



**DEBT MANAGEMENT OFFICE
NIGERIA**



REPORT OF THE ANNUAL NATIONAL DEBT SUSTAINABILITY ANALYSIS (DSA)

2010



**DEBT MANAGEMENT OFFICE
NIGERIA**

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

2010

TABLE OF CONTENTS

EXECUTIVE SUMMARY	6
CHAPTER ONE	12
INTRODUCTION	12
CHAPTER TWO	14
RECENT DEVELOPMENTS IN THE NIGERIAN ECONOMY	14
CHAPTER THREE	16
PUBLIC DEBT PORTFOLIO REVIEW	16
3.1 Total Public Debt	16
3.2 Total Public Debt Service Payments	17
3.3 External Debt Stock	17
3.4 External Debt Service Payments	18
3.5 Total Domestic Debt Stock	19
3.6 Total Domestic Debt Service Payments	20
CHAPTER FOUR	21
RISK ANALYSIS OF NIGERIA'S PUBLIC DEBT PORTFOLIO	21
4.1 Introduction	21
4.2 Currency Risk	21
4.3 Interest Rate Risk	22
4.4 Refinancing Risk	23
CHAPTER FIVE	24
UNDERLYING ASSUMPTIONS	24
5.1 Baseline Scenario Assumptions	24
5.2 Alternative (Optimistic) Scenario Assumptions	25
CHAPTER SIX	26
RESULTS ANALYSIS	26
6.1 Baseline Scenario	26
6.1.1 Total Debt Sustainability	26
6.1.1.1 Solvency Indicators	26
6.1.1.2 Liquidity Indicators	27
6.1.1.3 Stress Test and Alternative Scenarios	27
6.1.2 External Debt Sustainability	27
6.1.2.1 Solvency Indicators	27
6.1.2.2 Liquidity Indicators	28
6.1.2.3 Stress Test and Alternative Scenarios	28
6.2 Optimistic Scenario	29

6.2.1	Total Debt Sustainability	29
6.2.1.1	Solvency Indicators	29
6.2.1.2	Liquidity Indicators	30
6.2.2	External Debt Sustainability	30
6.2.2.1	Solvency Indicators	30
6.2.2.2	Liquidity Indicators	31
6.3	Conclusion	31

CHAPTER SEVEN		34
----------------------	--	----

CONCLUSION AND RECOMMENDATIONS		34
---------------------------------------	--	----

7.1	Conclusion	34
7.2	Recommendations	34

APPENDIX		36
-----------------	--	----

LIST OF TABLES

Table 3.1: Total Public Debt Outstanding, 2005-2009 (US\$ Million)	16
Table 3.2: Total Public Debt Service Payments, 2005-2009 (US\$ Million)	17
Table 3.3: External Debt Outstanding by Creditor, 2005-2009 (US\$ Million)	18
Table 3.4: External Debt Service Payments, 2005-2009 (US\$ million)	19
Table 3.5: Trend of Total Domestic Debt Outstanding By Instruments, (2005-2009) (N Billion)	19
Table 3.6: Total Domestic Debt Service Payments, 2008 and 2009 (N Billion)	20
Table 4.1: External Debt Stock by Currency Composition As at 31st December, 2009 (US\$ Million)	22
Table 4.2: Nigeria's External Reserves Currency Composition As at 31st December, 2009 (US\$ Equivalent)	22
Table 4.3: Total Public Debt Outstanding by Original Maturity, 2008-2009 (US\$ Million)	23

LIST OF ANNEXES

Annex 1: Public Sector Debt Sustainability Framework, Baseline Scenario, 2007-2030	36
Annex 2: Sensitivity Analysis for Key Indicators of Public Debt 2010-2030	37
Annex 3: External Debt Sustainability Framework, Baseline Scenario, 2007-2030	38
Annex 4: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt	39

LIST OF FIGURES

Figure 6.1: Nigeria Indicators of Public and Publicly Guaranteed External Debt under Alternatives Scenarios, 2010-2029	32
Figure 6.2: Nigeria indicators of Public Debt under the Alternative Scenarios, 2010-2030	33

LIST OF BOXES

Box 1: Macroeconomic Indicators (2007-2009)	15
Box 2: Macroeconomic Assumptions in the Baseline Scenario	24
Box 3: Macroeconomic Assumptions in the Alternative (Optimistic) Scenario	25
Box 4: Total Debt Sustainability Indicators under the Baseline Scenario	26
Box 5: External Debt Sustainability Indicators under the Baseline Scenario	28
Box 6: Total Debt Sustainability Indicators under the Optimistic Scenario	30
Box 7: External Debt Sustainability Indicators under the Optimistic Scenario	31

EXECUTIVE SUMMARY

This Debt Sustainability Analysis (DSA) represents an update of the 2009 DSA. It was carried out between 8th and 16th of April, 2010 by a National DSA Team led by the DMO and representations from the following institutions: Ministry of Finance (FMF), Central Bank of Nigeria (CBN), National Planning Commission (NPC), Budget Office of the Federation (BOF), National Bureau of Statistics (NBS) with support from the West African Institute for Financial and Economic Management (WAIFEM).

The DSA was prepared using the updated the World Bank/IMF Debt Sustainability Framework (DSF) for Low Income Countries (LICs) - DSF LIC Template (March, 2010). Nigeria is classified as a Medium Performer with the rating of 3.4 under the World Bank's Country Policy and Institutional Assessments (CPIA) index.

The scope and coverage of the DSA is limited to the Federal Government mainly due to non-availability of data on the Sub-national debts, contingent liabilities, and State Owned Enterprises' (SOEs) domestic debts.

The exercise which is conducted annually, was prepared against the backdrop of Nigeria's prevailing macroeconomic conditions. Nigeria's macroeconomic data and data on its debt profile formed the basis for the Debt Sustainability Analysis. The following constitute the objectives of the DSA exercise: (i) updating the 2009 DSA by incorporating the main tenets of the 2010 approved budget and recent developments in the national and world economy, (ii) providing input into the 2011 budget and the 2011 - 2013 Medium Term Expenditure Framework (MTEF), (iii) identifying government new borrowing requirements and funding options, (iv) improving public financial management, and providing a training ground for debt managers.

Two Scenarios (Baseline and Alternative) were used in the DSA exercise. The Alternative or Optimistic Scenario was based on the assumptions of the Vision 20 20:20 and the 7-Point Agenda of the current government.

The following are the macroeconomic assumptions of the Baseline Scenario:

- i) Average GDP growth rate of 6.0 percent over 2010-2029. Growth to be driven by the non-oil sector with agriculture playing a leading role.
- ii) Single digit inflation rate over 2010-2029. This is in accordance with the principle of complying with West African Monetary Zone (WAMZ) criteria.
- iii) Oil price is projected at US\$67 per barrel for 2010 and to average US\$65 per barrel over 2011-2029.
- iv) Crude oil production is projected at 2.35 mbd for 2010, 2.4 mbd in 2011, 2.66 mbd over 2012-2013, and 2.6 mbd over 2014-2029. Oil production is based on the sustained implementation of the amnesty programme.
- v) Nominal exchange rate of the Naira is projected at US\$1/N147 in 2010, US\$1/N150 over 2011-2014, US\$1/N157 over 2015-2029.
- vi) Budget deficit for the Federal Government is projected at 5 percent of the GDP in 2010 and 3 percent of the GDP over 2011- 2029. This is in line with the provisions of the Fiscal Responsibility Act (FRA).
- vii) Current Account Position is projected to remain in surplus over 2010-2029. This is due to enhanced output growth of the oil sector, higher remittances and inflow from Nigerians in Diaspora.

The following are the macroeconomic assumptions of the Alternative Scenario:

- i) Average GDP Growth Rate of 8.2 percent in 2010 and 12.6 percent over 2011-2029. In absolute terms, it translates to US\$191 billion in 2010 and US\$900 billion over 2011-2029. It is assumed the Government will attract massive investment from foreign and domestic sources to facilitate infrastructure development.
- ii) Single digit inflation rate averaging 7.2 percent over 2010-2029.
- iii) Oil price is projected to average at US\$80 per barrel over 2010-2029. This is based on sustained improvement in global

- economic performance.
- iv) Nominal exchange rate of the Naira is projected at US\$1/N150 over 2010-2015, US\$1/N153 over 2016-2020, US\$1/N156.06 over 2021-2025, and US\$1/N159.18 over 2026-2029.
 - v) Budget Deficit for the Federal Government is projected at 3 percent of the GDP in compliance with the provisions of FRA.
 - vi) Current Account Position is assumed Current Account Surplus over 2010-2029

The results of the DSA showed that Nigeria is at a low risk of distress under the Baseline Scenario. Solvency Indicators in the baseline scenario showed that Nigeria's total public debt would remain within the sustainability thresholds throughout the projection period (2010 - 2029). The Net Present Value (NPV) of total debt is 16.2 percent of the GDP in 2010; this would fall to 2.2 percent in 2020 and 0.9 percent in 2029, and still remaining well below the indicative threshold of 40 percent. The NPV of the total public debt as a percentage of total revenue would remain well within the sustainability threshold, as it peaked at 129.4 percent in 2010, which is well below the indicative threshold of 250 percent. Liquidity Indicators in the baseline scenario shows that the NPV of total debt service-to-revenue would peak at 21.9 percent in 2012 and then maintain an average of 9.0 percent between 2013 and 2029, and still remain within the sustainability threshold of 30 percent.

Both the solvency and liquidity indicators under the baseline scenario showed that Nigeria's total public debt is sustainable throughout the projection period. Also, the stress test results under the baseline scenario showed that most of the debt burden ratios are within a sustainable level. The Bound test result which assumes a combination of real GDP growth and net non-debt creating flows at historical average of minus 1 standard deviation in 2011 - 2012, shows that the NPV of total debt as a percentage of GDP would reach its peak at 16 percent in 2010, which is well within the 40 percent threshold. Also, the PV of total debt-to-revenue would

reach its peak at 129 percent in 2011, and improve thereafter to negative values for most of the projection period. This shows that the liquidity position will remain within the sustainability threshold of 250 percent.

However, under the most Extreme Stress test (severe condition), the total public debt is most vulnerable to real GDP growth at historical average minus 1 standard deviation, as the NPV of the total debt ratio is 42 percent of GDP in 2015, marginally exceeding the 40 percent threshold. Also, the total debt-to-revenue ratio will exceed the 250 percent threshold from 2012 to the remaining projection period. This clearly shows that under the most extreme stress test condition, Nigeria's total debt would not be sustainable in the medium to long term.

In terms of external debt sustainability under the Baseline Scenario, both the solvency and liquidity indicators will remain within the sustainability threshold over the period. The solvency indicators in the baseline scenario showed that Nigeria's debt is sustainable as the NPV of external debt-to-GDP ratio would be 3.1 percent in 2010 and decline to 1.1 percent in 2020. The ratio would thereafter maintain an average of 0.5 percent over the medium-to-long term, which is below the indicative threshold of 40 percent.

Also, liquidity Indicators in the baseline scenario showed that Nigeria's external debt is sustainable, as the NPV of debt service as a percentage of export remained at an average of 1.2 percent for the period under review, which is well below the maximum threshold of 20 percent.

Stress test result generally shows that both liquidity and solvency ratios of the external debt under the baseline scenario would be sustainable in the projection period. The result shows that the NPV of total external debt-to-GDP ratio would average at 1.51 percent over the projection period, which is well below the sustainability threshold of 40 percent. In the Bound test which combines both real GDP growth and net non-debt creating flows at historical average minus 1 standard deviation in 2011 - 2012, the NPV of the total external debt-to-GDP ratios increased from 17.5

percent in 2011 to 28.8 percent in 2015, which falls within the threshold of 40 percent. Also, the NPV of the external debt-to-exports would be sustainable as it would maintain an average of 15 percent throughout the projection period, which falls well within the threshold of 150 percent. Under most extreme stress condition, the NPV of external debt-to-exports would increase from 56.0 percent in 2011 to 105.6 percent in 2015, which is still below the indicative debt burden threshold of 150 percent. Similarly, a one-time 30 percent nominal depreciation of the naira relative to the baseline in 2011 will leave the ratios at sustainable levels. However, the liquidity indicator of total external debt to revenue ratio is most sensitive when subjected to same bound test as the ratios far exceed the 250 percent threshold from 2012 onwards.

Under Alternative (Optimistic) Scenario, the result of the Solvency Indicators showed that Nigeria's total public debt would be sustainable throughout the projection period, as the total debt-to-GDP would be within the 40 percent threshold. The NPV of the total debt-to-GDP maintains a decreasing trend, as the rate of growth of debt accumulation is lower than the rate of growth of the economy with Foreign Direct Investment (FDI) following a similar trend. The result also showed the dominance of foreign borrowing from 2015 onwards, which would mainly be sourced from the International Capital market (ICM). Similarly, the NPV of total debt-to-revenue would also remain sustainable with all ratios falling below the 250 percent threshold. This is due to higher level of receipts arising from projected higher oil prices as well as higher volume of oil production as envisaged in the Vision 20:2020. Liquidity indicators under the optimistic scenario showed that the NPV of total debt service to the percentage of revenue will be sustainable with all ratios falling below the indicative threshold of 30 percent. This is also attributable to higher expected revenues relative to the debt service cost in the projection period.

External debt sustainability under the optimistic scenario showed that Nigeria's external debt would be sustainable as all the ratios would be far below the threshold of 40 percent. This is due to increase in productive

activities and massive injection of resources in the critical sectors of the economy, which is expected to increase GDP. The NPV of external debt-to-revenue would also remain sustainable with the ratios reaching a peak of 148.7 in 2029, which is well below the 250 percent threshold. This is partly due to higher oil prices which are expected to average US\$80 per barrel in the projection period. Also, the liquidity indicators under the optimistic scenario showed that external debt service peaked at 2.7 percent of the export in 2029 and 13.6 percent of the revenue in the same year, which are all below the indicative thresholds of 30 percent.

In conclusion, the result of the 2010 DSA shows that Nigeria's debt is at low level of debt distress as all ratios in the baseline and optimistic scenarios fall well below their respective indicative thresholds. The result also showed that the total public debt in the optimistic scenario increased from US\$31.4 billion in 2010 to US\$38.5 billion in 2011. This indicates a government borrowing limit of US\$7.1 billion for the year 2011, which would be sourced from domestic as well as external sources in the proportion of 60:40 respectively, in line with the recommendations of previous DSA exercises. Thus, the maximum government borrowing limit for the year 2011 is N639 billion and US\$2.84 billion is recommended to be obtained from domestic and external sources respectively. It is recommended that government financing options should include accessing the International Capital Market (ICM), domestic debt market and private sector investments under the Public Private Partnerships (PPPs). Also, the outcome of the DSA exercise suggested the need for sound fiscal management especially in the light of the likely rise in capital expenditure as a result of the envisaged accelerated economic growth and the sub-optimal non-oil revenue generation and collection process.

CHAPTER

1

INTRODUCTION

Nigeria is classified as a Medium Performer with the rating of 3.4 under the World Bank's Country Policy and Institutional Assessments (CPIA) index. The World Bank classifies countries into high, medium or low performer, based on the assessment of their CPIAs. In accordance with international best practice, the analysis of the level of risk of debt distress of a country has to be conducted within the corresponding debt burden indicators of its CPIA position as proposed in the World Bank/IMF Debt Sustainability Framework (DSF) for Low Income Countries (LICs).

This Debt Sustainability Analysis (DSA) represents an update of the 2009 DSA. It was carried out between 8th and 16th of April, 2010¹. The DSA was prepared using the updated DSF LIC Template (March, 2010). The 2010 DSA which was prepared against the backdrop of Nigeria's response to the global financial crisis, which included a number of measures aimed at stimulating the Nigerian economy and banking sector in particular, has the following objectives: (i) updating the 2009 DSA by incorporating the main tenets of the 2010 approved budget and recent developments in the national and world economy, (ii) providing input into the 2011 budget and the 2011 - 2013 Medium Term Expenditure Framework (MTEF), (iii) identifying government new borrowing requirements and funding options, (iv) improving financial management, and providing a training ground for debt managers.

The DSA uses macroeconomic and debt data to assess the country's debt sustainability in relation to debt burden thresholds, project its future debt sustainability, as well as, propose a cocktail of new financing options to

¹ The exercise was carried out by a national DSA team led by the DMO and representations from the following institutions: Ministry of Finance (FMF), Central Bank of Nigeria (CBN), National Planning Commission (NPC), Budget Office of the Federation (BOF), National Bureau of Statistics (NBS) with support from West African Institute for Financial and Economic Management (WAIFEM).

meet up with increasing financing needs. Such financing options include accessing the International Capital Market (ICM), domestic debt market and private sector investments under the Public Private Partnership (PPP) framework. All the available debt burden indicators under the Baseline Scenario showed that Nigeria is at a low risk of debt distress. The Alternative Scenario which is based on the assumptions of Vision 20 20:20 and the 7-Point Agenda of the current government was used to assess the country's vulnerability to debt distress. The outcome suggested the need for sound fiscal management especially in the light of the likely rise in capital expenditure as a result of the envisaged accelerated economic growth and the sub-optimal non-oil revenue generation and collection process.

The scope and coverage of the DSA is limited to the Federal Government. The DSA was constrained by limited information in the areas of Sub-national debts, contingent liabilities and domestic debt of State Owned Enterprises (SOEs). There was also the challenge of a relatively high proportion of errors and omission in the Balance of Payment (BoP) accounts of the country. However, the quality of the DSA outcome will be enhanced with improvements in the data collection process.

The Report is structured as follows: Chapter one contains the introduction, Chapter two reviews the recent developments in the Nigerian economy, Chapter three reviews the debt portfolio of Nigeria, Chapter four is the risk analysis of the public debt portfolio, Chapter five presents the scenario assumptions, Chapter six analyses the results and Chapter seven presents the conclusion and recommendations.

CHAPTER

2

**RECENT DEVELOPMENTS IN THE
NIGERIAN ECONOMY**

Macroeconomic developments in the Nigerian economy remained favourable in 2009 despite the global economic crisis as preliminary macroeconomic indicators revealed that the economy performed relatively well. The combined fiscal and monetary interventions by the federal government helped to bolster confidence particularly in the financial system. The provisional figures from the National Bureau of Statistics (NBS) showed that output growth measured by the real Gross Domestic Product (GDP) grew by 6.9 percent in 2009 compared to 6.4% in 2008. This was driven largely by the non-oil sector which grew by 8.6 percent, with agriculture accounting for 6.2 per cent of the growth. Similarly, inflationary pressure moderated at 12 percent by the end of 2009.

However, at ₦4,844.6 billion or 19.6 per cent of GDP, the Federation Account revenue (gross) declined by 38.4 per cent from the level in 2008. This is attributable to the fall in both domestic crude oil production and international prices of oil. Consequently, the Federal Government retained revenue fell by 17.2 per cent from ₦3,205.47 billion in 2008, while aggregate expenditure rose by 6.5 per cent, resulting in a fiscal gap of ₦836.60 billion or 3.02 per cent of GDP. The fiscal gap was largely financed through domestic borrowing to the tune of ₦524.11 billion.

In the external sector, the current account surplus contracted sharply from its level in 2008 by 41.1 per cent to US\$20.1 billion, while the external reserves position dropped by 20.0 per cent from US\$50.88 billion in 2008 to US\$42.4 billion by the end of December 2009 and could support 17.7 months of imports. Thus, despite the decline, the reserves position remained well above the 6 months import bill requirement under the Convergence Criteria of the West African Monetary Zone (WAMZ).

Similarly, the exchange rate in 2009 generally fell. The depreciation reflected the adverse terms of trade shock on the price of crude oil in the international market which resulted in low foreign exchange earnings and decline in autonomous foreign exchange inflows thus raising the demand pressure at the foreign exchange market. Consequently, the average exchange rate of the naira fell by 20.1 per cent to N148.90 per US dollar from the level of N118.97 in 2008. However, in general, the volatility in exchange rate during the first quarter of the year eased off, resulting in the relative stability recorded in the rest of the year.

Preliminary figures showed that broad money growth measured by M2 slowed down to 17.1 per cent at the end of the year when compared with 57.8 per cent in the previous year. The growth achieved was largely driven by the rise in net domestic credit of the banking system. The net credit to the domestic economy rose by 59.0 per cent, compared with the growth of 84.2 per cent attained in 2008, broadly reflecting the growth in credit to the private sector. Credit to the Federal Government (net) declined by 26.6 per cent as it remained a net creditor to the banking system, as a result of its huge deposits.

Box: 1: Macroeconomic Indicators (2007 - 2009)

	2007	2008	2009
Real GDP Growth Rate	6.5	6.4	6.9
Oil/GDP Growth Rate	-4.5	-4.8	-1.2
Non Oil/GDP Growth Rate	9.5	9.1	8.6
Inflation Rate	6.6	15.1	11.9
Federal Government Deficit/GDP	-0.6	-0.2	-3.3
Export Growth Rate	16.29	25.51	-44.06
Imports Growth Rate	34.68	33.35	-20.17
Current Account Balance/GDP	16.7	20.5	11.9
External Reserves (US\$ billions)	51.33	52.8	42.47

The financial system witnessed distress during the year, resulting in the intervention of the Central Bank of Nigeria (CBN) through massive injection of N620 billion into the distressed banks.

CHAPTER

3

PUBLIC DEBT PORTFOLIO REVIEW

3.1 TOTAL PUBLIC DEBT

The total public debt outstanding stood at US\$25,817.42 million as at 31st December, 2009² (Table 3.1).

Table 3.1: Total Public Debt Outstanding, 2005-2009 (US\$ Million)

Type	2005	2006	2007	2008	2009
External Debt Stock	20,477.97	3,544.49	3,654.21	3,720.36	3,947.30
Domestic Debt Stock	11,828.76	13,805.20	18,575.67	17,678.55	21,870.12
TOTAL	32,306.73	17,349.69	22,229.88	21,398.91	25,817.42
Total Debt to GDP Ratio (%)	28.60	12.39	11.67	11.77	13.88

PERCENTAGE (%) SHARE

Type	2005	2006	2007	2008	2009
External Debt Stock	63.39	20.43	16.44	17.39	15.29
Domestic Debt Stock	36.61	79.57	82.61	82.61	84.71
TOTAL	100.00	100.00	100.00	100.00	100.00

Nigeria's total public debt in 2005 fell from US\$32,306.73 million or 28.60 percent of GDP to US\$25,817.42 million or 13.88 percent of GDP in 2009. This was attributed to the country's exit from the Paris and London Clubs debt. The external debt accounted for US\$20,277.97 million or 63.39 percent of the total debt in 2005, falling to US\$3,947.30 million or 15.29 percent in 2009; while the domestic debt recorded a substantial increase

² Official CBN Exchange Rate of N147.60/US\$1 as at 31/12/09

from US\$11,828.76 million or 36.61 percent of the total debt in 2005 to US\$21,870.12 million or 84.71 percent in 2009.

3.2 TOTAL PUBLIC DEBT SERVICE PAYMENTS

Debt service payments for the year 2009 amounted to US\$2,335.49 million as against US\$4,055.30 million in 2008³ (Table 3.2), due to the absence of maturing FGN bond obligations in 2009. Of the total debt service, the sum of US\$1,907.45 million or 81.67 percent constituted domestic debt service payments, while the balance of US\$428.04 million or 18.33 percent was for external debt service payments.

**Table 3.2: Total Public Debt Service Payments,
2005 - 2009 (US\$ Million)**

Type	2005	2006	2007	2008	2009
External Debt Service	8,940.93	6,729.20	1,022.04	464.63	428.04
Domestic Debt Service	1,166.28	1,313.70	2,162.91	3,590.67	1,907.45
TOTAL	10,107.21	8,042.90	3,184.95	4,055.30	2,335.49

PERCENTAGE (%) SHARE

Type	2005	2006	2007	2008	2009
External Debt Service	88.46	83.67	32.09	11.46	18.33
Domestic Debt Service	11.54	16.33	67.91	88.54	81.67
TOTAL	100.00	100.00	100.00	100.00	100.00

3.3 EXTERNAL DEBT STOCK

External debt outstanding as at 31st December 2009 was US\$3,974.30 million mainly comprising of multilateral debts (US\$3,504.51 million or 88.78 percent) (Table 3.3). The external debt stock decreased significantly between 2004 and 2006 due to the Paris Club debt exit deal, as well as, the exit from the London Club debt obligations in 2006 and 2007.

³ Official CBN Exchange Rate of N147.60/US\$1 for 2009 as at 31/12/09

Of the total external debt outstanding, the States component constitutes US\$1,835.64 million or 46.50 percent of total external debt, which increased marginally by US\$435.30 million or 31.09 percent between the period 2006 to 2009⁴.

Table 3.3: External Debt Outstanding By Creditor, 2005-2009 (US\$ Million)

CREDITOR CATEGORY	2005	2006	2007	2008	2009
A. Official:					
1. Bilateral					
Paris Club	15,412.40	0.00	0.00	0.00	0.00
Non-Paris Club	461.79	326.08	184.90	182.42	181.60
2. Multilateral	2,512.19	2,608.30	3,080.91	3,172.87	3,504.51
Sub-Total	18,386.38	3,035.48	3,265.81	3,355.29	3,686.11
B. Private:					
1. London Club	1,441.79	0.00	0.00	0.00	0.00
2. Promissory Notes	649.8	509.01	0.00	0.00	0.00
3. Other Commercial	0.00	101.10	388.40	365.07	261.19
Sub-Total	2,091.59	509.01	388.40	365.07	261.19
Grand Total	20,477.97	3,544.49	3,654.21	3,720.36	3,947.30
PERCENTAGE SHARE					
A. Official:					
1. Bilateral					
Paris Club	75.26	0.00	0.00	0.00	0.00
Non-Paris Club	2.26	9.20	5.06	4.90	4.60
2. Multilateral	12.27	73.59	84.31	85.28	88.78
Sub-Total	89.79	85.64	89.37	90.19	93.38
B. Private:					
1. London Club	7.04	0.00	0.00	0.00	0.00
2. Promissory Notes	3.17	14.36	0.00	0.00	0.00
3. Other Commercials	0.00	2.85	10.63	9.81	6.62
Sub-Total	10.21	14.36	10.63	9.81	6.62
Grand Total	100.00	100.00	100.00	100.00	100.00

3.4 EXTERNAL DEBT SERVICE PAYMENTS

External debt service payment in 2009, stood at US\$428.04 million (Table 3.4) mainly comprising of debt service payment of US\$260.52 million, or 60.87 percent. Of this amount, the share of the State Governments stood at US\$140.90 million or 32.92 percent of total external debt service, while the balance of US\$287.14 million or 67.08 percent represents external debt service payments by the Federal government.

⁴ Official CBN exchange rate of US\$ vis-à-vis other currencies as at 31/12/2009

**Table 3.4: External Debt Service Payments, 2005-2009
(US\$ Million)**

CREDITOR CATEGORY	2005	2006	2007	2008	2009
A. Official:					
1. Bilateral:					
Paris Club	8,070.79	4,519.87	0.00	0.00	0.00
Non-Paris Club	11.39	25.56	27.48	6.63	12.66
2. Multilateral	471.67	426.62	392.77	380.63	260.52
Sub-Total	8,553.85	4,972.05	420.25	387.26	273.18
B. Private:					
1. London Club (oil warrants) ^a	169.86	1,584.58	102.59	41.72	41.72
2. Promissory Notes	213.55	170.84	476.6	0	0
3. Others (including Non-Paris Commercial)	3.67	1.60	22.60	35.65	113.13
Sub-Total	387.08	1,757.14	601.79	77.37	154.85
Grand Total	8,940.93	6,729.20	1,022.04	464.63	428.04

3.5 TOTAL DOMESTIC DEBT STOCK

The total domestic debt outstanding of the Federal Government as at 31st December, 2009 stood at ₦3,228.03 billion (Table 3.5). A further breakdown showed that the stock of FGN bonds increased from ₦250.83 billion in 2005 to ₦1,974.93 billion in 2009, while NTBs decreased from ₦854.83 billion in 2005 to ₦797.48 billion in 2009. The stock of Treasury Bonds fell from ₦419.27 billion in 2005 to ₦392.07 billion in 2009, while Development Stocks dropped from ₦0.98 billion in 2005 to ₦0.52 billion in 2009.

**Table 3.5: Trend of Total Domestic Debt Outstanding By
Instruments, 2005 - 2009 (₦' Billion)**

INSTRUMENTS	2005	2006	2007	2008	2009
FGN BONDS	250.83	643.94	1,186.16	1,445.60	1,974.93
NTBs	854.83	695	574.92	471.93	797.48
TREASURY BONDS	419.27	413.6	407.93	402.26	392.07
DEVELOPMENT STOCKS	0.98	0.72	0.62	0.52	0.52
PROMISSORY NOTE	0.00	0.00	0.00	0.00	63.03
TOTAL	1,525.91	1,753.26	2,169.63	2,320.31	3,228.03

^aThe 2009 payments made to London Club debt were in respect of Oil Warrants only, as there has been no London Club stock since the end of 2007.

3.6 TOTAL DOMESTIC DEBT SERVICE PAYMENTS

Total domestic debt service payments in 2009 amounted to ₦281,540.14 million compared with ₦238,753.51 million in 2008, reflecting an increase of 17.92 percent (Table 3.6). The increase in the debt service was attributed to the increase in debt stock in the review period. FGN bonds service payments constitutes the bulk of domestic debt service in 2009, amounting to ₦193,787.57 million or 68.83 percent, while payments in respect of NTBs and Treasury Bonds constituted 13.80 percent each.

**Table 3.6: Total Domestic Debt Service Payments, 2008 and 2009
(₦ Million)**

INSTRUMENTS	2008	2009
FGN BONDS		
Interest	149,221.18	193,787.57
Principal	0.00	0.00
Call Premium on Local Contractors Debts	916.72	0.00
NTBS		
Interest	43,555.22	38,788.79
Principal	0.00	0.00
TREASURY BONDS		
Interest	39,220.51	38,711.12
Principal	5,670.00	10,187.65
DEVELOPMENT STOCKS		
Interest	69.88	65.00
Principal	100.00	0.00
PROMISSORY NOTES		
Interest	0.00	0.00
Principal	0.00	0.00
Total	238,753.51	281,540.13

CHAPTER

4

**RISK ANALYSIS OF NIGERIA'S
PUBLIC DEBT PORTFOLIO****4.1 INTRODUCTION**

The objective of debt management is mainly to meet government's financing needs at minimum costs and within prudent level of risks. A preliminary risk analysis of the 2009 public debt (external and domestic) profile of the country was undertaken. It is important to note that the risk analysis conducted is essentially basic and the need for a more advanced approach to risk management analysis is being addressed. About 85 percent of Nigeria's total public debt is in local currency (i.e., the Naira), while the remaining balance are in foreign currencies. The portfolio risk analysis conducted was based on the following risk factors: currency risk, interest rate risk and refinancing risk.

4.2 CURRENCY RISK

Exchange rate and foreign reserves have implications for the currency risk of the country's debt profile. The profile of Nigeria's external debt places the country at a relatively low currency risk. Table 4.1 shows the breakdown of the foreign currency debt portfolio with SDR having the highest percent (70.96 percent), US Dollars (16.94 percent), Euro (9.21 percent) and other currencies (2.89 percent). The dominance of SDR in the currency composition of the debt profile reduces the exchange rate risk of the debt portfolio. This is because the SDR is a basket of currencies which in themselves hedge against one another, thereby mitigating the currency risk. Similarly, the low level of the currency risk could further be explained by the composition of the external reserves of the country which is dominated by US Dollar and the Euro. This forms a back-to-back hedge with the components of similar currencies in the external debt portfolio.

Table 4.1: External Debt Stock By Currency Composition as at 31st December, 2009 (US\$ Million)

S/No	Currency	Debt Stock in Original Currency	Naira Exch Rate	Debt Stock in Naira	US\$ Exch Rate to Naira	Debt Stock in USD	% of Total
1	EUR	252,159,005.00	212.69	53,632,102,074.00	147.6	363,361,125.16	9.21%
2	USD	668,253,539.00	147.71	98,704,946,858.20	147.6	668,732,702.29	16.94%
3	JPY	9,461,759.00	1,597.17	15,112,076,386.00	147.6	102,385,341.37	2.59%
4	CHF	8,374,330.00	144.65	1,211,340,071.00	147.6	8,206,911.05	0.21%
5	SDR	1,786,620,228	231.39	413,412,096,263.00	147.6	2,800,894,961.13	70.96%
6	NGN	435,787.00	1	435,787.00	147.6	2,952.49	0.00%
7	KRK	2,185,989.00	115.7	252,918,927.00	147.6	1,713,542.87	0.04%
8	IDB UNITS	1,262,403.00	233.84	295,200,000.00	147.6	2,000,000.00	0.05%
					TOTAL	3,947,297,536.36	100.00%

At US\$42.38 billion (Table 4.2), the composition of Nigeria's external reserve showed that the US Dollar constituted the bulk of the reserve (80.06 percent), the Euro (11.01 percent), the GBP (3.25 percent) and other currencies (5.68 percent). Thus, the currency composition of the reserve and debt portfolio indicates a very low level of currency risk.

Table 4.2: Nigeria's External Reserves Currency Composition as at 31st December, 2009 (US\$ Equivalent)

S/No.	CURRENCY	AMOUNT	
1	US DOLLARS	33,931,984,502.45	80.06%
2	GB POUNDS	1,378,329,453.05	3.25%
3	EUR	4,664,941,237.70	11.01%
4	SWISS FRANC (CHF)	3,273,277.29	0.01%
5	JAPANESE YEN	16,527,263.61	0.04%
6	OTHER CURRENCIES AND HOLDINGS	2,387,437,585.59	5.63%
	TOTAL	42,382,493,319.69	100.00%

4.3 INTEREST RATE RISK

Nigeria's total public debt (external and domestic) is comprised of 97.9 percent fixed rate instruments and 2.1 percent floating interest rate

instruments as at end of 2009. The floating rate instruments were part of the 1st FGN bonds issued in 2003 and some African Development Bank (ADB) loans in the external loan portfolio. The low level of floating rate instruments in Nigeria's debt portfolio indicates a very low interest rate risk.

4.4 REFINANCING RISK

The maturity structure of the total debt portfolio is used to measure the refinancing risk of the debt portfolio. The longer the maturity structure of the debt instruments the lower the refinancing risk. The percentage share of the total debt outstanding indicates that 79.07 percent of the debt portfolio is in long term instruments (Table 4.3). This confirms, in general terms, the low level of refinancing risk in the overall debt portfolio although, more rigorous analysis would require the identification of the profile, including the problems of bunching and concentration ratio.

Table 4.3: Total Public Debt Outstanding By Original Maturity, 2008-2009 (US\$ Million)

Type		2008	2009 [*]
External Debt Stock	Short-term ²	0	0
	Long-term	3,720.36	3,947.30
	Sub-Total	3,720.36	3,947.30
Domestic Debt Stock	Short-term ³	3,595.65	5,403.00
	Long-term	14,082.90	16,467.12
	Sub-Total	17,678.55	21,870.12
TOTAL		21,398.91	25,817.42

PERCENTAGE (%) SHARE			
Type		2008	2009
External Debt Stock	Short-term	0	0
	Long-term	17.39	15.29
	Sub-Total	17.39	15.29
Domestic Debt Stock	Short-term	16.8	20.93
	Long-term	65.81	63.78
	Sub-Total	82.61	84.71
TOTAL		100	100

^{*} Official CBN Exchange Rate of N147.60/US\$1 for 2009 figures as at 31/12/2009

² Short-term external debt is debt with less than 1 year original maturity

³ Short-term domestic debt consists of 91, 182 and 364 days Treasury Bills. Long-term domestic debt consists of Treasury Bonds, FGN Bonds and FRN Development Stocks

CHAPTER

5

UNDERLYING ASSUMPTIONS

5.1 BASELINE SCENARIO ASSUMPTIONS

The underlying macroeconomic assumptions of the Baseline scenario are anchored on the implementation of sound financial management policies and the achievement of the macroeconomic objectives of the 2010 Federal Government budget. These assumptions have been revised to reflect the impact of the on-going global financial crisis and the Federal Government's fiscal and monetary interventions. The macroeconomic assumptions are summarized in Box 1.

Box 2: Macroeconomic Assumptions In The Baseline Scenario

Average GDP Growth Rate: 6.0 percent over 2010-2029. Growth to be driven by the non-oil sector with agriculture playing a leading role,
Inflation Rate: Single digit inflation rate over 2010-2029. This is in accordance with the principle of complying with West African Monetary Zone (WAMZ) criteria
Oil Price: Projected at US\$67 per barrel for 2010 and to average US\$65 per barrel over 2011-2029
Crude Oil Production: Projected at 2.35 mbd for 2010, 2.4 mbd in 2011, 2.66 mbd over 2012-2013, and 2.6 mbd over 2014-2029. Oil production is sustained implementation of the amnesty programme
Nominal Exchange Rate of the Naira: Projected at US\$1/N147 in 2010, US\$1/N150 over 2011-2014, US\$1/N157 over 2015-2029
Budget Deficit for the Federal Government: Projected at 5 percent of the GDP in 2010, 3 percent of the GDP over 2011-2029. This is in line with the provisions of the Fiscal Responsibility Act (FRA)
Federal Government Capital Expenditure: Federal Government expenditure is assumed to be increasing averaging 8 percent in the medium term
Export Growth Rate: Projected at 3.5 percent in 2010, 4 percent over 2011-2029. This is in line with world demand and global growth rate.
Import Growth Rate: Projected 6 percent over 2010-2013. This is due high import content of infrastructure rehabilitation required to stimulate economic growth
Current Account Position: Projected to remain in surplus over 2010-2029. This is due to enhanced output growth of the oil sector, higher remittances and inflow from Nigerians in Diaspora.
Non-concessional Borrowing: Government would continue to borrow mainly from concessional sources throughout the projection period. Non-concessional funding would be accessed on a case-by-case basis to finance infrastructural projects where necessary.
Domestic Borrowing: Government would continue to access domestic bond market to finance budget deficits and maintain borrowing mix of 25/75 of short term/long term ratio.

5.2 ALTERNATIVE (OPTIMISTIC) SCENARIO ASSUMPTIONS

The macroeconomic assumptions of the Alternative (Optimistic) Scenario are based on the aspirations of the Federal Government's Vision 20:2020 programme of national development. These assumptions are summarized in Box 2.

Box 3: Macroeconomic Assumptions in the Alternative (Optimistic) Scenario

Average GDP Growth Rate: 8.2 percent in 2010 and 12.6 percent over 2011-2029. In absolute terms, it translates to US\$191 billion in 2010 and US\$900 billion over 2011-2029. It is assumed the Government will attract massive investment from foreign and domestic sources to facilitate infrastructure development.

Inflation Rate: Single digit inflation rate averaging 7.2 percent over 2010-2029.

Oil Price: Projected to average at US\$80 per barrel over 2010-2029. This is based on sustained improvement in global economic performance.

Nominal Exchange Rate of the Naira: Projected at US\$1/N150 over 2010-2015, US\$1/N153 over 2016-2020, US\$1/N156.06 over 2021-2025, and US\$1/N159.18 over 2026-2029

Federal Government Capital Expenditure: Projected at N2.1 trillion over 2010-2029.

Budget Deficit for the Federal Government: Projected at 3 percent of the GDP in compliance with the provisions of FRA.

Export Growth Rate: Projected at 6.12 percent over 2010-2029

Import Growth Rate: Projected at 10.45 percent over 2010-2013. This is due to high import content of infrastructure rehabilitation required to achieve the Vision 20:20 targets

Current Account Position: Assumed current account surplus over 2010-2029

Non-concessional Borrowing: Assumes massive borrowing from the International Capital Market (ICM) to finance the huge infrastructure gap in line with envisaged blend status of the country.

Domestic Borrowing: 25/75 ratio of short term/long term ratio to be maintained

CHAPTER

6

RESULTS ANALYSIS

6.1 BASELINE SCENARIO

6.1.1 TOTAL DEBT SUSTAINABILITY

6.1.1.1 SOLVENCY INDICATORS

Solvency Indicators in the baseline scenario show that Nigeria's total public debt would remain within the sustainability thresholds throughout the projection period (Box 4 and Annex1). The Net Present Value (NPV) of total debt is 16.2 percent of the GDP in 2010; this would fall to 2.2 percent in 2020 and 0.9 percent in 2029, and still remaining well below the indicative threshold of 40 percent.

The NPV of the total public debt as a percentage of total revenue would remain well within the sustainability threshold, as it peaked at 129.4 percent in 2010, which is well below the indicative threshold of 250 percent.

Box 4: Total Debt Sustainability Indicators Under The Baseline Scenario

	<u>Threshold</u>	<u>DSA Result</u>				
		2010	2011	2015	2020	2029
NPV of Debt-to-GDP	40	16.2	12.4	5.5	2.2	0.9
NPV of Debt-to-Revenue	250	129.4	134.9	90.8	85.4	109.6
Debt Service-to-Revenue	30	11.7	13.7	8.6	8.0	16.0

6.1.1.2 LIQUIDITY INDICATORS

Liquidity Indicators in the baseline scenario show that the NPV of total debt service-to-revenue would peak at 21.9 percent in 2012 and then maintain an average of 9.0 percent between 2013 and 2029, which are all within the sustainability threshold of 30 percent.

6.1.1.3 STRESS TEST AND ALTERNATIVE SCENARIOS

Generally, the stress test results showed that most ratios are within a sustainable level. This was clearly demonstrated as the Bound test result which assumes a combination of real GDP growth and net non-debt creating flows at historical average of minus 1 standard deviation in 2011-2012, shows that the NPV of total debt as a percentage of GDP would reach its peak at 16 percent in 2010, which is well within the 40 percent threshold (Annex 2).

Similarly, the test result also shows that the PV of total debt-to-revenue would reach its peak at 129 percent in 2010, and improve thereafter to negative values for most of the projection period. This shows a comfortable liquidity position when compared with the sustainability threshold of 250 percent.

However, the most extreme stress test (severe condition) showed that the total public debt is most vulnerable to real GDP growth at historical average minus 1 standard deviation, as the NPV of the total debt ratio is 42 percent of GDP in 2015, marginally exceeding the 40 percent threshold. Similar result was obtained in respect of total debt-to-revenue ratio which exceeded the 250 percent threshold from 2012 to the remaining projection period. This clearly shows that under the most extreme stress test condition, Nigeria's total debt would not be sustainable in the medium to long term.

6.1.2 EXTERNAL DEBT SUSTAINABILITY

6.1.2.1 SOLVENCY INDICATORS

Solvency indicators in the baseline scenario showed that the ratios would remain well below the respective thresholds (Box 4 and Annex 4). The

result showed that the NPV of external debt-to-GDP ratio would be 3.1 percent in 2010 and decline to 1.1 percent in 2020. The ratio would thereafter maintain an average of 0.5 percent over the medium-to-long term, which is below the indicative threshold of 40 percent.

Box 5: External Debt Sustainability Indicators Under The Baseline Scenario

	<u>Threshold</u>	<u>DSA Result</u>				
		2010	2011	2020	2025	2029
NPV of Debt-to-GDP	40	3.1	2.9	1.1	0.7	0.5
NPV of Debt-to-Exports	150	12.3	13.0	16.3	16.7	20.7
NPV of Debt-to-Revenue	250	25.2	31.7	45.0	57.8	84.5
Debt Service-to-Exports	20	1.0	0.9	1.3	1.4	1.9
Debt Service-to-Revenue	30	2.1	2.1	3.5	4.9	7.6

6.1.2.2 LIQUIDITY INDICATORS

Liquidity Indicators in the baseline scenario showed that the Nigeria's external debt is sustainable, as the NPV of debt service as a percentage of export remained at an average of 1.2 percent for the period under review, which is well below the maximum threshold of 20 percent. This result indicates substantial external borrowing space created after the debt relief secured by Nigeria between 2005 and 2006 and the relatively low level of debt accumulation thereafter.

6.1.2.3 STRESS TEST AND ALTERNATIVE SCENARIOS

Stress test result generally showed that both liquidity and solvency ratios would be sustainable in the projection period. The result shows that the NPV of total external debt-to-GDP ratio would average at 1.51 percent over the projection period, which is well below the sustainability threshold of 40 percent. In the Bound test which combines both real GDP growth and net non-debt creating flows at historical average minus 1 standard deviation in 2011 - 2012, the NPV of the total external debt-to-

GDP ratios increased from 17.5 percent in 2011 to 28.8 percent in 2015, which falls within the threshold of 40 percent.

In the baseline scenario, the result of the stress test also showed that the NPV of the external debt-to-exports would be sustainable as it would maintain an average of 15 percent throughout the projection period, which falls well within the threshold of 150 percent. Similarly, in the Bound test which is the most extreme stress condition, the NPV of external debt-to-exports would increase from 56.0 percent in 2011 to 105.6 percent in 2015, which is still below the indicative debt burden threshold of 150 percent (Annex 4 and Fig. 5.1).

A one-time 30 percent nominal depreciation of the naira relative to the baseline in 2011 also leaves the ratios at sustainable levels.

However, the total external debt to revenue ratio is most sensitive when subjected to same bound test as the ratios far exceed the 250 percent threshold from 2012 onwards.

6.2 OPTIMISTIC SCENARIO

6.2.1 TOTAL DEBT SUSTAINABILITY

6.2.1.1 SOLVENCY INDICATORS

In the optimistic scenario, the result of the Solvency Indicators show that Nigeria's total public debt would be sustainable throughout the projection period, as the total debt-to-GDP would be within the 40 percent threshold (Box 4). It can also be seen that the NPV of the total debt-to-GDP ratio maintains a decreasing trend, as the rate of debt accumulation is higher than the growth of the economy with Foreign Direct Investment (FDI) following a similar trend. The result also showed the dominance of foreign borrowing from 2015 onwards, which would mainly be sourced from the International Capital market (ICM).

Similarly, the NPV of total debt-to-revenue would also remain

sustainable with all ratios falling below the 250 percent threshold. This is due to higher level of receipts arising from projected higher oil prices as well as higher volume of oil production as envisaged in the Vision 20:2020.

6.2.1.2 LIQUIDITY INDICATORS

The NPV of total debt service to revenue would also be sustainable with all ratios below the indicative threshold of 30 percent. This is also attributable to higher expected revenues relative to the debt service cost in the projection period.

Box 6: Total Debt Sustainability Indicators Under The Optimistic Scenario

	<u>Threshold</u>	<u>DSA Result</u>				
		2010	2011	2015	2020	2029
NPV of Debt-to-GDP	40	16.5	16.3	8.2	4.6	1.4
NPV of Debt-to-Revenue	250	129.4	184.0	157.0	193.3	179.5
Debt Service-to-Revenue	30	11.7	14.3	11.3	14.0	19.3

6.2.2 EXTERNAL DEBT SUSTAINABILITY

6.2.2.1 SOLVENCY INDICATORS

In the optimistic scenario, the result in the baseline scenario shows that Nigeria's external debt would be sustainable as all the ratios would be far below the threshold of 40 percent. This is due to increase in productive activities and massive injection of resources in the critical sectors of the economy, which is expected to increase GDP.

The NPV of external debt-to-revenue would also remain sustainable with the ratios reaching a peak of 148.7 in 2029, which is well below the 250

percent threshold. This is partly due to higher oil prices which are expected to average US\$80 per barrel in the projection period.

Box 7: External Debt Sustainability Indicators under the Optimistic Scenario

	<u>Threshold</u>	<u>DSA Result</u>			
		2010	2015	2020	2029
NPV of Debt-to-GDP	40	3.2	4.1	2.9	1.0
NPV of Debt-to-Revenue	250	25.2	78.9	127.0	148.7
NPV of Debt-to-Exports	150	12.3	28.5	34.4	29.3
Debt Service-to-Export	20	1.0	2.1	2.6	2.7
Debt Service-to-Revenue	30	2.1	5.7	9.4	13.6

6.2.2.2 LIQUIDITY INDICATORS

All the liquidity indicators are sustainable as indicated in Box 4. The results showed that external debt service peaked at 2.7 percent of the export in 2029 and 13.6 percent of the revenue in the same year, which are all below the indicative thresholds of 30 percent

6.3 CONCLUSION

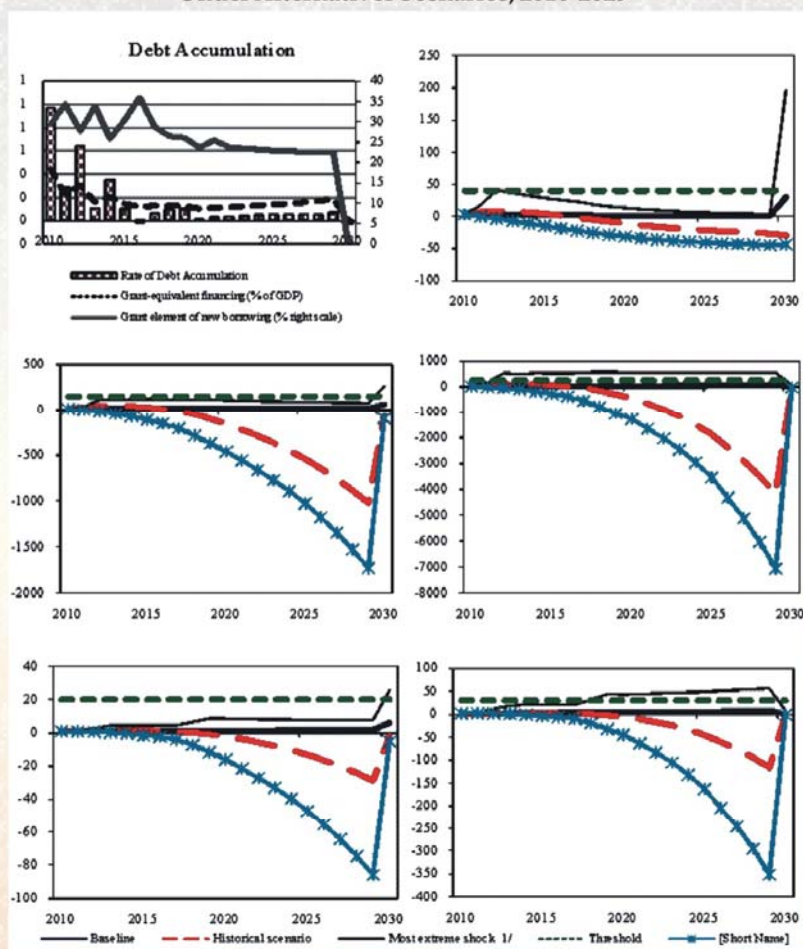
The result of the 2010 DSA shows that Nigeria's debt is at low level of debt distress as all ratios in the baseline and optimistic scenarios fall well below their respective indicative thresholds.

The result also showed that the total public debt in the optimistic scenario increased from US\$31.4 billion in 2010 to US\$38.5 billion in 2011. This indicates a borrowing limit of US\$7.1 billion for the year 2011, which would be sourced from domestic as well as external sources in the proportion of 60:40 respectively, in line with the recommendations of previous DSA exercises. Thus, the maximum sum of N639 billion and

US\$2.84 billion is to be obtained from domestic and external sources respectively.

Figure 6.1: Nigeria: Indicators of Public and Publicly Guaranteed External Debt

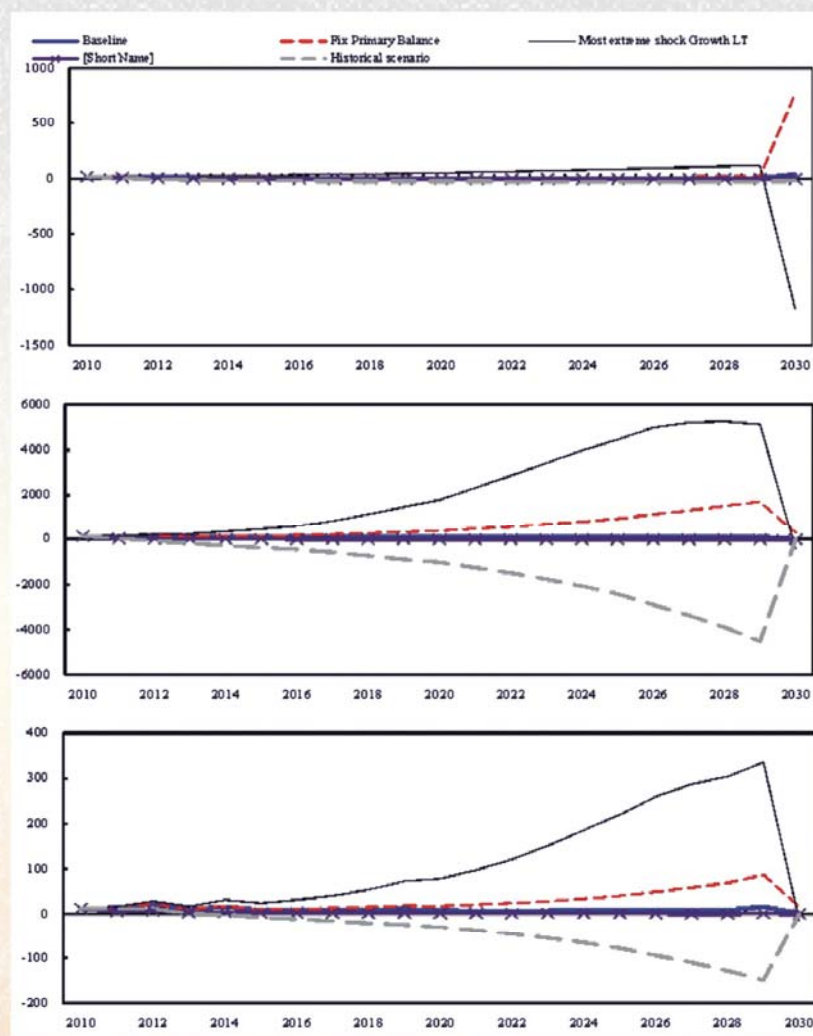
Under Alternatives Scenarios, 2010-2029



Sources: Country authorities; and staff estimates and projections.

1/The most extreme stress test is the test that yields the higher ratio in 2020. In figure b. It corresponds to a Combination shock; in c. To a Export shock; in d. To a Combination shock; in e. To a Combination shock and in figure f. To a Combination shock

Figure 6.2: Nigeria: Indicators of Public Debt Under Alternative Scenarios, 2010-2030



Sources: Country authorities; and staff estimates and projections.

1/The most extreme stress test is the test that yields the higher ratio in 2020.

2/Revenues are defined inclusive of grants.

CHAPTER

7

CONCLUSION AND RECOMMENDATIONS**7.1 CONCLUSION**

Nigeria is rated as a Medium Performer under the World Bank's Country Policy and Institutional Assessment (CPIA) index. The outcome of the 2010 DSA has indicated that under the baseline scenario, the country's external and total public debts are sustainable, as all the available debt burden indicators under the joint IMF-World Bank DSF, fell below the recommended international thresholds. It further confirms the outcome of the 2009 DSA that Nigeria is at a low level risk of debt distress. This position could change in the medium-term if there is no fiscal prudence to reduce the large primary fiscal deficit and sustained growth in the non-oil sector.

It should, however, be noted that the outcome of the 2010 DSA would also depend on prudent macroeconomic management of the country's oil wealth. The baseline assumes improvements in oil production combined with strong private sector investment, sustained strong growth in the non-oil sector, and continued export diversification; but this growth process substantially depends on the judicious use of the oil revenues that accrues to the country.

Under the alternative scenario which assumes the sustained implementation of Vision 20 20:20, the outcome of the 2010 DSA showed that Nigeria's external debt would increase in the medium term as a result of an increase in funding public infrastructure mainly from non-concessional sources.

7.2 RECOMMENDATIONS

The analysis of the 2010 DSA results reveals a number of recommendations which would enhance both debt and fiscal sustainability.

These recommendations include the following:

- a) Pursuing policies that promote macroeconomic stability.
- b) Acceleration of non-oil growth and concentration on growth enhancing infrastructure.
- c) Expanding sources of internal revenue and improving the efficiency of the collection process.
- d) Increasing access to the ICM in a prudent manner to support infrastructural investments.
- e) Aggressive marketing of the FGN Bonds to Nigerians in the Diaspora would diversify the investor base and reduce the upward pressure in the price of the FGN bond.
- f) Aggressive and sustained implementation of the Federal Government's programme on Public-Private-Partnerships (PPP).
- g) Putting mechanisms in place to ensure effective utilization and monitoring of borrowed funds in accordance with the provisions of FRA.
- h) Maintenance of prudent fiscal discipline and the development and implementation of debt management strategy that places emphasis on prudent and productive public sector borrowing.
- i) Improve coordination of Federal Government's monetary and fiscal interventions in the economy to produce favourable outcomes in the debt market.
- j) Improve coordination and information sharing among relevant stakeholders with respect to public debt management.
- k) In accordance with the classification of Nigeria as a Medium Performer country with a total debt sustainability ratio of 40 percent, this Report recommends a borrowing limit of 60:40 for the Federal Government for the year 2011. The Report does not recommend borrowing limits for States and Local Governments, as the DSA was only limited to the debt portfolio of the Federal Government.

Annex 1: Public Sector Debt Sustainability Framework, baseline Scenario, 2007-2030
(In percent of GDP, unless otherwise indicated)

	Actual			Average	Standard Deviation	Estimate					Projections			
	2007	2008	2009			2010	2011	2012	2013	2014	2015	2010-15 Average		2016-30 Average
Public sector debt 1/	8.0	8.0	15.5			16.3	12.7	10.5	7.8	7.0	5.9	2.5	48.0	
o/w foreign-currency denominated	1.4	1.4	2.4			3.2	3.1	3.4	3.0	3.0	2.7	1.4	39.8	
Change in public sector debt	0.9	0.0	7.4			0.8	-3.6	-2.1	-2.7	-0.8	-1.0	-0.5	47.0	
Identified debt-creating flows	-6.8	-7.4	...			...	-0.6	0.8	-0.5	0.2	-0.4	-0.2	197.0	
Primary deficit	-8.2	-9.1	1.0	-7.1	3.5	1.7	1.1	2.1	0.6	1.1	0.4	0.1	44.2	3.1
Revenue and grants	13.2	15.0	10.8			12.5	9.2	7.7	7.5	6.0	5.5	2.5	267.7	
of which: grants	0.0	0.0	0.0			0.1	0.1	0.1	0.1	0.1	0.1	0.1	1.0	
Primary (noninterest) expenditure	5.0	5.9	11.8			14.2	10.3	9.8	8.0	7.1	5.8	2.6	311.8	
Automatic debt dynamics	1.4	1.7	...			...	-1.4	-1.1	-1.0	-0.7	-0.7	-0.3	152.8	
Contribution from interest rate/growth differential	1.5	1.6	...			...	-1.1	-0.9	-0.7	-0.5	-0.5	-0.2	178.3	
of which: contribution from average real interest rate	1.9	2.1	...			...	-0.2	-0.1	-0.1	0.0	-0.1	0.0	79.6	
of which: contribution from real GDP growth	-0.4	-0.5	-0.5			-0.9	-0.9	-0.7	-0.6	-0.4	-0.4	-0.2	98.8	
Contribution from real exchange rate depreciation	-0.1	0.1	...			...	-0.3	-0.3	-0.3	-0.2	-0.2	...	...
Other identified debt -creating flows	0.0	-0.1	0.0			-0.4	-0.3	-0.1	-0.1	-0.1	-0.1	0.0	0.0	
Privatization receipts (negative)	0.0	-0.1	0.0			-0.4	-0.3	-0.1	-0.1	-0.1	-0.1	0.0	0.0	
Recognition of implicit or contingent liabilities	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	
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	
Residual, including asset changes	7.7	7.4	...			...	-3.0	-2.9	-2.2	-1.1	-0.6	-0.2	-150.0	
Other Sustainability Indicators														
PV of public sector debt	6.7	6.6	15.8			16.2	12.4	10.1	7.4	6.5	5.5	2.2	38.3	
o/w foreign-currency denominated	0.0	0.0	2.7			3.1	2.9	3.0	2.6	2.5	2.2	1.1	30.0	
o/w external	...	...	2.7			3.1	2.9	3.0	2.6	2.5	2.2	1.1	30.0	
PV of contingent liabilities (not included in public sector debt)	...	...	...			...	...	...	...	...	...	...	...
Gross financing need 2/	-2.7	-4.1	5.2			6.1	4.9	5.9	3.1	3.5	2.1	0.8	99.2	
PV of public sector debt -to-revenue and grants ratio (in percent)	50.5	43.7	146.5			129.4	134.9	131.0	99.3	108.2	100.6	85.4	14.3	
PV of public sector debt -to-revenue ratio (in percent)	50.6	43.8	147.2			130.0	135.8	132.1	100.2	109.5	102.0	88.3	14.3	
o/w external 3/	...	...	25.2			25.2	31.7	39.1	35.5	42.5	41.6	45.0	11.2	
Debt service -to-revenue and grants ratio (in percent) 4/	23.8	19.8	13.4			11.7	13.7	21.9	10.2	16.3	8.6	8.0	2.1	
Debt service -to-revenue ratio (in percent) 4/	23.8	19.8	13.5			11.8	13.8	22.1	10.3	16.5	8.7	8.3	2.1	
Primary deficit that stabilizes the debt -to-GDP ratio	-9.1	-9.1	-6.4			0.9	4.7	4.2	3.3	1.9	1.4	0.6	-2.8	
Key macroeconomic and fiscal assumptions														
Real GDP growth (in percent)	6.4	6.4	6.5	26.6	55.2	6.1	5.9	6.2	6.1	6.1	6.1	6.1	-99.0	-0.9
Average nominal interest rate on forex debt (in percent)	32.1	8.7	3.9	5.8	9.6	7.2	4.4	4.1	3.8	3.7	3.5	4.4	2.9	2.2
Average real interest rate on domestic debt (in percent)	29.1	31.3	70.4	61.6	80.3	-1.3	-2.2	-2.1	-2.6	-1.9	-2.9	2.2	-1.8	248.3
Real exchange rate depreciation (in percent, + indicates depreciation)	-3.7	10.2	-100.0	-3.7	59.9	#VALUE!	...	...	...	...	...	...	...	...
Inflation rate (GDP deflator, in percent)	-1.8	1.9	-34.3	8.5	39.4	11.5	11.5	11.5	11.3	11.0	10.8	11.3	9.8	-71.0
Growth of real primary spending (deflated by GDP deflator, in percent)	0.5	0.3	1.1	0.3	0.7	0.3	-0.2	0.0	-0.1	-0.1	-0.1	0.0	-0.1	2.5
Grant element of new external borrowing (in percent)	...	...	...	...	...	29.3	34.3	27.7	33.8	25.7	30.5	30.2	23.7	...

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.

Annex 2: Sensitivity Analysis for Key Indicators of Public Debt 2010-2030

	Projections							
	2010	2011	2012	2013	2014	2015	2020	2030
PV of Debt-to-GDP Ratio								
Baseline	16	12	10	7	7	5	2	38
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	16	2	-7	-14	-18	-21	-26	-22
A2. Primary balance is unchanged from 2010	16	13	10	9	8	8	10	773
A3. Permanently lower GDP growth 1/	16	15	16	17	21	25	49	-1177
A4. Alternative Scenario :[Costumize, enter title]	16	6	3	1	0	-1	-3	-4
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2011-2012	16	23	37	39	41	42	36	1651
B2. Primary balance is at historical average minus one standard deviations in 2011-2012	16	8	0	-1	-1	-1	-1	-45
B3. Combination of B1-B2 using one half standard deviation shocks	16	7	-2	-3	-1	-1	1	101
B4. One-time 30 percent real depreciation in 2011	16	14	11	8	7	6	3	-40
B5. 10 percent of GDP increase in other debt-creating flows in 2011	16	22	19	15	13	12	5	114
PV of Debt-to-Revenue Ratio 2/								
Baseline	129	135	131	99	108	101	85	14
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	129	26	-95	-185	-297	-380	-1034	-8
A2. Primary balance is unchanged from 2010	129	142	134	117	138	153	373	289
A3. Permanently lower GDP growth 1/	129	166	211	233	349	459	1796	-443
A4. Alternative Scenario :[Costumize, enter title]	129	24	13	3	-1	-3	-12	-16
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2011 -2012	129	247	479	512	674	764	1359	614
B2. Primary balance is at historical average minus one standard deviations in 2011 -2012	129	85	5	-15	-17	-22	-51	-17
B3. Combination of B1-B2 using one half standard deviation shocks	129	74	-28	-34	-24	-14	28	38
B4. One-time 30 percent real depreciation in 2011	129	148	143	110	120	112	99	-15
B5. 10 percent of GDP increase in other debt-creating flows in 2011	129	243	245	203	222	212	209	43
Debt Service-to-Revenue Ratio 2/								
Baseline	12	14	22	10	16	9	8	2
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	12	11	12	0	-1	-8	-30	0
A2. Primary balance is unchanged from 2010	12	14	22	10	17	10	17	16
A3. Permanently lower GDP growth 1/	12	16	29	17	31	24	78	-16
A4. Alternative Scenario :[Costumize, enter title]	12	6	8	4	5	2	1	0
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2011 -2012	12	20	51	30	49	36	59	38
B2. Primary balance is at historical average minus one standard deviations in 2011 -2012	12	14	20	5	11	4	3	-1
B3. Combination of B1-B2 using one half standard deviation shocks	12	15	22	5	11	4	6	1
B4. One-time 30 percent real depreciation in 2011	12	14	23	12	18	10	10	7
B5. 10 percent of GDP increase in other debt-creating flows in 2011	12	14	26	15	21	13	13	5

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.

**Annex 3: External Debt Sustainability Framework, Baseline Scenario, 2007-2030 1/
(In percent of GDP, unless otherwise indicated)**

	Actual			Historical Standard		Projections							2010-2015			2016-2030		
				Average									Average			Average		
	2007	2008	2009	Deviation		2010	2011	2012	2013	2014	2015		2010	2015		2020	2030	
External debt (nominal) 1/	2.2	2.0	2.4			3.2	3.1	3.4	3.0	3.0	2.7		1.4	3.8		1.4	3.8	1.3
o/w public and publicly guaranteed (PPG)	1.4	1.4	2.4			3.2	3.1	3.4	3.0	3.0	2.7		1.4	3.8		1.4	3.8	
Change in external debt	0.1	-0.2	0.4			0.8	-0.1	0.3	-0.4	0.0	-0.3		-0.2	3.9		-0.2	3.9	
Identified net debt-creating flows	-8.3	-15.6	-12.6			-16.3	-14.1	-12.1	-10.5	-9.1	-7.9		-3.7	40.7		-3.7	40.7	
Non-interest current account deficit	-8.9	14.5	-12.2	-8.6	4.3	-14.4	-12.4	-10.6	-9.1	-7.8	-6.7		-3.0	3.9		-3.0	3.9	-2.2
Deficit in balance of goods and services	7.9	-11.8	-4.4			-3.3	-2.4	-1.7	-1.1	-0.6	-0.2		0.7	15.8		0.7	15.8	
Exports	25.8	29.0	29.0			25.5	22.4	19.5	17.1	15.0	13.2		6.8	45.9		6.8	45.9	
a	17.9	17.2	24.6			22.2	19.9	17.9	16.1	14.5	13.0		7.5	61.7		7.5	61.7	
Net current transfers (negative = inflow)	-7.0	-6.5	-12.1	-4.0	3.5	-10.9	-9.8	-8.8	-7.9	-7.1	-6.4		-3.7	-14.4		-3.7	-14.4	-4.0
o/w official	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0		0.0	-1.0		0.0	-1.0	
Other current account flows (negative = net inflow)	6.0	3.8	4.3			-0.2	-0.1	-0.1	-0.1	-0.1	-0.1		0.0	2.5		0.0	2.5	
Net FDI (negative = inflow)	0.0	-1.2	-2.1	-0.3	0.7	-1.9	-1.7	-1.5	-1.3	-1.2	-1.1		-0.6	-5.6		-0.6	-5.6	-0.9
Endogenous debt dynamics 2/	0.6	0.0	1.7			0.0	0.0	-0.1	-0.1	-0.1	-0.1		0.0	42.4		0.0	42.4	
Contribution from nominal interest rate	0.7	0.3	0.1			0.1	0.1	0.1	0.1	0.1	0.1		0.0	1.0		0.0	1.0	
Contribution from real GDP growth	0.1	-0.1	-0.2			-0.1	-0.2	-0.2	-0.2	-0.2	-0.2		-0.1	41.3		-0.1	41.3	
Contribution from price and exchange rate changes	0.0	-0.2	1.8			...	...	...	...	...	...		...	...		...	...
Residual (3-4) 3/	8.4	15.4	13.0			17.1	14.0	12.4	10.1	9.0	7.6		3.5	-1.6		3.5	-1.6	
o/w exceptional financing	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	
PV of external debt 4/	...	...	2.7			3.1	2.9	3.0	2.6	2.5	2.2		1.1	30.0		1.1	30.0	
In percent of exports	...	...	9.4			12.3	13.0	15.3	15.4	16.8	16.9		16.3	65.4		16.3	65.4	
PV of PPG external debt	...	...	2.7			3.1	2.9	3.0	2.6	2.5	2.2		1.1	30.0		1.1	30.0	
In percent of exports	...	...	9.3			12.3	13.0	15.3	15.4	16.8	16.9		16.3	65.4		16.3	65.4	
In percent of government revenues	...	...	25.2			25.2	31.7	39.1	35.5	42.5	41.6		45.0	11.2		45.0	11.2	
Debt service-to-exports ratio (in percent)	4.3	1.5	0.9			1.2	1.0	1.2	1.3	1.4	1.3		1.4	7.0		1.4	7.0	
PPG debt service-to-exports ratio (in percent)	3.6	0.7	0.9			1.0	0.9	1.0	1.2	1.3	1.2		1.3	6.1		1.3	6.1	
PPG debt service-to-revenue ratio (in percent)	7.0	1.4	2.4			2.1	2.1	2.6	2.8	3.2	3.0		3.5	1.0		3.5	1.0	
Total gross financing need (Billions of U.S. dollars)	-18.7	-43.6	-22.3			-31.2	-31.9	-32.3	-32.8	-33.3	-33.9		-37.0	1.0		-37.0	1.0	
Non-interest current account deficit that stabilizes debt ratio	-9.0	-14.3	-12.6			-15.3	-12.3	-10.9	-8.7	-7.8	-6.4		-2.8	-35.2		-2.8	-35.2	
Key macroeconomic assumptions																		
Real GDP growth (in percent)	6.4	6.4	6.5	26.6	55.2	6.1	5.9	6.2	6.1	6.1	6.1		6.1	6.1	-99.0	-0.9		
GDP deflator in US dollar terms (change in percent)	0.4	7.9	-47.5	4.7	40.1	10.7	11.5	11.5	11.3	11.0	10.8		11.1	9.8	62.5	13.4		
Effective interest rate (percent) 5/	35.9	16.6	2.4	6.9	11.3	6.9	4.2	4.0	3.6	3.5	3.4		4.3	2.9	2.5	2.8		
Growth of exports of G&S (US dollar terms, in percent)	14.4	28.9	-44.1	16.1	36.4	3.4	3.4	3.4	3.4	3.4	3.4		3.4	3.7	-70.0	-1.2		
Growth of imports of G&S (US dollar terms, in percent)	43.1	10.2	-20.2	13.4	24.6	6.1	5.9	6.2	6.1	6.1	6.1		6.1	6.1	-70.1	1.0		
Grant element of new public sector borrowing (in percent)	...	...	...	...	...	29.3	34.3	27.7	33.8	25.7	30.5		30.2	23.7	30.3	31.0		
Government revenues (excluding grants, in percent of GDP)	13.2	15.0	10.7			12.5	9.2	7.7	7.4	6.0	5.4		2.5	266.6	19.7			
Aid flows (in Billions of US dollars) 7/	2.6	2.9	3.5			1.3	0.7	1.1	0.7	0.9	0.8		1.1	0.7				
o/w Grants	0.1	0.1	0.1			0.1	0.1	0.2	0.2	0.3	0.3		0.9	0.7				
o/w Concessional loans	2.5	2.9	3.4			1.1	0.6	0.9	0.4	0.7	0.5		0.2	0.0				
Grant-equivalent financing (in percent of GDP) 8/	...	...	...			0.4	0.2	0.3	0.2	0.2	0.1		0.1	...	0.1			
Grant-equivalent financing (in percent of external financing) 8/	...	...	...			32.2	42.1	32.9	46.6	34.7	47.3		67.8	...	62.8			
Memorandum items:																		
Nominal GDP (Billions of US dollars)	258.8	297.1	166.0			194.9	230.2	272.5	321.6	378.8	445.4		1041.6	64.5				
Nominal dollar GDP growth	6.9	14.8	-44.1			17.4	18.1	18.4	18.0	17.8	17.6		17.9	16.5	-98.3	8.9		
PV of PPG external debt (in Billions of US dollars)	...	...	4.5			6.1	6.6	8.1	8.4	9.5	9.9		11.4	19.3				
(PVt-PVt-1)/GDPt-1 (in percent)	...	...	...			1.0	0.3	0.6	0.1	0.3	0.1		0.4	0.0	0.0	0.0		
Gross remittances (Billions of US dollars)	5.6	19.2	20.0			21.2	22.5	23.9	23.3	26.8	28.5		38.2	8.5				
PV of PPG external debt (in percent of GDP + remittances)	...	...	2.4			2.8	2.6	2.8	2.4	2.4	2.1		1.1	26.5				
PV of PPG external debt (in percent of exports + remittances)	...	...	6.6			8.6	9.0	10.6	10.5	11.4	11.4		10.6	50.8				
Debt service of PPG external debt (in percent of exports + remittances)	...	...	0.6			0.7	0.6	0.7	0.8	0.9	0.8		0.8	4.7				

Sources: Country authorities; and staff estimates and projections.

1/ Includes both public and private sector external debt.

2/ Derived as $[r - g - \gamma(1+g)](1+g)^{t-1}$ times previous period debt ratio, with r = nominal interest rate; g = real GDP growth rate, and γ = 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).

Annex 4: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, 2010-2030 (In percent)

	Projections							
	2010	2011	2012	2013	2014	2015	2020	2030
PV of debt-to GDP ratio								
Baseline	3	3	3	3	3	2	1	30
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2010-2030 1/	3	7	9	8	7	4	-11	-29
A2. New public sector loans on less favorable terms in 2010-2030 2	3	3	3	3	3	3	2	55
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2011-2012	3	4	7	6	6	5	2	66
B2. Export value growth at historical average minus one standard deviation in 2011-2012 3/	3	7	14	12	11	9	4	71
B3. US dollar GDP deflator at historical average minus one standard deviation in 2011-2012	3	5	9	8	7	7	3	89
B4. Net non-debt creating flows at historical average minus one standard deviation in 2011-2012 4/	3	13	20	18	16	14	6	96
B5. Combination of B1-B4 using one-half standard deviation shocks	3	18	42	37	33	29	13	197
B6. One-time 30 percent nominal depreciation relative to the baseline in 2011 5/	3	4	4	4	3	3	1	41
PV of debt-to-exports ratio								
Baseline	12	13	15	15	17	17	16	65
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2010-2030 1/	12	31	44	47	44	31	-157	-64
A2. New public sector loans on less favorable terms in 2010-2030 2	12	14	17	18	21	21	23	119
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2011-2012	12	13	15	15	17	17	16	65
B2. Export value growth at historical average minus one standard deviation in 2011-2012 3/	12	42	118	118	121	121	110	262
B3. US dollar GDP deflator at historical average minus one standard deviation in 2011-2012	12	13	15	15	17	17	16	65
B4. Net non-debt creating flows at historical average minus one standard deviation in 2011-2012 4/	12	56	104	104	105	106	95	210
B5. Combination of B1-B4 using one-half standard deviation shocks	12	59	120	120	122	122	110	241
B6. One-time 30 percent nominal depreciation relative to the baseline in 2011 5/	12	13	15	15	17	17	16	65
PV of debt-to-revenue ratio								
Baseline	25	32	39	36	43	42	45	11
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2010-2030 1/	25	76	113	109	110	77	-432	-11
A2. New public sector loans on less favorable terms in 2010-2030 2	25	34	44	42	52	52	65	21
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2011-2012	25	47	85	78	93	91	98	25
B2. Export value growth at historical average minus one standard deviation in 2011-2012 3/	25	80	179	162	181	176	180	27
B3. US dollar GDP deflator at historical average minus one standard deviation in 2011-2012	25	54	115	105	125	123	133	33
B4. Net non-debt creating flows at historical average minus one standard deviation in 2011-2012 4/	25	138	264	240	266	259	262	36
B5. Combination of B1-B4 using one-half standard deviation shocks	25	191	545	495	548	534	540	74
B6. One-time 30 percent nominal depreciation relative to the baseline in 2011 5/	25	43	53	48	58	56	61	15

**Annex 4 Continued: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, 2010-2030
(In percent)**

Table 3b. Nigeria: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, 2010 - 2030 (continued)
(In percent)

	Projections							
	2010	2011	2012	2013	2014	2015	2020	2030
Debt service-to-exports ratio								
Baseline	1	1	1	1	1	1	1	6
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2010-2030 1/	1	1	1	2	2	2	-2	-2
A2. New public sector loans on less favorable terms in 2010-2030 2	1	1	1	1	1	1	1	8
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2011 -2012	1	1	1	1	1	1	1	6
B2. Export value growth at historical average minus one standard deviation in 2011 -2012 3/	1	1	3	5	5	5	9	27
B3. US dollar GDP deflator at historical average minus one standard deviation in 2011 -2012	1	1	1	1	1	1	1	6
B4. Net non-debt creating flows at historical average minus one standard deviation in 2011 -2012 4/	1	1	2	4	4	4	8	22
B5. Combination of B1-B4 using one-half standard deviation shocks	1	1	3	5	5	5	9	26
B6. One-time 30 percent nominal depreciation relative to the baseline in 2011 5/	1	1	1	1	1	1	1	6
Debt service-to-revenue ratio								
Baseline	2	2	3	3	3	3	3	1
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2010-2030 1/	2	2	3	4	5	4	-5	0
A2. New public sector loans on less favorable terms in 2010-2030 2	2	2	2	2	2	2	4	1
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2011 -2012	2	3	6	6	7	7	8	2
B2. Export value growth at historical average minus one standard deviation in 2011 -2012 3/	2	2	4	7	8	7	14	3
B3. US dollar GDP deflator at historical average minus one standard deviation in 2011 -2012	2	4	8	8	9	9	10	3
B4. Net non-debt creating flows at historical average minus one standard deviation in 2011 -2012 4/	2	2	6	9	10	10	21	4
B5. Combination of B1-B4 using one-half standard deviation shocks	2	3	12	19	21	20	43	8
B6. One-time 30 percent nominal depreciation relative to the baseline in 2011 5/	2	3	4	4	4	4	5	1
Memorandum item:								
Grant element assumed on residual financing (i.e., financing required above baseline) 6/	14	14	14	14	14	14	14	14

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.

DSA TECHNICAL TEAM

TECHNICAL ADVISOR/RESOURCE PERSON:

1. Mr. Baba Musa	-	WAIFEM
------------------	---	--------

TECHNICAL MEMBERS:

1.	Dr. Magaji Mahmoud	-	DMO
2.	Mr. Joe Ugoala	-	DMO
3.	Mrs. Janet Jiya	-	DMO
4.	Mr. Atiku Saleh	-	DMO
5.	Mr. Ibrahim Natagwandu	-	DMO
6.	Mrs. Hannatu Suleiman Onuja	-	DMO
7.	Dr. Asheikh Maidugu	-	DMO
8.	Mr. Ibrahim Aliyu	-	DMO
9.	Mrs. Funmi Olasoji	-	DMO
10.	Mrs. Idowu Akodu	-	DMO
11.	Mrs. Jummai Sa'id	-	DMO
12.	Mr. Akin Aimola	-	DMO
13.	Mrs. Pamela Kumar	-	DMO
14.	Mr. Popoola Lukmon	-	DMO
15.	Mr. Micheal O.	-	DMO
16.	Mr. Shagaya Hakeem	-	FMF
17.	Mr. C. O. Ojong	-	FMF
18.	Mr. Nazeer Bello	-	BOF
19.	Mr. Okunola Ismail	-	BOF
20.	Mr. Sam C. Rapu	-	CBN
21.	Mr. G.K. Sanni	-	CBN
22.	Mr. Musa A. U.	-	CBN
23.	Mr. Babatunde Lawal	-	NPC
24.	Mr. Philip Obasi	-	NPC
25.	Mr. Austen Anyakurah	-	NBS

