined as the external and domestic debt of the FGN plus the domestic debt of the States, including the FCT. The analysis also captures the revenue of the two tiers of Government concerned, including their Internally Generated Revenues (IGR). This is in recognition of the fact that Nigeria practices fiscal federalism. There is, therefore, the need to ensure that the country maintains overall debt sustainability even as a Federation. The results obtained show that the Federation is also at low risk of debt distress.

### *6.1.6 Analysis of the External Debt Sustainability of the Federation*

Table 6.3 presents the analysis of the total external debt sustainability of the Federation – FGN, States and the FCT – under the Baseline Scenario. The difference between this particular result and those obtained under the external debt sustainability of the 'FGN only' discussed under Section 6.1.1 are with respect to solvency and liquidity indicators associated with revenue, which improved significantly due to the inclusion of the revenue of the States in the analysis. For instance, while PV of External Debt/Revenue is projected at 61.2 percent for FGN only, it is 38.1 percent for the Federation as at the end of 2015, while Debt Service/Revenue fell from 2.2 to 1.4 percent, indicating a more robust sustainability position for the Federation. The important point to note with regards to the external debt sustainability of the Federation is that, though the external debt of the States are guaranteed by the FGN, the debt service obligations are carried out by the States. This is done vide the instrumentality of an Irrevocable Standing payment Orders (ISPOs) issued by the States against their statutory allocations.

**Table 6.3: Nigeria's External Debt Sustainability Indicators (FGN, States & FCT) in Percent (2015-2035)**

| Descriptions | | Threshold | 2015 | 2016 | 2017 | 2018 | 2019 | Average '21-'25 | Average '26-'30 | Average '31-'35 |
|---|---|---|---|---|---|---|---|---|---|---|
| Solvency Indicators | PV of Debt/GDP | 40 | 2.3 | 2.5 | 2.7 | 2.8 | 2.9 | 2.8 | 2.3 | 1.6 |
| | PV of Debt/ Exports | 150 | 24.2 | 28.1 | 30.0 | 31.5 | 33.7 | 35.4 | 40.2 | 44.7 |
| | PV of Debt/ Revenue | 250 | 38.1 | 49.6 | 56.6 | 65.3 | 73.5 | 95.8 | 113.6 | 111.8 |
| Liquidity Indicators | Debt Service/ Exports | 20 | 0.9 | 0.9 | 1.0 | 2.0 | 1.3 | 2.2 | 3.0 | 4.2 |
| | Debt Service/ Revenue | 20 | 1.4 | 1.5 | 1.8 | 4.4 | 3.0 | 5.8 | 8.5 | 10.4 |

### *6.1.7 Analysis of the Standard Stress Tests*

The sensitivity analysis of the sustainability position of the Federation reveals similar pattern as that of the FGN only. It could be observed, however, that the susceptibility of revenue to the most extreme shocks are far less compared to those recorded when the revenue profile of FGN only was used (Annexure 1a-f). All the debt burden indicators under the most extreme shocks remained below the thresholds. Though the PV of External Debt/Revenue and Debt Service/Revenue ratios showed rising trends, there was no breach of the thresholds compared to the situation under the FGN only where the Stress Tests of both indicators breached the thresholds. This indicates that, if the external debt of the Federation is disaggregated and the revenue streams of the two tiers of Government is captured in the determination of the country's ability to service its external debt under stress conditions, Nigeria will still remain sustainable in the medium to long-term under the Baseline.

### *6.1.8 Analysis of the Fiscal Sustainability of the Federation*

The difference between this sub-section and that of FGN only discussed above is the addition of the domestic debt and IGR of the States and the FCT to that of the FGN in the analysis. The result obtained showed that the estimated solvency indicator of the Federation, PV of Total Debt/GDP ratio, which is the only one that has a standard peer group threshold of 56 percent, when external and domestic debt are combined is within sustainable limit at 13.6 percent in 2015. There is a marginal increase of 30 basis points compared to the 13.3 percent obtained in 2014. The ratio trended downward as from 2017 and throughout the projection period to reach an average low level of 5.2 percent in 2035 (Table 6.4). The decline in this solvency indicator is based on the assumption that the rate of growth of output is higher than the rate of debt accumulation. It could also be observed that the PV of Total Debt/Revenue and Debt Service/Revenue ratios are much lower than those obtained when only the revenue of the FGN was considered.

**Table 6.4: Fiscal Sustainability Indicators (FGN, States & FCT) in Percent (2015-2035)**

| Description | Threshold | 2015 | 2016 | 2017 | 2018 | 2019 | Average '21-'25 | Average '26-'30 | Average '31-'35 |
|---|---|---|---|---|---|---|---|---|---|
| PV of Debt/ GDP | 56* | 13.6 | 13.1 | 13.4 | 12.6 | 11.9 | 9.8 | 7.2 | 5.2 |
| PV of Debt/ Revenue | Not Applicable | 228.9 | 261.4 | 276.7 | 290.7 | 298.5 | 328.6 | 353.5 | 358.7 |
| Debt Service/ Revenue | Not Applicable | 38.7 | 38.2 | 37.8 | 35.1 | 38.3 | 37.9 | 36.8 | 34.8 |

*Country-specific limit is 19.39 percent up to 2017

### *6.1.9 Analysis of the Standard Stress Tests*

The results of the Standard Stress Tests of the Total Public Debt of the Federation is illustrated in Annexure 5 (a). These compare favourably with those obtained under the Baseline Scenario of the FGN's only; particularly with respect to revenue indicators, which show rising trend but with greater degree of sustainability relative to FGN only scenario. The most extreme shock yields the highest ratio of 358.7 percent towards the end of the projection period compared to FGN only with 316.5 percent in 2015, at the beginning of the projection.

## 6.2 Pessimistic Scenario (FGN-Only)

The Pessimistic Scenario assumes a reduction in the growth rate of the GDP, decline in revenue accruing to the FGN, as a result of fall in crude oil prices, increase in the rate of inflation arising from a weakened local currency, deterioration in fiscal deficit and current account balance, amongst others. Unlike in the 2014 DSA, where Pessimistic Scenario was mainly revenue-specific, 2015 DSA considered deterioration in a broad range of macroeconomic indicators and variables (lower output, higher inflation and interest rates, weak currency, etc.) that could negatively impact on the public debt portfolio.

### *6.2.1 Analysis of the External Debt Sustainability of the FGN*

The results under the Pessimistic Scenario indicate that the country would have the risk of debt distress under a persistent deterioration in macroeconomic indicators and variables in the medium to long-term. The PV of Debt/Export, PV of Debt/Revenue and Debt Service/Revenue breached the peer group threshold of 150, 250 and 20 percent in year 2030, 2022 and 2025, respectively. Table 6.5 shows that except the PV of Debt/GDP ratio and the drop recorded in 2019 for Debt Service/Exports, all the other indicators including the later maintained a rising trend, reaching their peak at the end of the projection period. This means that a prolonged deterioration in one or two of the variables could increase the risk of debt unsustainability. These highlight the need to diversify the revenue base of the country and/or moderate the rate of debt accumulation both in short to medium-term to avoid the risk of debt distress.

**Table 6.5: FGN's External Debt Sustainability Indicators in Percent (Pessimistic)**

| Descriptions | | Threshold | 2015 | 2016 | 2017 | 2018 | 2019 | Average '21-'25 | Average '26-'30 | Average '31-'35 |
|---|---|---|---|---|---|---|---|---|---|---|
| Solvency Indicators | PV of Debt/ GDP | 40 | 2.3 | 2.7 | 3.2 | 3.6 | 4.1 | 4.7 | 4.6 | 3.9 |
| | PV of Debt/ Exports | 150 | 24.2 | 37.6 | 52.6 | 64.3 | 69.8 | 108.1 | 141.3 | 156.6 |
| | PV of Debt/ Revenue | 250 | 61.2 | 122.5 | 153.1 | 178.3 | 215.1 | 275.9 | 320.9 | 327.6 |
| Liquidity Indicators | Debt Service/ Exports | 20 | 0.9 | 1.1 | 1.7 | 4.0 | 2.8 | 6.7 | 11.3 | 15.5 |
| | Debt Service/ Revenue | 20 | 2.2 | 3.7 | 4.8 | 11.2 | 8.6 | 17.1 | 25.5 | 32.3 |

### *6.2.2 Analysis of the Fiscal Sustainability of the FGN*

The results obtained under the fiscal block, that is, the analysis of the combination of external and domestic debt show a sustained, but moderate growth in the PV of Debt/ GDP ratio up to 12.9 percent in 2019 before a gradual decline (Table 6.6). The PV of Debt/Revenue and Debt Service/Revenue ratios, against which there are no peer group thresholds, recorded sharp increases in 2016, from their levels in 2015, based on the assumption that the current downturn in revenue accruing to the FGN will have its full impact on the economy in 2016 Budget.

**Table 6.6: Fiscal Sustainability Indicators (FGN's External & Domestic Debt) in Percent (Pessimistic)**

| Description | Threshold | 2015 | 2016 | 2017 | 2018 | 2019 | Average '21-'25 | Average '26-'30 | Average '31-'35 |
|---|---|---|---|---|---|---|---|---|---|
| PV of Debt/ GDP | 56* | 11.7 | 11.9 | 12.3 | 12.6 | 12.9 | 12.5 | 11.4 | 9.8 |
| PV of Debt/ Revenue | Not Applicable | 316.5 | 537.9 | 595.6 | 623.3 | 684.0 | 728.2 | 785.2 | 819.2 |
| Debt Service/ Revenue | Not Applicable | 46.4 | 85.6 | 87.8 | 77.7 | 88.9 | 84.0 | 83.3 | 86.4 |

Country-Specific threshold is 19.39 percent

## 6.3 Determination of Borrowing Limit for 2016

The determination of the borrowing limit is guided by Government's conservative debt management strategy of using the Country-Specific threshold of PV of Total Public Debt/GDP ratio of 19.39 percent in the medium-term, as against the country's international peer group threshold of 56 percent to measure its debt sustainability.

i. The end-period NPV of Total Public Debt/GDP ratio for 2015 for FGN is projected at 11.7 percent. The difference between the projected ratio for 2015 (11.7 percent), and the recalibrated Country-Specific ratio of NPV of Total Public Debt/GDP for the medium-term, 2015-2017, estimated at 19.39 percent is 7.69 percent using a GDP estimate of US$544.24 billion for 2016.

ii. Based on the foregoing, the **maximum amount that could be borrowed (domestic and external) by the FGN in 2016 and 2017 without violating the country-specific threshold is about US$42.00 billion (i.e. 7.69 percent of US$544.24 billion). This translates to about US$21 billion each year for 2016 and 2017.**

   In line with the provisions in the MTDS (2012-2015), there is the need to rebalance the debt portfolio by substituting the relatively expensive domestic borrowing in favour of cheaper external financing. This recommendation has been reinforced, given the recent realities, particularly with respect to rising cost of domestic borrowing and the need to address the perception of crowding out of the private sector. These put together make further accumulation of domestic debt highly unattractive and needs to be curtailed. Currently, the difference in the cost of borrowing between domestic and external sources is about 800-1000 basis points. The recommended shift of emphasis to external borrowing would help to reduce the debt service burden in the short to medium-term and create a robust borrowing space for the private sector. **Taking into account the domestic market absorptive capacity and the External Borrowing Plan, the maximum borrowing of US$21 billion for 2016, is proposed to be sourced from both domestic and external sources as follows:**

a. **New Domestic Borrowing: US$5.0 billion (equivalent of about ₦1.0 trillion); and,**
b. **New External Borrowing: US$16.0 billion.**

In view of the country's acute infrastructure demands, advantage can be taken of the borrowing space, without breaching the country's sustainability threshold.

### 6.4 Conclusion

**The result of the 2015 DSA shows that Nigeria remains at a low risk of debt distress relative to the country's aggregate output (GDP).** However, debt sustainability remains mostly sensitive to the revenue shocks, indicating that an increase in aggregate output (country's GDP), does not result to a proportionate increase in revenue. **There is, therefore, the urgent need for the authorities to fast-track efforts aimed at further diversifying the sources of revenue away from crude oil, as well as, implement far-reaching policies that will bolster exports and other forms of capital flows (e.g. foreign direct investments) into the country. This has become very critical, given the continued volatility in the price of oil in the international commodities market.**

# CHAPTER SEVEN
# SUMMARY OF KEY FINDINGS AND RECOMMENDATIONS

## 7.1 Summary of Key Findings

**The result of the 2015 DSA shows that Nigeria remains at a low risk of debt distress relative to the country's aggregate output (GDP).** However, debt sustainability remains mostly sensitive to the revenue shocks. The details of the key findings are outlined below:

(i) ***Output Indicator – (Debt/GDP)***

- ***FGN only***

  Given the projected size of the country's GDP, which shows that its average growth rate of 5.43 percent over the projection period outweighs the average rate of debt accumulation of 4.02 percent, the result obtained under the fiscal sustainability of the FGN only (External & Domestic Debt) indicates that FGN is at a low risk of debt distress. The PV of the Total Debt/GDP ratio, which is estimated at 11.7 and 11.4 percent for 2015 and 2016, compare favourably with the country's peer group threshold of 56 percent and country-specific threshold of 19.39 percent up to 2017.

- ***The Federation (FGN, States & FCT)***

  In like manner, the fiscal sustainability of the Federation (FGN + States and FCT debt data), show a similar trend with the FGN only. The PV of Total Debt-to-GDP ratio is projected at 13.6 and 13.1 percent for 2015 and 2016, respectively, which also compare favourably with the thresholds. The same reasoning justified this trend – that is, with the projected rising aggregate output (GDP) for the period, with an average growth rate of 5.43 percent over the projection period, outweighing the average rate of debt accumulation (4.02 percent) for the period, the downward trend in the output ratios was therefore, inevitable.

(ii) ***Revenue-based Indicator (Total Debt-to-Revenue)***

- ***FGN only***

  For the FGN only (External and Domestic debt), the revenue-based indicators, showed a faster rate of deterioration after 2017. The PV of Debt/Revenue for 2015 and 2017 were projected at 316.5 and 339.3 percent respectively, and were still marginally below the country-specific threshold of 350 percent. International threshold exist only for External Debt-to-Revenue, which is 250 percent. It is instructive to note that from 2018 up to the end of the projection period, the Total Debt-to-Revenue deteriorated faster and breached the country-specific threshold of 350. Thus, affirming the proposition for an urgent need to further diversify the revenue base of the country to avoid the risk of debt distress.

- ***Federation (FGN, States & FCT)***

  Meanwhile, the Debt/Revenue ratio of the Federation (FGN, States and FCT) looks fairly robust, in the short to medium-term. The projected Debt/Revenue ratio marginally breached the country-specific threshold of 350 in the long-term, from year 2026 at 353.5 percent. The explanation is that the addition of sub-national's revenue variable is proportionately higher than the debt stock variable.

(iii) ***Revenue – based Indicator (Debt Service-to-Revenue)***

- ***FGN only***

  For the Debt Service-to-Revenue, using only FGN debt service data, the outcome shows an immediate breach of the country specific threshold of 28 percent from 2015 (46.4 percent) up to the end of the projection period. This ratio deteriorates further and shows a rising trend in the medium to long-term.

- ***The Federation (FGN, States and FCT)***

  The Debt Service to Revenue for the Federation – also mirrors the outcome of the FGN only. While the ratio breached the country specific threshold of 28 from the first year of projection at 38.7 for 2015, and all through the projection period, the absolute figures were moderated, when compared with the FGN only.

All these highlight the fact that an increase in aggregate output (country's GDP), does not result to a proportionate increase in revenue. **There is, therefore, the urgent need for the authorities to fast-track efforts aimed at further diversifying**

**the sources of revenue away from crude oil, as well as, implement far-reaching policies that will bolster exports and other forms of capital flows (e.g. foreign direct investments) into the country. This has become very critical, given the continued volatility in the price of oil in the international commodities market.**

### 7.2 Key Recommendations

The key policy recommendations of the 2015 DSA exercise are as follows:

i The end-period NPV of Total Public Debt/GDP ratio for 2015 for FGN is projected at 11.7 percent. The difference between the projected ratio for 2015 (11.7 percent), and the recalibrated Country-Specific ratio of NPV of Total Public Debt/GDP for the medium-term, 2015-2017, estimated at 19.39 percent is 7.69 percent using a GDP estimate of US$544.24 billion for 2016.

ii Based on the foregoing, the **maximum amount that could be borrowed (domestic and external) by the FGN in 2016 and 2017 without violating the country-specific threshold is about US$42.00 billion (i.e. 7.69 percent of US$544.24 billion). This translates to about US$21 billion each year for 2016 and 2017.**

In line with the provisions in the MTDS (2012-2015), there is the need to rebalance the debt portfolio by substituting the relatively expensive domestic borrowing in favour of cheaper external financing. This recommendation has been reinforced, given the recent realities, particularly with respect to rising cost of domestic borrowing and the need to address the perception of crowding out of the private sector. These put together make further accumulation of domestic debt highly unattractive and needs to be curtailed. Currently, the difference in the cost of borrowing between domestic and external sources is about 800-1000 basis points. The recommended shift of emphasis to external borrowing would help to reduce the debt service burden in the short to medium-term and create a robust borrowing space for the private sector. **Taking into account the domestic market absorptive capacity and the External Borrowing Plan, the maximum borrowing of US$21 billion for 2016, is proposed to be sourced from both domestic and external sources as follows:**

a. **New Domestic Borrowing: US$5.0 billion (equivalent of about ₦1.0 trillion); and,**

**b. New External Borrowing: US$16.0 billion.**

In view of the country's acute infrastructure demands, advantage can be taken of the borrowing space, without breaching the country's sustainability threshold.

iii Given the recent deterioration in government revenue, occasioned by the drastic fall in the price of oil, government should now reinforce its initiatives aimed at diversifying the productive base of the economy and, thus, improve the non-oil revenue receipts. Towards this end, steps should be taken to broaden the tax base, especially, the incorporation of the informal sector into the tax net, effectively enforce existing tax laws for optimal compliance, consider the proposal to review upwards the Value Added Tax (VAT) rate from its present 5 percent (currently, the lowest in the ECOWAS sub-region) to about 10 percent and block revenue leakages. These would help to shore-up government's non-oil revenue, reduce the over-dependence on oil revenue, reduce domestic borrowing and, hence, ensure overall long-term fiscal sustainability.

iv Whilst efforts are on-going to aggressively diversify the economy away from over-dependence on crude oil, which has served as the main source of revenue to the country, the Federal Government should not relent on the on-going reforms in the oil and gas sector of the economy. These could be strengthened by accelerating the passage of the Petroleum Industry Bill (PIB) into law, which is expected to open up the investment space in the sector.

v It is also advisable for the Federal Government to commence the implementation of the International Public Sector Accounting Standards (IPSAS) accrual accounting in 2016, as planned, so as to make financial reports much more robust and informative for sound decision making. An IPSAS compliant report will make government's assets and liabilities become more apparent to users, and uses the accrual accounting principle that recongnises non-cash based assets, which will enhance the robustness of the DSA data.

vi In view of the adverse effect of the drop in oil revenue and the resultant reduction in statutory allocations on the finances of the sub-nationals, necessitating various forms of bail-outs by the Federal Government, there is the need for a full implementation of the Guidelines on External and Domestic

Borrowings to forestall further relapse into debt unsustainability by the sub-nationals.

vii The DMO is expected to sustain its capacity building initiatives for the sub-nationals, so as to upscale their skills, and bring them to the level, where the staff of the Debt Management Departments would be able to conduct their own DSAs and Medium-Term Debt Strategy (MTDS). This will further help them to effectively advise their respective Governments on issues relating to public debt. The mechanism for collating and publication of sub-national debt data should be strengthened, so as to reduce delays in providing relevant data required for critical decision making.

viii Given the recent classification of Nigeria as a Lower-Middle-Income country and the anticipated transition from the use of the DSF-LICs analytical tool to Market Access Countries (MACs) Template used by emerging economies in the near term, there is an urgent need for requisite capacity building for staff of the DMO and those of the relevant stakeholders, for a proper understanding of the Template, prior to the commencement of its usage by the country in conducting the national annual DSA exercise, going forward.

ix In order to forestall the challenge of having deficits in both the fiscal and current account balances, the Federal Government should seek ways to gradually reduce fiscal deficits by moderating public expenditures and aggressively pursue the development of the real sector, particularly in the agriculture and manufacturing, so as to boost exports.

x Furthermore, it is imperative that the Federal Government sustains the on-going reforms in the various key sectors of the economy, which include: power, agriculture, transport, housing and education, in order to engender the needed inclusive economic growth.

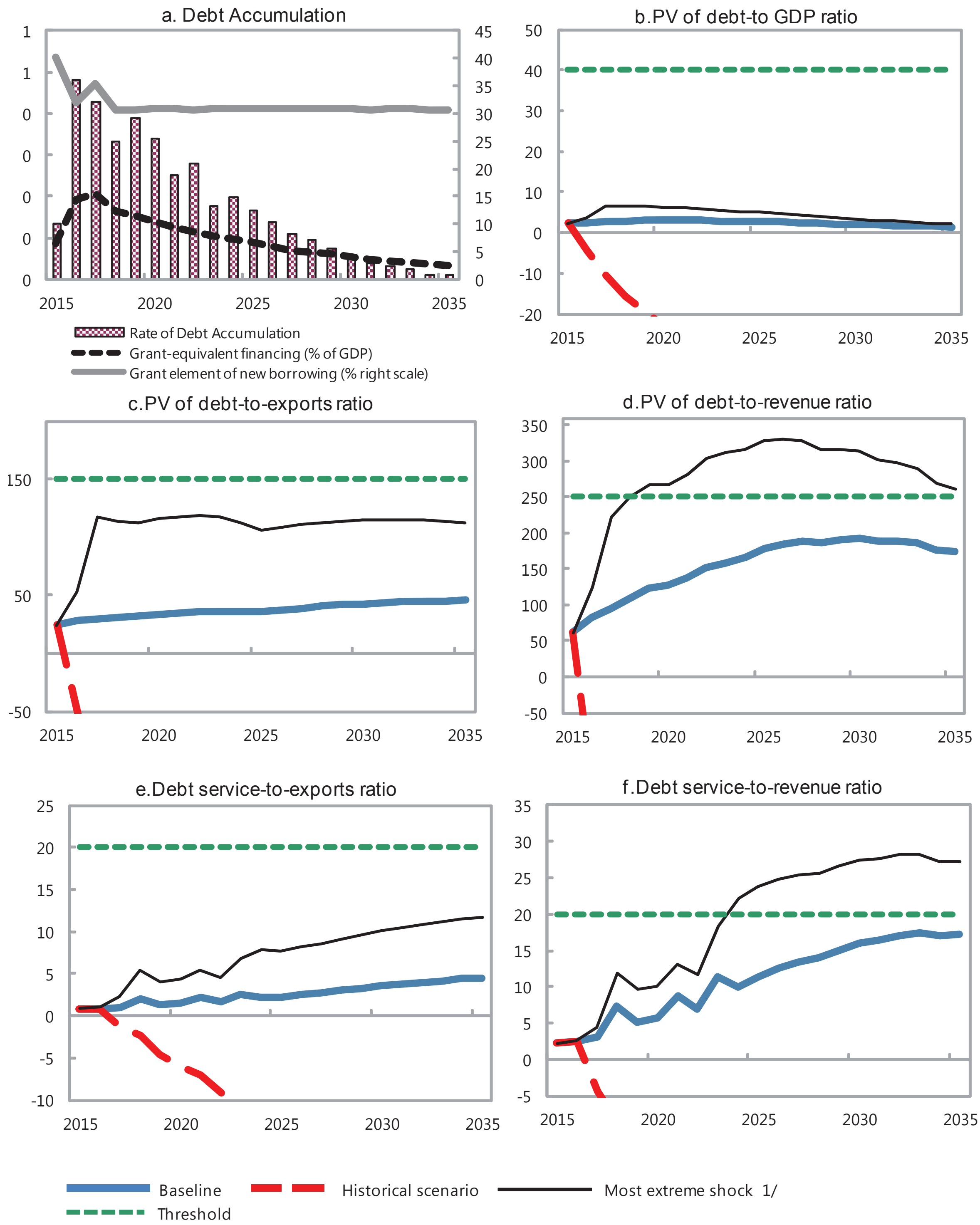
xi Given Nigeria's enormous infrastructure needs vis-à-vis the revenue constraints, there is the need to creatively explore and consider other funding options to finance priority projects. This may include the setting up of an Infrastructure Development Fund, and the issuance of Infrastructure-tied Bonds, as well as, encouraging the private sector to participate in funding viable infrastructural projects through the Public-Private-Partnership arrangements, as well as, appropriate Sovereign Guarantees.

xii As part of efforts at liberalising public debt management knowledge and to engender the needed harmonious relationship with the various arms of

Government, it is recommended that, going forward, some technical staff of the two Committees of the National Assembly - Senate and House of Representatives, overseeing public debt management, could be co-opted into the Technical Committee for the annual DSA Workshops/Fora. This is to enable the legislative arm of Government to further appreciate the full import of such an exercise, which will help to enhance its visibility and, thus, facilitate the implementation of its outcomes.

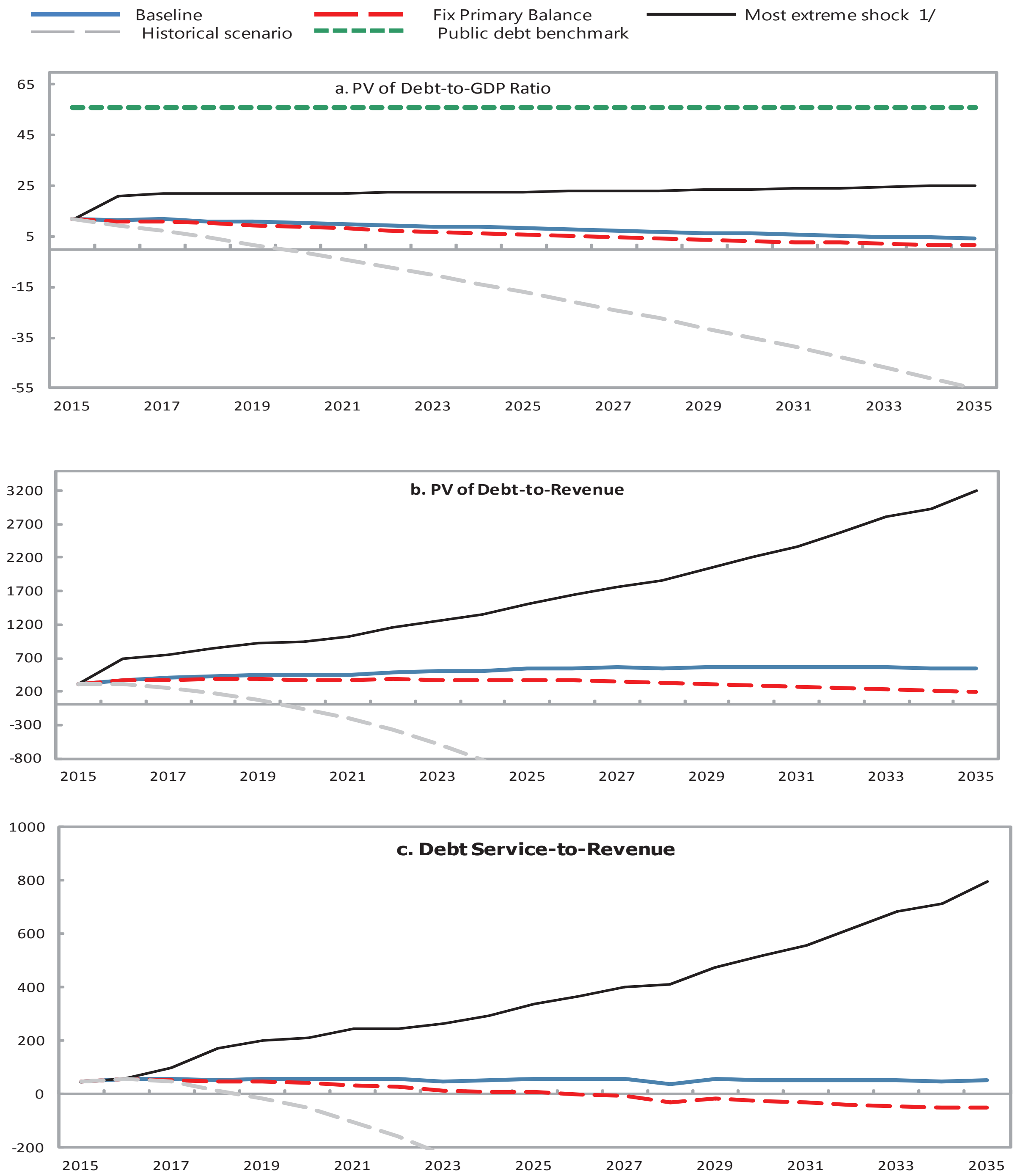
xiii In the same vein, there is also the need for the DMO to periodically organize targeted sensitization workshops or fora for relevant stakeholders, on the essence and outcomes of the DSA, as well as, their economic implications for an effective and prudent public debt management.

## Annexure 1: Nigeria's External Debt Sustainability Indicators Under Alternative Scenarios, 2015-2035




[1/] The most extreme stress test is the test that yields the highest ratio on or before 2025.

## Annexure 2: FGN's Public Debt Sustainability Under Alternative Scenarios, 2015-2035




Sources: Country authorities; and staff estimates and projections.

[1/] The most extreme stress test is the test that yields the highest ratio on or before 2025.

[2/] Revenues are defined inclusive of grants.

## Annexure 3: FGN's External Debt Sustainability Framework, Baseline scenario, 2011-2035 [1/]

(In percent of GDP, unless otherwise indicated)

| | Actual | | | Historical [6/] Average | Standard Deviation | Projections | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2012 | 2013 | 2014 | | | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | 2033 | 2034 | 2035 |
| **External debt (nominal)** [1/] | **1.7** | **2.2** | **2.3** | | | **2.7** | **3.1** | **3.6** | **3.8** | **3.9** | **4.0** | **3.9** | **3.9** | **3.8** | **3.7** | **3.5** | **3.4** | **3.2** | **3.1** | **2.9** | **2.7** | **2.5** | **2.4** | **2.2** | **2.0** | **1.9** |
| *of which: public and publicly guaranteed (PPG)* | 1.4 | 1.7 | 1.9 | | | 2.2 | 2.5 | 2.9 | 3.1 | 3.3 | 3.4 | 3.4 | 3.4 | 3.3 | 3.3 | 3.2 | 3.1 | 2.9 | 2.8 | 2.6 | 2.5 | 2.3 | 2.2 | 2.0 | 1.9 | 1.7 |
| Change in external debt | 0.2 | 0.4 | 0.1 | | | 0.5 | 0.4 | 0.5 | 0.2 | 0.1 | 0.1 | -0.1 | 0.0 | -0.1 | -0.1 | -0.1 | -0.1 | -0.2 | -0.2 | -0.2 | -0.2 | -0.2 | -0.2 | -0.2 | -0.2 | -0.2 |
| Identified net debt-creating flows | -5.2 | -4.8 | -1.0 | | | 1.9 | 1.4 | 1.0 | -0.2 | -1.5 | -1.0 | -0.6 | -0.3 | -0.1 | 0.1 | 0.1 | 0.0 | -0.4 | -0.4 | -0.4 | -0.3 | -0.3 | -0.3 | -0.3 | -0.3 | -0.2 |
| **Non-interest current account deficit** | **-3.9** | **-3.9** | **-0.3** | **-6.8** | **5.5** | **2.0** | **1.5** | **1.2** | **0.0** | **-1.3** | **-0.8** | **-0.4** | **-0.1** | **0.1** | **0.2** | **0.3** | **0.1** | **-0.3** | **-0.2** | **-0.2** | **-0.2** | **-0.2** | **-0.2** | **-0.2** | **-0.1** | **-0.1** |
| Deficit in balance of goods and services | -3.9 | -4.5 | 0.3 | | | 1.6 | 1.7 | 1.4 | 1.0 | 0.7 | 1.1 | 1.4 | 1.6 | 1.8 | 1.9 | 1.1 | 1.0 | 0.9 | 0.9 | 0.8 | 0.7 | 0.6 | 0.6 | 0.5 | 0.5 | 0.4 |
| Exports | 22.0 | 19.7 | 15.1 | | | 9.4 | 8.8 | 9.1 | 9.3 | 9.3 | 8.9 | 8.5 | 8.1 | 7.8 | 7.6 | 7.6 | 6.9 | 6.3 | 5.7 | 5.2 | 4.8 | 4.3 | 4.0 | 3.6 | 3.3 | 3.0 |
| Imports | 18.0 | 15.2 | 15.3 | | | 11.0 | 10.6 | 10.5 | 10.3 | 10.0 | 10.0 | 9.9 | 9.8 | 9.7 | 9.5 | 8.7 | 7.9 | 7.2 | 6.6 | 6.0 | 5.5 | 5.0 | 4.5 | 4.1 | 3.8 | 3.4 |
| Net current transfers (negative = inflow) | -4.9 | -4.3 | -3.9 | -5.5 | 1.0 | -3.5 | -4.0 | -4.0 | -4.6 | -4.4 | -4.2 | -4.0 | -3.9 | -3.7 | -3.5 | -3.4 | -3.2 | -3.1 | -3.0 | -2.8 | -2.7 | -2.6 | -2.5 | -2.4 | -2.3 | -2.2 |
| *of which: official* | -0.4 | -0.4 | -0.3 | | | -0.3 | -0.3 | -0.3 | -0.3 | -0.2 | -0.2 | -0.2 | -0.2 | -0.2 | -0.2 | -0.2 | -0.2 | -0.1 | -0.1 | -0.1 | -0.1 | -0.1 | -0.1 | -0.1 | -0.1 | -0.1 |
| Other current account flows (negative = net inflow) | 4.9 | 5.0 | 3.3 | | | 4.0 | 3.8 | 3.7 | 3.7 | 2.4 | 2.3 | 2.2 | 2.1 | 2.0 | 1.9 | 2.5 | 2.3 | 1.9 | 1.9 | 1.8 | 1.8 | 1.8 | 1.7 | 1.7 | 1.6 | 1.6 |
| **Net FDI (negative = inflow)** | **-1.2** | **-0.9** | **-0.5** | **-1.6** | **0.6** | **-0.1** | **-0.1** | **-0.1** | **-0.1** | **-0.1** | **-0.1** | **-0.1** | **-0.1** | **-0.1** | **-0.1** | **-0.1** | **-0.1** | **-0.1** | **-0.1** | **-0.1** | **-0.1** | **-0.1** | **-0.1** | **-0.1** | **-0.1** | **-0.1** |
| **Endogenous debt dynamics** [2/] | **-0.1** | **-0.1** | **-0.1** | | | **0.0** | **0.0** | **0.0** | **-0.1** | **-0.1** | **-0.1** | **-0.1** | **-0.1** | **-0.1** | **-0.1** | **-0.1** | **-0.1** | **-0.1** | **-0.1** | **-0.1** | **-0.1** | **-0.1** | **-0.1** | **-0.1** | **0.0** | **0.0** |
| Contribution from nominal interest rate | 0.0 | 0.1 | 0.1 | | | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| Contribution from real GDP growth | -0.1 | -0.1 | -0.1 | | | -0.1 | -0.1 | -0.2 | -0.2 | -0.2 | -0.2 | -0.2 | -0.2 | -0.2 | -0.2 | -0.2 | -0.2 | -0.2 | -0.2 | -0.2 | -0.1 | -0.1 | -0.1 | -0.1 | -0.1 | -0.1 |
| Contribution from price and exchange rate changes | 0.0 | -0.1 | -0.1 | | | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| **Residual (3-4)** [3/] | **5.5** | **5.3** | **1.0** | | | **-1.4** | **-1.0** | **-0.5** | **0.4** | **1.6** | **1.1** | **0.6** | **0.3** | **0.0** | **-0.2** | **-0.2** | **-0.1** | **0.2** | **0.2** | **0.2** | **0.2** | **0.1** | **0.1** | **0.1** | **0.1** | **0.1** |
| *of which: exceptional financing* | 2.5 | -0.2 | -1.5 | | | 0.5 | -0.2 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | -0.4 | 0.2 | -0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| PV of external debt [4/] | ... | ... | 2.4 | | | 2.8 | 3.1 | 3.4 | 3.5 | 3.6 | 3.6 | 3.5 | 3.4 | 3.3 | 3.2 | 3.1 | 2.9 | 2.8 | 2.6 | 2.4 | 2.3 | 2.1 | 1.9 | 1.8 | 1.6 | 1.5 |
| In percent of exports | ... | ... | 15.8 | | | 30.2 | 35.1 | 37.3 | 38.1 | 38.4 | 40.3 | 41.2 | 42.3 | 42.0 | 41.6 | 40.3 | 42.1 | 43.7 | 45.2 | 46.6 | 47.7 | 48.5 | 49.2 | 49.8 | 50.1 | 50.4 |
| **PV of PPG external debt** | **...** | **...** | **2.0** | | | **2.3** | **2.5** | **2.7** | **2.8** | **2.9** | **3.0** | **3.0** | **2.9** | **2.8** | **2.8** | **2.7** | **2.6** | **2.4** | **2.3** | **2.2** | **2.0** | **1.9** | **1.8** | **1.6** | **1.5** | **1.4** |
| **In percent of exports** | **...** | **...** | **13.1** | | | **24.2** | **28.1** | **30.0** | **30.5** | **31.5** | **33.7** | **34.9** | **36.3** | **36.3** | **36.3** | **35.4** | **37.2** | **38.8** | **40.4** | **41.7** | **42.8** | **43.6** | **44.3** | **44.9** | **45.3** | **45.5** |
| **In percent of government revenues** | **...** | **...** | **53.5** | | | **61.2** | **82.6** | **93.9** | **109.8** | **123.3** | **127.9** | **137.7** | **152.2** | **158.9** | **167.1** | **179.2** | **185.3** | **188.8** | **186.9** | **190.0** | **192.4** | **188.5** | **188.7** | **187.6** | **176.0** | **173.7** |
| **Debt service-to-exports ratio (in percent)** | **0.8** | **0.7** | **1.4** | | | **2.2** | **2.2** | **2.2** | **3.2** | **2.3** | **2.5** | **3.2** | **2.6** | **3.4** | **2.9** | **3.0** | **3.2** | **3.5** | **3.7** | **4.0** | **4.3** | **4.5** | **4.7** | **4.9** | **5.1** | **5.2** |
| **PPG debt service-to-exports ratio (in percent)** | **0.3** | **0.1** | **0.4** | | | **0.9** | **0.9** | **1.0** | **2.0** | **1.3** | **1.5** | **2.2** | **1.7** | **2.6** | **2.2** | **2.3** | **2.5** | **2.7** | **3.0** | **3.3** | **3.6** | **3.8** | **4.0** | **4.2** | **4.4** | **4.5** |
| **PPG debt service-to-revenue ratio (in percent)** | **1.3** | **0.7** | **1.7** | | | **2.2** | **2.6** | **3.1** | **7.3** | **5.0** | **5.7** | **8.8** | **7.0** | **11.3** | **9.9** | **11.4** | **12.5** | **13.3** | **13.9** | **15.0** | **16.0** | **16.4** | **17.1** | **17.4** | **17.0** | **17.2** |
| Total gross financing need (Billions of U.S. dollars) | -22.4 | -23.3 | -3.4 | | | 10.5 | 9.4 | 7.9 | 2.1 | -7.2 | -4.3 | -1.2 | 0.8 | 3.8 | 5.2 | 5.9 | 4.6 | -0.7 | -0.7 | -0.6 | -0.4 | -0.2 | -0.1 | 0.0 | -0.1 | -0.1 |
| Non-interest current account deficit that stabilizes debt ratio | -4.1 | -4.3 | -0.4 | | | 1.6 | 1.1 | 0.7 | -0.2 | -1.4 | -0.9 | -0.4 | -0.1 | 0.2 | 0.3 | 0.4 | 0.3 | -0.1 | -0.1 | -0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| **Key macroeconomic assumptions** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Real GDP growth (in percent) | 6.7 | 7.4 | 2.9 | 5.3 | 2.3 | 4.3 | 5.3 | 5.3 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 |
| GDP deflator in US dollar terms (change in percent) | 3.1 | 5.0 | 7.0 | 5.5 | 12.0 | -16.0 | 5.0 | 0.7 | 2.7 | 4.3 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Effective interest rate (percent) [5/] | 2.2 | 5.9 | 4.7 | 7.1 | 9.2 | 4.8 | 4.6 | 4.1 | 3.5 | 3.5 | 3.5 | 2.9 | 3.1 | 3.3 | 3.3 | 3.5 | 3.4 | 3.4 | 3.5 | 3.5 | 3.5 | 3.2 | 3.1 | 3.0 | 3.4 | 3.4 |
| Growth of exports of G&S (US dollar terms, in percent) | -3.8 | 0.9 | -15.6 | 6.9 | 23.4 | -45.6 | 4.2 | 10.0 | 10.1 | 10.1 | 4.4 | 4.7 | 5.2 | 6.0 | 7.1 | 8.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Growth of imports of G&S (US dollar terms, in percent) | -10.9 | -5.2 | 11.3 | 21.7 | 63.4 | -37.3 | 6.5 | 5.7 | 5.7 | 7.4 | 9.2 | 8.5 | 8.5 | 8.5 | 8.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Grant element of new public sector borrowing (in percent) | ... | ... | ... | ... | ... | 40.2 | 31.9 | 35.3 | 30.6 | 30.8 | 30.8 | 30.8 | 30.7 | 31.0 | 31.0 | 30.9 | 30.9 | 30.8 | 30.8 | 30.8 | 30.8 | 30.8 | 30.8 | 30.8 | 30.6 | 30.8 |
| Government revenues (excluding grants, in percent of GDP) | 5.1 | 4.0 | 3.7 | | | 3.7 | 3.0 | 2.9 | 2.6 | 2.4 | 2.3 | 2.1 | 1.9 | 1.8 | 1.7 | 1.5 | 1.4 | 1.3 | 1.2 | 1.1 | 1.1 | 1.0 | 0.9 | 0.9 | 0.8 | 0.8 |
| Aid flows (in Billions of US dollars) [7/] | 5.9 | 7.1 | 8.1 | | | 0.7 | 1.7 | 1.9 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.7 | 1.6 | 1.6 | 1.5 | 1.6 | 1.6 | 1.6 | 1.5 | 1.6 | 1.6 | 1.5 | 1.6 |
| *of which: Grants* | 0.0 | 0.0 | 0.0 | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| *of which: Concessional loans* | 5.9 | 7.1 | 8.1 | | | 0.7 | 1.7 | 1.9 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.5 | 1.6 | 1.6 | 1.6 | 1.5 | 1.6 | 1.6 | 1.5 | 1.6 |
| Grant-equivalent financing (in percent of GDP) [8/] | ... | ... | ... | | | 0.1 | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Grant-equivalent financing (in percent of external financing) [8/] | ... | ... | ... | | | 40.5 | 32.0 | 35.4 | 30.8 | 30.9 | 31.0 | 30.9 | 30.8 | 31.2 | 31.2 | 31.1 | 31.0 | 30.9 | 31.0 | 30.9 | 30.9 | 30.9 | 31.0 | 30.9 | 30.8 | 30.9 |

| | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Memorandum items:* | | | | | | | | | | | | | | | | | | | | | | | | |
| Nominal GDP (Billions of US dollars) | 452.0 | 510.0 | 561.6 | 492.1 | 544.2 | 577.4 | 624.9 | 687.0 | 753.8 | 827.0 | 907.4 | 995.5 | 1092.3 | 1198.4 | 1314.8 | 1442.6 | 1582.7 | 1736.5 | 1905.2 | 2090.3 | 2293.4 | 2516.3 | 2760.8 | 3029.0 |
| Nominal dollar GDP growth | 9.9 | 12.8 | 10.1 | -12.4 | 10.6 | 6.1 | 8.2 | 9.9 | 9.7 | 9.7 | 9.7 | 9.7 | 9.7 | 9.7 | 9.7 | 9.7 | 9.7 | 9.7 | 9.7 | 9.7 | 9.7 | 9.7 | 9.7 | 9.7 |
| PV of PPG external debt (in Billions of US dollars) | | | 10.4 | 11.1 | 13.5 | 15.8 | 17.7 | 20.2 | 22.5 | 24.4 | 26.7 | 28.3 | 30.3 | 32.1 | 33.8 | 35.3 | 36.6 | 37.8 | 38.8 | 39.6 | 40.2 | 40.8 | 41.1 | 41.3 |
| (PVt-PVt-1)/GDPt-1 (in percent) | | | | 0.1 | 0.5 | 0.4 | 0.3 | 0.4 | 0.3 | 0.3 | 0.3 | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Gross workers' remittances (Billions of US dollars) | 20.5 | 20.8 | 20.8 | 17.1 | 18.0 | 18.9 | 20.0 | 21.0 | 22.0 | 23.0 | 24.0 | 25.1 | 26.2 | 27.4 | 28.6 | 29.9 | 31.3 | 32.7 | 34.1 | 35.7 | 37.3 | 39.0 | 40.7 | 42.5 |
| PV of PPG external debt (in percent of GDP + remittances) | ... | ... | 1.9 | 2.2 | 2.4 | 2.7 | 2.7 | 2.8 | 2.9 | 2.9 | 2.9 | 2.8 | 2.7 | 2.6 | 2.5 | 2.4 | 2.3 | 2.1 | 2.0 | 1.9 | 1.7 | 1.6 | 1.5 | 1.3 |
| PV of PPG external debt (in percent of exports + remittances) | ... | ... | 10.5 | 17.6 | 20.4 | 22.0 | 22.7 | 23.7 | 25.3 | 26.3 | 27.4 | 27.5 | 27.6 | 27.2 | 28.3 | 29.2 | 30.0 | 30.7 | 31.1 | 31.3 | 31.4 | 31.4 | 31.2 | 31.0 |
| Debt service of PPG external debt (in percent of exports + remittance | ... | ... | 0.3 | 0.6 | 0.6 | 0.7 | 1.5 | 1.0 | 1.1 | 1.7 | 1.3 | 2.0 | 1.6 | 1.7 | 1.9 | 2.1 | 2.2 | 2.4 | 2.6 | 2.7 | 2.8 | 2.9 | 3.0 | 3.1 |

Sources: Country authorities; and staff estimates and projections.

1/ Includes both public and private sector external debt.

2/ Derived as $[r - g - \rho(1+g)]/(1+g+\rho+g\rho)$ times previous period debt ratio, with r = nominal interest rate; g = real GDP growth rate, and ρ = growth rate of GDP deflator in U.S. dollar terms.

3/ Includes exceptional financing (i.e., changes in arrears and debt relief); changes in gross foreign assets; and valuation adjustments. For projections also includes contribution from price and exchange rate changes.

4/ Assumes that PV of private sector debt is equivalent to its face value.

5/ Current-year interest payments divided by previous period debt stock.

6/ Historical averages and standard deviations are generally derived over the past 10 years, subject to data availability.

7/ Defined as grants, concessional loans, and debt relief.

8/ Grant-equivalent financing includes grants provided directly to the government and through new borrowing (difference between the face value and the PV of new debt).

# Annexure 4: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, 2015-2035

(In percent)

| | | Projections | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | **2025** | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | 2033 | 2034 | 2035 |
| **PV of debt-to GDP ratio** | | | | | | | | | | | | | | | | | | | | | |
| **Baseline** | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | **3** | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 |
| **A. Alternative Scenarios** | | | | | | | | | | | | | | | | | | | | | |
| A1. Key variables at their historical averages in 2015-2035 1/ | 2 | -4 | -11 | -16 | -19 | -23 | -27 | -31 | -35 | -38 | **-41** | -44 | -46 | -48 | -50 | -51 | -53 | -54 | -55 | -56 | -57 |
| A2. New public sector loans on less favorable terms in 2015-2035 2/ | 2 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | **4** | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 2 |
| **B. Bound Tests** | | | | | | | | | | | | | | | | | | | | | |
| B1. Real GDP growth at historical average minus one standard deviation in 2016-2017 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | **3** | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 |
| B2. Export value growth at historical average minus one standard deviation in 2016-2017 3/ | 2 | 4 | 7 | 6 | 6 | 6 | 6 | 6 | 6 | 5 | **5** | 5 | 4 | 4 | 4 | 3 | 3 | 3 | 3 | 2 | 2 |
| B3. US dollar GDP deflator at historical average minus one standard deviation in 2016-2017 | 2 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 3 | 3 | **3** | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 |
| B4. Net non-debt creating flows at historical average minus one standard deviation in 2016-2017 4/ | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | **1** | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| B5. Combination of B1-B4 using one-half standard deviation shocks | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | **3** | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 |
| B6. One-time 30 percent nominal depreciation relative to the baseline in 2016 5/ | 2 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | **4** | 4 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 2 |
| **PV of debt-to-exports ratio** | | | | | | | | | | | | | | | | | | | | | |
| **Baseline** | 24 | 28 | 30 | 31 | 31 | 34 | 35 | 36 | 36 | 36 | **35** | 37 | 39 | 40 | 42 | 43 | 44 | 44 | 45 | 45 | 46 |
| **A. Alternative Scenarios** | | | | | | | | | | | | | | | | | | | | | |
| A1. Key variables at their historical averages in 2015-2035 1/ | 24 | -51 | -115 | -167 | -206 | -260 | -319 | -381 | -442 | -498 | **-543** | -634 | -730 | -835 | -950 | -1074 | -1211 | -1359 | -1521 | -1698 | -1892 |
| A2. New public sector loans on less favorable terms in 2015-2035 2/ | 24 | 30 | 33 | 35 | 37 | 41 | 43 | 46 | 47 | 47 | **47** | 50 | 53 | 56 | 59 | 62 | 65 | 67 | 70 | 72 | 75 |
| **B. Bound Tests** | | | | | | | | | | | | | | | | | | | | | |
| B1. Real GDP growth at historical average minus one standard deviation in 2016-2017 | 24 | 28 | 30 | 31 | 31 | 34 | 35 | 36 | 36 | 36 | **35** | 37 | 39 | 40 | 42 | 43 | 44 | 44 | 45 | 45 | 46 |
| B2. Export value growth at historical average minus one standard deviation in 2016-2017 3/ | 24 | 53 | 117 | 114 | 112 | 115 | 117 | 119 | 117 | 113 | **106** | 109 | 111 | 112 | 114 | 114 | 115 | 115 | 114 | 113 | 112 |
| B3. US dollar GDP deflator at historical average minus one standard deviation in 2016-2017 | 24 | 28 | 30 | 31 | 31 | 34 | 35 | 36 | 36 | 36 | **35** | 37 | 39 | 40 | 42 | 43 | 44 | 44 | 45 | 45 | 46 |
| B4. Net non-debt creating flows at historical average minus one standard deviation in 2016-2017 4/ | 24 | 17 | 8 | 10 | 12 | 14 | 15 | 17 | 18 | 19 | **20** | 22 | 24 | 25 | 27 | 28 | 30 | 31 | 32 | 33 | 33 |
| B5. Combination of B1-B4 using one-half standard deviation shocks | 24 | 21 | 30 | 31 | 33 | 36 | 37 | 39 | 40 | 40 | **39** | 42 | 44 | 46 | 48 | 49 | 50 | 51 | 52 | 53 | 54 |
| B6. One-time 30 percent nominal depreciation relative to the baseline in 2016 5/ | 24 | 28 | 30 | 31 | 31 | 34 | 35 | 36 | 36 | 36 | **35** | 37 | 39 | 40 | 42 | 43 | 44 | 44 | 45 | 45 | 46 |
| **PV of debt-to-revenue ratio** | | | | | | | | | | | | | | | | | | | | | |
| **Baseline** | 61 | 83 | 94 | 110 | 123 | 128 | 138 | 152 | 159 | 167 | **179** | 185 | 189 | 187 | 190 | 192 | 189 | 189 | 188 | 176 | 174 |
| **A. Alternative Scenarios** | | | | | | | | | | | | | | | | | | | | | |
| A1. Key variables at their historical averages in 2015-2035 1/ | 61 | -149 | -361 | -600 | -807 | -987 | -1260 | -1598 | -1934 | -2290 | **-2747** | -3157 | -3550 | -3867 | -4330 | -4833 | -5236 | -5786 | -6351 | -6605 | -7216 |
| A2. New public sector loans on less favorable terms in 2015-2035 2/ | 61 | 88 | 104 | 126 | 146 | 154 | 170 | 191 | 204 | 218 | **238** | 250 | 259 | 261 | 271 | 280 | 280 | 287 | 293 | 282 | 286 |
| **B. Bound Tests** | | | | | | | | | | | | | | | | | | | | | |
| B1. Real GDP growth at historical average minus one standard deviation in 2016-2017 | 61 | 84 | 98 | 115 | 129 | 134 | 144 | 159 | 166 | 175 | **187** | 194 | 197 | 195 | 199 | 201 | 197 | 197 | 196 | 184 | 181 |
| B2. Export value growth at historical average minus one standard deviation in 2016-2017 3/ | 61 | 124 | 223 | 250 | 267 | 267 | 281 | 303 | 311 | 316 | **328** | 329 | 327 | 317 | 315 | 313 | 302 | 297 | 290 | 268 | 261 |
| B3. US dollar GDP deflator at historical average minus one standard deviation in 2016-2017 | 61 | 93 | 114 | 133 | 149 | 155 | 167 | 184 | 192 | 202 | **217** | 224 | 229 | 226 | 230 | 233 | 228 | 228 | 227 | 213 | 210 |
| B4. Net non-debt creating flows at historical average minus one standard deviation in 2016-2017 4/ | 61 | 49 | 25 | 35 | 46 | 53 | 60 | 71 | 78 | 88 | **100** | 109 | 115 | 118 | 123 | 128 | 128 | 131 | 133 | 127 | 128 |
| B5. Combination of B1-B4 using one-half standard deviation shocks | 61 | 62 | 81 | 97 | 111 | 117 | 127 | 141 | 150 | 159 | **172** | 180 | 185 | 184 | 188 | 191 | 188 | 189 | 189 | 178 | 177 |
| B6. One-time 30 percent nominal depreciation relative to the baseline in 2016 5/ | 61 | 116 | 131 | 154 | 173 | 179 | 193 | 213 | 222 | 234 | **251** | 259 | 264 | 262 | 266 | 269 | 264 | 264 | 263 | 246 | 243 |

## Annexure 4: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, 2015-2035 (continued)

(In percent)

| | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Baseline** | 1 | 1 | 1 | 2 | 1 | 1 | 2 | 2 | 3 | 2 | **2** | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 5 |
| **A. Alternative Scenarios** | | | | | | | | | | | | | | | | | | | | | |
| A1. Key variables at their historical averages in 2015-2035 1/ | 1 | 1 | -1 | -2 | -5 | -6 | -7 | -9 | -13 | -17 | **-21** | -25 | -31 | -37 | -43 | -50 | -59 | -68 | -78 | -88 | -100 |
| A2. New public sector loans on less favorable terms in 2015-2035 2/ | 1 | 1 | 1 | 2 | 1 | 2 | 3 | 2 | 3 | 3 | **3** | 3 | 4 | 4 | 4 | 5 | 5 | 6 | 6 | 6 | 6 |
| **B. Bound Tests** | | | | | | | | | | | | | | | | | | | | | |
| B1. Real GDP growth at historical average minus one standard deviation in 2016-2017 | 1 | 1 | 1 | 2 | 1 | 1 | 2 | 2 | 3 | 2 | **2** | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 5 |
| B2. Export value growth at historical average minus one standard deviation in 2016-2017 3/ | 1 | 1 | 2 | 5 | 4 | 4 | 5 | 5 | 7 | 8 | **8** | 8 | 9 | 9 | 10 | 10 | 10 | 11 | 11 | 11 | 12 |
| B3. US dollar GDP deflator at historical average minus one standard deviation in 2016-2017 | 1 | 1 | 1 | 2 | 1 | 1 | 2 | 2 | 3 | 2 | **2** | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 5 |
| B4. Net non-debt creating flows at historical average minus one standard deviation in 2016-2017 4/ | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 2 | 1 | **1** | 1 | 1 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 |
| B5. Combination of B1-B4 using one-half standard deviation shocks | 1 | 1 | 1 | 2 | 1 | 2 | 3 | 2 | 3 | 2 | **2** | 3 | 3 | 3 | 4 | 4 | 4 | 5 | 5 | 5 | 5 |
| B6. One-time 30 percent nominal depreciation relative to the baseline in 2016 5/ | 1 | 1 | 1 | 2 | 1 | 1 | 2 | 2 | 3 | 2 | **2** | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 5 |
| | | | | | | | | | | | **Debt service-to-revenue ratio** | | | | | | | | | | |
| **Baseline** | 2 | 3 | 3 | 7 | 5 | 6 | 9 | 7 | 11 | 10 | **11** | 13 | 13 | 14 | 15 | 16 | 16 | 17 | 17 | 17 | 17 |
| **A. Alternative Scenarios** | | | | | | | | | | | | | | | | | | | | | |
| A1. Key variables at their historical averages in 2015-2035 1/ | 2 | 3 | -4 | -9 | -18 | -23 | -27 | -39 | -56 | -80 | **-104** | -126 | -149 | -169 | -197 | -227 | -254 | -288 | -324 | -342 | -380 |
| A2. New public sector loans on less favorable terms in 2015-2035 2/ | 2 | 3 | 3 | 8 | 6 | 7 | 11 | 10 | 15 | 13 | **15** | 17 | 18 | 19 | 20 | 22 | 23 | 24 | 24 | 24 | 25 |
| **B. Bound Tests** | | | | | | | | | | | | | | | | | | | | | |
| B1. Real GDP growth at historical average minus one standard deviation in 2016-2017 | 2 | 3 | 3 | 8 | 5 | 6 | 9 | 7 | 12 | 10 | **12** | 13 | 14 | 15 | 16 | 17 | 17 | 18 | 18 | 18 | 18 |
| B2. Export value growth at historical average minus one standard deviation in 2016-2017 3/ | 2 | 3 | 4 | 12 | 10 | 10 | 13 | 12 | 18 | 22 | **24** | 25 | 25 | 26 | 27 | 28 | 28 | 28 | 28 | 27 | 27 |
| B3. US dollar GDP deflator at historical average minus one standard deviation in 2016-2017 | 2 | 3 | 4 | 9 | 6 | 7 | 11 | 8 | 14 | 12 | **14** | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 21 | 21 | 21 |
| B4. Net non-debt creating flows at historical average minus one standard deviation in 2016-2017 4/ | 2 | 3 | 2 | 5 | 3 | 3 | 6 | 5 | 7 | 3 | **5** | 6 | 7 | 8 | 9 | 10 | 10 | 11 | 12 | 12 | 12 |
| B5. Combination of B1-B4 using one-half standard deviation shocks | 2 | 3 | 2 | 7 | 5 | 5 | 9 | 7 | 10 | 9 | **10** | 12 | 13 | 13 | 14 | 16 | 16 | 17 | 17 | 17 | 17 |
| B6. One-time 30 percent nominal depreciation relative to the baseline in 2016 5/ | 2 | 4 | 4 | 10 | 7 | 8 | 12 | 10 | 16 | 14 | **16** | 18 | 19 | 19 | 21 | 22 | 23 | 24 | 24 | 24 | 24 |
| *Memorandum item:* | | | | | | | | | | | | | | | | | | | | | |
| Grant element assumed on residual financing (i.e., financing required above baseline) 6/ | 29 | 29 | 29 | 29 | 29 | 29 | 29 | 29 | 29 | 29 | **29** | 29 | 29 | 29 | 29 | 29 | 29 | 29 | 29 | 29 | 29 |

Sources: Country authorities; and staff estimates and projections.

1/ Variables include real GDP growth, growth of GDP deflator (in U.S. dollar terms), non-interest current account in percent of GDP, and non-debt creating flows.

2/ Assumes that the interest rate on new borrowing is by 2 percentage points higher than in the baseline., while grace and maturity periods are the same as in the baseline.

3/ Exports values are assumed to remain permanently at the lower level, but the current account as a share of GDP is assumed to return to its baseline level after the shock (implicitly assuming an offsetting adjustment in import levels).

4/ Includes official and private transfers and FDI.

5/ Depreciation is defined as percentage decline in dollar/local currency rate, such that it never exceeds 100 percent.

6/ Applies to all stress scenarios except for A2 (less favorable financing) in which the terms on all new financing are as specified in footnote 2.

# Annexure 5a: Public Sector Debt Sustainability Framework, Baseline Scenario, 2012-2035

(In percent of GDP, unless otherwise indicated)

| | | | | | | Estimate | Projections | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2012 | 2013 | 2014 | Average 5/ | Standard Deviation 5/ | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2015-20 Average | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | 2033 | 2034 | 2035 |
| **Public sector debt** 1/ | 10.6 | 10.6 | 10.7 | | | 11.6 | 11.4 | 11.9 | 11.4 | 10.9 | 10.6 | 10.2 | 9.9 | 9.4 | 9.0 | | 8.6 | 8.2 | 7.7 | 7.3 | 6.9 | 6.5 | 6.1 | 5.7 | 5.3 | 4.9 | 4.6 |
| *of which: foreign-currency denominated* | 1.4 | 1.7 | 1.9 | | | 2.2 | 2.5 | 2.9 | 3.1 | 3.3 | 3.4 | 3.4 | 3.4 | 3.3 | 3.3 | | 3.2 | 3.1 | 2.9 | 2.8 | 2.6 | 2.5 | 2.3 | 2.2 | 2.0 | 1.9 | 1.7 |
| Change in public sector debt | 0.3 | 0.0 | 0.1 | | | 0.9 | -0.2 | 0.4 | -0.5 | -0.4 | -0.3 | -0.4 | -0.4 | -0.5 | -0.4 | | -0.4 | -0.4 | -0.4 | -0.4 | -0.4 | -0.4 | -0.4 | -0.4 | -0.4 | -0.4 | -0.3 |
| Identified debt-creating flows | 5.3 | 4.6 | 2.0 | | | 0.8 | 0.1 | 0.7 | -0.1 | 0.1 | 0.0 | 0.0 | -0.1 | -0.1 | -0.2 | | -0.3 | -0.3 | -0.3 | -0.4 | -0.4 | -0.4 | -0.4 | -0.4 | -0.4 | -0.4 | -0.4 |
| Primary deficit | 0.3 | 0.7 | 0.0 | -1.9 | 3.4 | 0.0 | 0.3 | 0.3 | 0.2 | 0.4 | 0.2 | 0.3 | 0.2 | 0.2 | 0.1 | 0.2 | 0.0 | 0.0 | 0.0 | 0.0 | -0.1 | -0.1 | -0.1 | -0.1 | -0.1 | -0.2 | -0.2 |
| Revenue and grants | 5.1 | 4.0 | 3.7 | | | 3.7 | 3.0 | 2.9 | 2.6 | 2.4 | 2.3 | 2.1 | 1.9 | 1.8 | 1.7 | | 1.5 | 1.4 | 1.3 | 1.2 | 1.1 | 1.1 | 1.0 | 0.9 | 0.9 | 0.8 | 0.8 |
| *of which: grants* | 0.0 | 0.0 | 0.0 | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Primary (noninterest) expenditure | 5.4 | 4.7 | 3.7 | | | 3.7 | 3.3 | 3.2 | 2.8 | 2.8 | 2.5 | 2.4 | 2.1 | 2.0 | 1.7 | | 1.5 | 1.4 | 1.3 | 1.2 | 1.1 | 1.0 | 0.9 | 0.8 | 0.7 | 0.7 | 0.6 |
| Automatic debt dynamics | -0.1 | -0.2 | 0.0 | | | 0.8 | -0.2 | 0.4 | -0.3 | -0.3 | -0.2 | -0.3 | -0.3 | -0.3 | -0.3 | | -0.3 | -0.3 | -0.3 | -0.3 | -0.3 | -0.3 | -0.3 | -0.3 | -0.2 | -0.2 | -0.2 |
| Contribution from interest rate/growth differential | -0.1 | -0.1 | 0.0 | | | 0.6 | -0.2 | 0.4 | -0.2 | -0.2 | -0.1 | -0.2 | -0.2 | -0.2 | -0.2 | | -0.2 | -0.2 | -0.2 | -0.2 | -0.2 | -0.2 | -0.2 | -0.2 | -0.2 | -0.2 | -0.2 |
| *of which: contribution from average real interest rate* | 0.6 | 0.6 | 0.3 | | | 1.0 | 0.4 | 1.0 | 0.4 | 0.4 | 0.4 | 0.3 | 0.3 | 0.3 | 0.2 | | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| *of which: contribution from real GDP growth* | -0.6 | -0.7 | -0.3 | | | -0.4 | -0.6 | -0.6 | -0.6 | -0.6 | -0.6 | -0.5 | -0.5 | -0.5 | -0.5 | | -0.5 | -0.4 | -0.4 | -0.4 | -0.4 | -0.4 | -0.3 | -0.3 | -0.3 | -0.3 | -0.3 |
| Contribution from real exchange rate depreciation | -0.1 | 0.0 | 0.0 | | | 0.2 | -0.1 | 0.0 | 0.0 | -0.1 | -0.1 | -0.1 | -0.1 | -0.1 | -0.1 | | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Other identified debt-creating flows | 5.1 | 4.1 | 1.9 | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Privatization receipts (negative) | -0.1 | 0.0 | 0.0 | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Recognition of implicit or contingent liabilities | 5.2 | 4.1 | 1.9 | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Debt relief (HIPC and other) | 0.0 | 0.0 | 0.0 | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Other (specify, e.g. bank recapitalization) | 0.0 | 0.0 | 0.0 | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Residual, including asset changes | -5.0 | -4.6 | -1.8 | | | 0.1 | -0.2 | -0.3 | -0.4 | -0.5 | -0.3 | -0.4 | -0.3 | -0.3 | -0.2 | | -0.1 | -0.1 | -0.1 | -0.1 | -0.1 | -0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| **Other Sustainability Indicators** | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **PV of public sector debt** | ... | ... | 10.9 | | | 11.7 | 11.4 | 11.6 | 11.1 | 10.6 | 10.2 | 9.8 | 9.4 | 8.9 | 8.5 | | 8.1 | 7.7 | 7.2 | 6.8 | 6.4 | 6.0 | 5.6 | 5.2 | 4.9 | 4.5 | 4.2 |
| *of which: foreign-currency denominated* | ... | ... | 2.0 | | | 2.3 | 2.5 | 2.7 | 2.8 | 2.9 | 3.0 | 3.0 | 2.9 | 2.8 | 2.8 | | 2.7 | 2.6 | 2.4 | 2.3 | 2.2 | 2.0 | 1.9 | 1.8 | 1.6 | 1.5 | 1.4 |
| *of which: external* | ... | ... | 2.0 | | | 2.3 | 2.5 | 2.7 | 2.8 | 2.9 | 3.0 | 3.0 | 2.9 | 2.8 | 2.8 | | 2.7 | 2.6 | 2.4 | 2.3 | 2.2 | 2.0 | 1.9 | 1.8 | 1.6 | 1.5 | 1.4 |
| PV of contingent liabilities (not included in public sector debt) | ... | ... | ... | | | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Gross financing need 2/ | 3.9 | 4.4 | 3.9 | | | 4.7 | 4.8 | 4.5 | 3.9 | 3.9 | 3.4 | 3.3 | 3.0 | 2.6 | 2.4 | | 2.2 | 2.0 | 1.9 | 1.5 | 1.6 | 1.4 | 1.3 | 1.2 | 1.1 | 0.9 | 0.9 |
| PV of public sector debt-to-revenue and grants ratio (in percent) | ... | ... | 293.9 | | | 316.4 | 378.3 | 399.1 | 428.1 | 444.6 | 437.9 | 456.9 | 486.1 | 499.0 | 512.7 | | 540.8 | 552.6 | 559.1 | 550.7 | 559.1 | 567.1 | 559.1 | 563.5 | 565.1 | 536.9 | 536.8 |
| PV of public sector debt-to-revenue ratio (in percent) | ... | ... | 294.0 | | | 316.5 | 378.5 | 399.3 | 428.2 | 444.8 | 438.0 | 457.1 | 486.3 | 499.2 | 512.9 | | 541.0 | 552.8 | 559.3 | 550.9 | 559.2 | 567.3 | 559.3 | 563.6 | 565.3 | 537.1 | 536.9 |
| *of which: external* 3/ | ... | ... | 53.5 | | | 61.2 | 82.6 | 93.9 | 109.8 | 123.3 | 127.9 | 137.7 | 152.2 | 158.9 | 167.1 | | 179.2 | 185.3 | 188.8 | 186.9 | 190.0 | 192.4 | 188.5 | 188.7 | 187.6 | 176.0 | 173.7 |
| Debt service-to-revenue and grants ratio (in percent) 4/ | 21.6 | 25.9 | 26.5 | | | 46.4 | 59.1 | 57.0 | 52.6 | 56.8 | 56.3 | 55.8 | 58.0 | 49.6 | 52.7 | | 58.3 | 57.0 | 59.0 | 39.7 | 59.9 | 55.0 | 54.0 | 54.3 | 54.2 | 46.2 | 53.7 |
| Debt service-to-revenue ratio (in percent) 4/ | 21.6 | 25.9 | 26.5 | | | 46.4 | 59.1 | 57.0 | 52.7 | 56.8 | 56.3 | 55.8 | 58.1 | 49.6 | 52.7 | | 58.3 | 57.0 | 59.1 | 39.7 | 59.9 | 55.0 | 54.0 | 54.3 | 54.2 | 46.2 | 53.7 |
| Primary deficit that stabilizes the debt-to-GDP ratio | 0.0 | 0.7 | -0.1 | | | -0.8 | 0.5 | -0.1 | 0.7 | 0.8 | 0.5 | 0.7 | 0.5 | 0.6 | 0.5 | | 0.5 | 0.4 | 0.4 | 0.4 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.2 | 0.2 |
| **Key macroeconomic and fiscal assumptions** | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Real GDP growth (in percent) | 6.7 | 7.4 | 2.9 | 5.3 | 2.3 | 4.3 | 5.3 | 5.3 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.2 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 |
| Average nominal interest rate on forex debt (in percent) | 2.4 | 2.2 | 2.8 | 6.5 | 9.4 | 3.1 | 3.2 | 3.1 | 2.7 | 2.8 | 2.9 | 2.3 | 2.5 | 2.8 | 2.9 | 3.0 | 3.1 | 3.0 | 3.0 | 3.1 | 3.2 | 3.2 | 2.8 | 2.8 | 2.7 | 3.0 | 3.1 |
| Average real interest rate on domestic debt (in percent) | 6.7 | 6.9 | 3.0 | 4.2 | 5.8 | 11.6 | 4.2 | 11.2 | 4.1 | 4.5 | 5.5 | 4.8 | 4.5 | 3.9 | 3.6 | 6.8 | 3.3 | 3.2 | 2.8 | 2.6 | 2.7 | 2.7 | 2.5 | 2.4 | 2.3 | 2.2 | 2.0 |
| Real exchange rate depreciation (in percent, + indicates depreciation) | -4.9 | -3.3 | 2.5 | -1.6 | 9.5 | 12.2 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Inflation rate (GDP deflator, in percent) | 5.5 | 4.9 | 7.9 | 7.1 | 5.0 | 0.7 | 8.9 | 0.7 | 7.0 | 6.1 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.6 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Growth of real primary spending (deflated by GDP deflator, in percent) | -12.3 | -6.6 | -19.7 | -4.2 | 7.3 | 4.5 | -5.6 | 2.1 | -8.8 | 5.1 | -4.5 | 0.5 | -7.5 | -1.6 | -7.2 | -1.2 | -5.7 | -4.2 | -2.7 | -3.1 | -4.6 | -4.8 | -3.9 | -3.2 | -3.1 | -5.6 | -2.2 |
| Grant element of new external borrowing (in percent) | ... | ... | ... | ... | ... | 40.2 | 31.9 | 35.3 | 30.6 | 30.8 | 30.8 | 30.8 | 30.7 | 31.0 | 31.0 | 33.3 | 30.9 | 30.9 | 30.8 | 30.8 | 30.8 | 30.8 | 30.8 | 30.8 | 30.8 | 30.6 | 30.8 |

Sources: Country authorities; and staff estimates and projections.

1/ [Indicate coverage of public sector, e.g., general government or nonfinancial public sector. Also whether net or gross debt is used.]

2/ Gross financing need is defined as the primary deficit plus debt service plus the stock of short-term debt at the end of the last period.

3/ Revenues excluding grants.

4/ Debt service is defined as the sum of interest and amortization of medium and long-term debt.

5/ Historical averages and standard deviations are generally derived over the past 10 years, subject to data availability.

# Annexure 5b: Sensitivity Analysis for Key Indicators of Public Debt 2015-2035

| | | Projections | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | 2033 | 2034 | 2035 |
| **PV of Debt-to-GDP Ratio** | | | | | | | | | | | | | | | | | | | | | |
| **Baseline** | 12 | 11 | 12 | 11 | 11 | 10 | 10 | 9 | 9 | 9 | 8 | 8 | 7 | 7 | 6 | 6 | 6 | 5 | 5 | 5 | 4 |
| **A. Alternative scenarios** | | | | | | | | | | | | | | | | | | | | | |
| A1. Real GDP growth and primary balance are at historical averages | 12 | 9 | 7 | 5 | 2 | -1 | -4 | -7 | -10 | -14 | -17 | -20 | -24 | -28 | -31 | -35 | -39 | -43 | -47 | -51 | -55 |
| A2. Primary balance is unchanged from 2015 | 12 | 11 | 11 | 10 | 9 | 9 | 8 | 7 | 7 | 6 | 6 | 5 | 4 | 4 | 4 | 3 | 3 | 2 | 2 | 2 | 2 |
| A3. Permanently lower GDP growth [1/] | 12 | 11 | 12 | 11 | 11 | 11 | 10 | 10 | 10 | 9 | 9 | 9 | 8 | 8 | 8 | 8 | 7 | 7 | 7 | 7 | 7 |
| **B. Bound tests** | | | | | | | | | | | | | | | | | | | | | |
| B1. Real GDP growth is at historical average minus one standard deviations in 2016-2017 | 12 | 12 | 12 | 12 | 11 | 11 | 11 | 11 | 10 | 10 | 10 | 9 | 9 | 9 | 8 | 8 | 8 | 7 | 7 | 7 | 7 |
| B2. Primary balance is at historical average minus one standard deviations in 2016-2017 | 12 | 13 | 14 | 14 | 13 | 13 | 13 | 13 | 12 | 12 | 12 | 11 | 11 | 11 | 10 | 10 | 10 | 10 | 10 | 9 | 9 |
| B3. Combination of B1-B2 using one half standard deviation shocks | 12 | 11 | 11 | 10 | 10 | 10 | 9 | 9 | 8 | 8 | 7 | 7 | 6 | 6 | 6 | 5 | 5 | 4 | 4 | 4 | 3 |
| B4. One-time 30 percent real depreciation in 2016 | 12 | 12 | 12 | 12 | 11 | 11 | 10 | 10 | 10 | 9 | 9 | 8 | 8 | 8 | 7 | 7 | 7 | 7 | 6 | 6 | 6 |
| B5. 10 percent of GDP increase in other debt-creating flows in 2016 | 12 | 21 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 23 | 23 | 23 | 23 | 23 | 24 | 24 | 24 | 24 | 25 | 25 |
| **PV of Debt-to-Revenue Ratio 2/** | | | | | | | | | | | | | | | | | | | | | |
| **Baseline** | 316 | 378 | 399 | 428 | 445 | 438 | 457 | 486 | 499 | 513 | 541 | 553 | 559 | 551 | 559 | 567 | 559 | 563 | 565 | 537 | 537 |
| **A. Alternative scenarios** | | | | | | | | | | | | | | | | | | | | | |
| A1. Real GDP growth and primary balance are at historical averages | 316 | 309 | 252 | 177 | 68 | -50 | -196 | -375 | -586 | -825 | -1138 | -1472 | -1849 | -2221 | -2720 | -3299 | -3864 | -4599 | -5421 | -6032 | -7036 |
| A2. Primary balance is unchanged from 2015 | 316 | 368 | 379 | 397 | 393 | 376 | 375 | 383 | 374 | 368 | 371 | 361 | 345 | 323 | 310 | 295 | 274 | 257 | 238 | 212 | 197 |
| A3. Permanently lower GDP growth [1/] | 316 | 381 | 404 | 437 | 458 | 456 | 482 | 519 | 541 | 565 | 607 | 633 | 654 | 660 | 688 | 719 | 733 | 765 | 798 | 792 | 830 |
| **B. Bound tests** | | | | | | | | | | | | | | | | | | | | | |
| B1. Real GDP growth is at historical average minus one standard deviations in 2016-2017 | 316 | 389 | 424 | 460 | 483 | 481 | 509 | 549 | 572 | 597 | 641 | 667 | 689 | 694 | 722 | 752 | 764 | 795 | 826 | 815 | 849 |
| B2. Primary balance is at historical average minus one standard deviations in 2016-2017 | 316 | 417 | 483 | 527 | 558 | 559 | 595 | 646 | 680 | 716 | 775 | 816 | 852 | 868 | 915 | 967 | 997 | 1053 | 1111 | 1116 | 1182 |
| B3. Combination of B1-B2 using one half standard deviation shocks | 316 | 367 | 376 | 402 | 415 | 408 | 424 | 449 | 459 | 469 | 491 | 498 | 499 | 487 | 489 | 490 | 475 | 471 | 463 | 430 | 418 |
| B4. One-time 30 percent real depreciation in 2016 | 316 | 408 | 427 | 457 | 474 | 467 | 487 | 520 | 536 | 555 | 590 | 610 | 625 | 626 | 648 | 671 | 679 | 704 | 729 | 718 | 748 |
| B5. 10 percent of GDP increase in other debt-creating flows in 2016 | 316 | 696 | 746 | 842 | 916 | 942 | 1031 | 1150 | 1247 | 1353 | 1511 | 1640 | 1769 | 1863 | 2030 | 2218 | 2365 | 2585 | 2820 | 2926 | 3200 |
| **Debt Service-to-Revenue Ratio 2/** | | | | | | | | | | | | | | | | | | | | | |
| **Baseline** | 46 | 59 | 57 | 53 | 57 | 56 | 56 | 58 | 50 | 53 | 58 | 57 | 59 | 40 | 60 | 55 | 54 | 54 | 54 | 46 | 54 |
| **A. Alternative scenarios** | | | | | | | | | | | | | | | | | | | | | |
| A1. Real GDP growth and primary balance are at historical averages | 46 | 59 | 48 | 12 | -16 | -48 | -100 | -154 | -226 | -296 | -384 | -483 | -587 | -709 | -829 | -997 | -1152 | -1356 | -1583 | -1754 | -2024 |
| A2. Primary balance is unchanged from 2015 | 46 | 59 | 56 | 47 | 47 | 43 | 35 | 31 | 16 | 12 | 10 | 1 | -3 | -28 | -14 | -26 | -31 | -37 | -43 | -51 | -49 |
| A3. Permanently lower GDP growth [1/] | 46 | 59 | 58 | 54 | 59 | 59 | 60 | 64 | 57 | 62 | 71 | 73 | 79 | 62 | 88 | 88 | 93 | 100 | 108 | 106 | 124 |
| **B. Bound tests** | | | | | | | | | | | | | | | | | | | | | |
| B1. Real GDP growth is at historical average minus one standard deviations in 2016-2017 | 46 | 60 | 60 | 57 | 63 | 64 | 66 | 71 | 65 | 71 | 81 | 84 | 90 | 74 | 101 | 102 | 106 | 114 | 122 | 119 | 136 |
| B2. Primary balance is at historical average minus one standard deviations in 2016-2017 | 46 | 59 | 62 | 76 | 90 | 93 | 100 | 107 | 101 | 111 | 126 | 133 | 142 | 129 | 160 | 167 | 177 | 191 | 207 | 208 | 234 |
| B3. Combination of B1-B2 using one half standard deviation shocks | 46 | 60 | 56 | 45 | 46 | 44 | 42 | 44 | 35 | 37 | 41 | 38 | 39 | 19 | 38 | 30 | 28 | 26 | 23 | 14 | 18 |
| B4. One-time 30 percent real depreciation in 2016 | 46 | 60 | 59 | 56 | 60 | 61 | 63 | 67 | 62 | 67 | 76 | 79 | 85 | 70 | 95 | 97 | 101 | 109 | 117 | 115 | 132 |
| B5. 10 percent of GDP increase in other debt-creating flows in 2016 | 46 | 59 | 100 | 174 | 200 | 213 | 246 | 244 | 266 | 297 | 338 | 368 | 400 | 410 | 474 | 518 | 559 | 619 | 683 | 712 | 796 |

Sources: Country authorities; and staff estimates and projections.

[1/] Assumes that real GDP growth is at baseline minus one standard deviation divided by the square root of the length of the projection period.

[2/] Revenues are defined inclusive of grants.

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