Journal of Financial Risk Management, 2022, 11, 116-141
https://www.scirp.org/journal/jfrm
ISSN Online: 2167-9541
ISSN Print: 2167-9533

# Excessive Internal Borrowings and Debt Management: Implications on the Nigerian Economy

**Victor Ebuka Okeke[1], Clement Nwakoby[1], Nonso Evaristus Okeke[2]**

[1]Department of Banking and Finance, Faculty of Management Sciences, Nnamdi Azikiwe University, Awka, Nigeria
[2]Centre for Thermal Energy and Materials, Cranfield University, Cranfield, UK
Email: Okekevictor23@gmail.com, clementnwakoby@yahoo.com, Nonso.E.Okeke@cranfield.ac.uk

**How to cite this paper:** Okeke, V. E., Nwakoby, C., & Okeke, N. E. (2022). Excessive Internal Borrowings and Debt Management: Implications on the Nigerian Economy. *Journal of Financial Risk Management, 11,* 116-141.
https://doi.org/10.4236/jfrm.2022.111006

**Received:** January 23, 2022
**Accepted:** March 7, 2022
**Published:** March 10, 2022



## Abstract

This study empirically reviewed the implications of excessive internal borrowing and debt management with particular emphasis on Nigeria. The study covered the period from 2000 to 2020. The study examined the concept, growth, and causes of Nigeria's domestic debt problem. It went further to study the strategies employed by government in managing domestic debt in Nigeria as well as the dominant factors that hampered domestic debt management which are poor management of borrowed funds, high cost of servicing domestic debt, excessive borrowings and rising budget deficit. Data were collected majorly from secondary source which includes Central Bank of Nigeria statistical bulletin, Debt Management Office publications and relevant journals and textbooks on financial system. Hypothesis were formulated, examining the impact of internal borrowings on Nigeria's economy, it's relationship with domestic debt servicing and its effect on rising budget deficit, and were tested and analyzed with the Regression analysis, correlation analysis, and the probability significance value using the Statistical Package for Social Science (SPSS) version 17. After the analysis, the work revealed that internal borrowings have affected the growth of the economy negatively, a positive relationship exists between domestic debt servicing and internal borrowings and that rising budget deficit has a negative impact on domestic debt. Based on these findings, the study recommends among others that the Federal Government should lay down well considered guidelines for internal loan, defining the purpose, duration, negotiation fee and conditions under which it can approve and guarantee a loan. Also limit domestic borrowings and mobilize untapped domestic resources as well as curb corruption in the country as borrowed funds are either misapplied or embezzled. If the Government and Debt Management Office employ the recommendations of this research, it would go a long way in boosting economic growth and development and to a positive extent ensure improvement in the overall economy of Nigeria.

**Keywords**

Debt Management, Internal Borrowing, Nigerian Economy

## 1. Introduction

The act of borrowing creates debt. This debt could either be internal or external. Internal debts are also regarded as domestic debts, which are borrowings and financial resources generated from local citizens and institutions. Oshadami (2006) defined domestic government debt as debt instruments issued by the Federal Government and denominated in local currency. In principles, states and local governments can also issue debt instruments but limited in their ability to issue such. External debt on the other hand refers to the resources of money in use in a country which is not generated internally and does in anyway come from any local citizens whether corporate or individual (World Bank, 1998). This paper will therefore focus on domestic debt and management of debt in the Nigerian economy within the study period as less attention has always been directed towards this.

Debt management is the gamut of institutional arrangement in organizing the liabilities of a country so that the debt service burden is kept within sustainable level. Nigeria's debt, like that of most other African countries appears to be on a ceaseless and perpetual increase (as shown in **Table A1**, Appendix 3). The more we pay, the more we seem to owe. Debt has become a milestone on Nigeria's neck, jeopardizing her economic growth. The need to finance rising government expenditures has been identified among other factors to be responsible for the rapid increase in the stock of Nigeria's domestic debt. Asogwa (2005), employed a more comprehensive technique in investigating the effect of domestic debt on economic growth, concluded that domestic debt in Nigeria has continued to suffer from confidence crisis as market participants consistently show greater unwillingness to hold longer maturity debts. The government has only been able to issue more of short-term debt instruments. The ongoing reaction of the government towards the uprising economic threatening domestic debts facing our beloved nation, Nigeria, just as recently, Minister of Finance and former Managing Director of World Bank, Okonjo Iweala, observes in anticipation that "The accumulating domestic debt of Nigeria poses to the economy unpleasant economic and political consequences as the negative effect can be perceived on the nation's Gross Domestic Production". This was followed by a further warning from the Debt Management Office, that internal debt represents about 75% of the nation's domestic debt with the remaining 25% for the external debt (DMO Annual Report, 2010). The office noted that this phenomenon has menacing economic implications towards the country. In this situation, a nation could witness such awful development as rising taxes to pay interest and debt, cut down on government services, debt default. The establishment of an effective and efficient debt management system is now widely recognized as a major element of a sound economic management strategy. Debt management arrangements in Nigeria have been characterized by major shortcomings. It was as a result of these shortcomings that the Federal Government of Nigeria took a major step by establishing an autonomous Debt Management Office (DMO) on October 4th, 2000, to centrally coordinate the management of Nigeria's debt which was hitherto being done by a myriad of establishments in an uncoordinated fashion.

### Significance of the Study

Reflecting the prevalent inefficient debt management system, this research work will be of immense importance to the following bodies:

1) The Nation and Government

This research work provides the government of the country and the nation at large with the problem faced before the review period, during the review period and also try as much as possible not to allow such problem to arise in the future. It will also give insight as to the benefit of efficient debt management like reduction or elimination of debt overhang and unsustainable high debt service burden, increase in the availability of foreign exchange for domestic savings which discourages capital flight.

2) Scholars and Academia Institutions

This research work will provide scholars and academia institutions with the knowledge in all areas of debt management, the problems the nation is facing on debt management, total amount of internal debt during the review period, how it can be well managed and the possible solutions to the internal debt burden. It also brings to their knowledge the various components that constitute the total internal debt of a nation.

3) Stakeholders

This work will go a long way in helping them identify favorable investment in the public or private sector since debt overhang is a significant factor influencing slowdown in investment.

4) General public

This research work will provide the general public with the benefits of internal borrowing if well managed and the knowledge that there is more to internal debt than just the total amount owed to Nigeria.

## 2. Literature Review

The need for studying debt has been seen from the amount of literature that has been written generally on debt management. This chapter is aimed at presenting the view of some writers and authorities, regarding the subject matter. For this purpose, data have been obtained from secondary sources which include the Debt Management Office Annual Report, CBN Statistical Bulletin, National Bureau of Statistics, Newspaper and other written sources of information.

## 2.1. Concept of Internal Borrowing

The debt obtained from people and institutions of a country by floatation of public debt instruments is called internal or domestic debt. Odozi (1996), in his opinion sees domestic debt as the gross liability of government. The internal debt is received in national currency. The internal debt is taken by the government with the Central Bank, commercial banks, financial institutions, and private and non-governmental organizations. The government raises internal debt from two sources:

1) Market borrowing

The market borrowing is the debt received by selling transferrable government securities in the market, for example, the debt raised by floatation of treasury bills and government bonds are the forms of market borrowing. Under market borrowing, the government raises debt from voluntary creditors by paying competitive interest rates. Usually, the facility of tax exemption is given to make government securities attractive. The short-term loans are raised through the treasury bills to finance current expenditure. On the other hand, the long-term loans are raised through development bonds to meet the development finance of long-term nature. The individuals and institutions of a country lend to the government by purchasing these securities.

2) Non-market borrowing

When the government borrows by means of non-transferable instruments, it is called non-market borrowing. The non-market borrowing is available from the following two sources:

a) Public sector

The non-market source of borrowing is public sector itself. The government takes loan from financial public enterprises, insurance companies, postal saving bank, provident fund and Central Bank. The government takes their unutilized funds as debts to meet the short-term requirements.

b) Private sector

The government raises loan from private enterprises. The private enterprises like commercial banks, finance companies, insurance companies, mutual fund, investment companies and pension fund should keep certain percentage of their reserves in the form of government securities.

## 2.2. Nigeria's Rising Domestic Debt Profile

The incorporation of domestic debt management functions into the Debt Management Office commenced in the second half 2002 (DMO Annual Report, 2005). Domestic indebtedness is simply debt denominated in local currency and consists of debt accruing from treasury bills, bonds and development stock issued by the Central Bank of Nigeria (CBN) through the issuance of government debt instruments (Anyafo, 1996).

Domestic debt reduction in Nigeria has taken a center stage in the economy as the domestic debt profile has been rising astronomically and if not controlled, could create some unfavorable consequences as crowding out private sector investment, poor GDP growth etc. (Okonjo-Iweala, 2010). An escalating debt profile presents serious obstacles to a nation's path to economic growth and development. The cost of servicing public debt (Domestic and External) may expand beyond the capacity of the economy to cope, thereby impacting negatively on the ability to achieve the desired fiscal and monetary policy objectives (Sanusi, 2003). Furthermore, a rising debt burden may constrain the ability of government to undertake more productive investment programs in billion and #.22 billion respectively. At the previous year (2003), the Treasury Bills remained the dominant instrument accounting for #872.57 billion or 64 percent of the total domestic debt stock. In the year 2004, the DMO made plans to build on the success of the 1st FGN Bonds floatation that were first issued in 2003. The DMO embarked on the arrangements to commence the issuance of bonds on a regular basis in small tranches that the market could accommodate.

Statistics obtained from the Debt Management Office indicates that the domestic debts had also increased from #1,525,906.60 billion as at 2005 to #2,725,947.30 billion, #4,127,973.50 billion and #2,320,310.00 billion in the year 2006, 2007 and 2008 respectively (as shown in **Table A2**, Appendix 3). Considering the economic implications of the nation's rising domestic debt profile, it becomes a major policy issue. The office further noted that this phenomenon has menacing economic implications towards the country as the debt witnesses uprising to have rising from #3,218,030.00 billion to #4,551,822.399 billion in the year 2009 and 2010 respectively. In absolute terms, Nigeria's domestic debt consumes a larger chunk of her Gross Domestic Production (GDP) thereby tending to decline in total output of goods and services. The sharp increase in Nigeria's domestic debt stock had grown sky-rocketed over the years, was attributable largely to the failure to embark on necessary adjustment, particularly at the time of declining revenue. That resulted in growing fiscal deficits and further domestic debt accumulation. Secondly, the banking system mainly the CBN remains the dominant holder of Federal Government securities. It bears repeating that one of the major problems that have hindered the attainment of macro-economic stability and sustainable growth has been the excessive reliance by the Federal Government on borrowing from the banking system, particularly the CBN, to finance its large and unsustainable fiscal deficits. Borrowings from the CBN amounts to the injection of high-powered money into the system, which has serious adverse implications on price and exchange rate stability. The borrowed money must be prudently utilized in the execution of productive projects in order to enhance the capacity for repayment of both the principal and interests as they fall due. An effective debt management requires that borrowed resources must be productively utilized such that the economic and social rate of return is higher than the future cost of servicing the loan. A debt problem would naturally ensue when the resources that should have been deployed for the execution of productive projects are employed in the financing of current or past consumption.

## 2.3. Reasons for the Growth of Domestic Debt Stock

Theoretically, there are three reasons often advanced for government domestic debt (Alison, 2003). The first is for budget deficit financing, the second is for implementing monetary policy and the third, is to develop the financial sector (supplying tradable financial instrument so as to deepen the financial market).

It is pertinent to underscore the reasons for the upward trend in the domestic debt stock over the years. The domestic debt stock of #4,551,822.39 in the year 2010 may seem a fairly large amount, its size largely reflects the cumulative effects of financing Nigeria's budget deficits in the past, including public sector capital expenditure needs. The increases between 2005 and 2007 are accounted for by different set of factors, reflecting a shift towards market-based funding of government deficits as well as productive uses of domestic borrowings, for example in 2005, the domestic debt stock increased by #155.6 billion bringing the total to #1,525,906.60 billion. This increase was accounted for by the issuance of 2nd FGN Bonds to fund capital expenditure of #108.3 billion, and 2005 budget deficit of #70 billion.

2006, the domestic debt stock increased to #2,725,947.30 billion mainly due: o the issuance of #45 billion under the 3rd FGN Bond to finance budget deficits, #15 billion as Agency Bonds to support 3 Development Finance Institutions, namely the Bank of Industry (BOI), the Federal Mortgage Bank, as well as the Nigerian Agricultural and Rural Development Bank, and #75 billion and #91.6 billion as special Bonds to settle the lingering Pension Arrears and Local Contractor's debts, respectively, after thorough verification exercises by the National Pension Commission and the Budget Office of the Federation (BOF). The #110.5 billion increases recorded as at End-March 2007 is directly attributed to the #80 billion parts funding of the budget deficit for the year, the #25 billion NTBs in FGN's support to the TINAPA project, which the Cross-River state government (CRSG) repaid according to an operating schedule. From the foregoing, it could be safely deduced that the increase in the level of the domestic debt stock over the years was largely due to financing of budget deficit, capital projects, bonds meant for supporting development finance institutions as well as final settlement of local contractor's debt and pension arrears. These are clearly productive, necessary and desirable objectives which are consistent with the generation of sustainable growth, shared prosperity and poverty reduction.

## 2.4. Causes and Effects of Domestic Debt Crisis

Question often arises as what are the causes of domestic debt trap? (Norinson, 2010), used the term "Internal debt trap" to describe internal debt crisis. In his analysis, internal debt trap is a situation where a country incurs a large amount of debt in comparison to its total income. In this case, the interest payment on debt reduces spending on government services such as road construction, power plants. He further noted that with the neglecting of due care, a nation could witness some of the negative consequences of internal debt crisis such as fast reduction in foreign investments, declining in national credit rating, reduction in productive investments, rising inflation rates. Debt trap occurs when the government borrowed for consumption rather than investment. Borrowing is traditionally meant for government productive sector. Despite the nations needs for capital investment, majority of government spending is always on pure consumption, which indicates that they disappear once they are used up and serve not future production needs. Some of the causes and effects of domestic debt crisis includes:

1) Mismanagement of public funds. Government decisions about how to allocate and spend financial resources have a direct impact on the well-being of citizens. However, the misallocation, abuse and mismanagement of public funds pose a tremendous challenge for the efficiency and effectiveness of development interventions and poverty reduction, citizen participation and civil society involvement in processes of public budgeting and financial management are essential for promoting transparency and accountability with regards to public finances, building safeguards against corruption and insuring that public monies are allowed equitably so that the interest and needs of poor and marginalize groups are adequately addressed.

2) Accumulating government debt can destroy the economy if faced with high debt burdens. Higher interest rates can also pose a dangerous situation, if an economy has most of its debts in short-term paper and outstanding debts are allowed to mature many years before repayment. Other causes include increase inefficiencies of public organization.

3) High rate of poverty. The welfare implications of domestic debt are that unemployment rate increase due to the closure of industries and decline in government finance on social service, infrastructure services, since most part of government revenue are used to service the debt, the resultant effect of all these is that the rate of poverty continue to rise in the country.

4) Large internal domestic debt tends to crowd out private investment. The process of crowding out arises from the fact that once the government borrows heavily from the domestic market, a shortage of loan able funds arise forcing interest rate up which is the situation between 1994 and 2003, a period of large deficit financing, interest rate was an average of 23.05 percent but between 2004 and 2008; a period of low deficit financing and lower debt ratio, interest on the average reduced to 19.23 percent.

5) High domestic debts are bound to put pressure on government at the point of repayment as this may cause the government priorities, while introducing

measures to reduce the nation domestic debts profile, greater attention needs to repaid to viable investment initiatives. If the government can ensure huge returns for private owners, the impacts will be better felt by all and sundry instead of continuous borrowing.

6) Another factor that coincides with the domestic debt crises is the recurrent budget deficit which also causes the nation to be borrowing from financial institutions. With the nation's abundant human and natural resources, the question that continues to agitate the mind is the reason for our continuous borrowing both externally and internally. This unanswered question poses a lot of leadership challenges for the nation. In other words, the nation's infrastructural deficits and poor living condition of people are part of the resultant effect of domestic borrowing.

## 2.5. Background to the Creation of Debt Management Office

In October 2000, the Nigerian government established a Debt Management Office (DMO) to verify individual statements with creditor's statements and improve the efficiency of debt management. According to This Day Newspaper (2000), it was written that some time ago, the Obasanjo government advertised for consultants who would advise the government on the management of Nigeria's debt. There was some intense lobbying by two camps that emerged. One camp did not want the Debt Management Office (DMO) involved in servicing and managing Nigeria's huge debt. The other camp insisted that there was no need to engage the services of consultants and wanted the Debt Management Office to continue to manage Nigeria's debt. Those who believed that the Debt Management Office, as it was then staffed and structured, should not be involved in managing Nigeria's debt accused the agency of messing things up. They pointed to accusations by some states that the amount of their debt in their records and the record at the DMO were different. Another speculation that has been out there for a while is the time difference between when money is appropriated for debt servicing and institutions.

Notwithstanding, the establishment of an effective and efficient debt management system is now widely recognized as a major element of a sound economic management strategy, because of the crucial link with fiscal and monetary policy as well as overall macro-economic management (This Day Newspaper, 2000). For a long time, debt management arrangement in Nigeria has been characterized by major shortcomings. One area of weakness was the diffusion of responsibilities across a multitude of agencies. At the beginning of 2000, responsibilities for debt servicing were split across seven different agencies or government departments via External Finance Department of the Ministry of Finance, African and Bilateral Economic Relations Department of the Ministry of Finance, Multilateral Institutions Department of the Ministry of Finance, Home Finance Department of the Ministry of Finance, Treasury Department of the Accountant General's office, Debt Management Department of Central Bank, Debt Conversion Committee, Secretariat of the Central Bank, and the Public Debt Office of the-Central Bank (Ministry of Finance, 2000).

Cooperation and collaboration among these different agencies were weak and information flow poor. The diffusion in the management of the public debt created fundamental problems, including the following:

1) Operational inefficiency and poor coordination,

2) Inadequate debt data recording system and poor information flow across agencies with consequent inaccurate and incomplete debt records,

3) Extreme difficulty in the verification of creditors' claims due to conflicting figures from the various bodies handling the debt management function,

4) Lack of consistent and well-defined borrowing policies and debt management strategies,

5) Complicated and inefficient debt service arrangements which created protracted payment procedure and often led to penalties that added to the nation's debt stock.

In consideration of these myriads problems, led the Federal Government of Nigeria to support the establishment of a relatively autonomous Debt Management Office (DMO) which resulted in the formation of DMO in October 4th, 2000. The need for the creation of separate public debt management office was therefore aimed at achieving the following advantages:

1) Good debt management practices that make positive impact on economic growth and development, particularly in reducing debt stock and cost of public debt servicing in a manner that saves resources for investment in poverty reduction program,

2) Prudently raising finance to fund government deficits at affordable cost and manageable risk in the medium and long-term,

3) Achieving positive impact on overall macro-economic management including monetary and fiscal policies,

4) Consciously avoiding debt crises and achieving an orderly growth and development of the national economy,

5) Improving the nations borrowing capacity and its ability to manage debt efficiently in promoting economic and national development.

## 2.6. Functions and Objectives of Debt Management Office (DMO)

The broad objectives of establishing the DMO are to rationalize and streamline the management of the country's debt with a view to sharpening strategic focus and operational efficiency. The DMO specific functions include:

1) Maintaining a comprehensive inventory together with a forecast of debt service,

2) Provision of timely and accurate information on the country's debt to assist policy makers and improve transparency in debt management,

3) Publishing up-to-date statistics so as to improve transparency in debt management,

4) Effect debt service payment accurately and on time,

5) Conducting risk analysis and developing appropriate risk management policies,

6) Conducting debt sustainability analysis to access optimal borrowing levels,

7) Accessing lending terms from various sources and negotiating best possible terms for future borrowing (DMO Annual Report, 2006).

### 2.7. Domestic Debt Management Strategy

In line with the practice of many governments, funding gap may be from domestic market. In order to maintain a variable domestic market and keep borrowing cost low, the DMO focuses on the key aspects of transparency, liquidity and regularity. For this reason, the DMO issues bonds on a regular, pre-announced basis in order to build benchmarks for fixed income securities. To further broaden and deepen the domestic bond market through the introduction of a variety of government securities, the use of appropriate technology to aid effective and efficient issuance and trading, the improvement of a regulatory framework, and the facilitation of the issuance of corporate bonds by the private sector for the development of the real sector of the economy, the DMO Act empowers the DMO in collaboration with the CBN and OAGF to determine among others the floatation of Federal Government long-term securities to raise funds in the capital market, the type of securities that may be created, issued or floated to achieve the domestic debt management objectives of the Federal Government, the payment of interest, the maintenance of a register of holders, the redemption of securities at maturity, and the creation and management of sinking funds to provide for redemption of securities at maturity.

An important issue regarding guidelines for domestic borrowing is what should be the appropriate ratio between the debt stock and the GDP. For domestic debt, there are no internationally established standard yet but the DRI has recommended a domestic debt stock to GDP ratio of 20-25 percentage (DMO Annual Report, 2012). Given Nigeria's economic conditions, the need to avoid a relapse into debt un-sustainability, as well as the emphasis on domestic debt market, a domestic debt stock to GDP ratio of 25 percent is recommended. Accordingly, the following appropriate guidelines have been developed:

1) Domestic Borrowing

The following general provisions will apply to all categories of loans to be contracted by the sub-nationals:

a) Any borrowing by a sub-national shall be the obligation solely of that particular sub-national unless explicitly guaranteed by the sovereign.

b) The obligations of the sub-national in any contractual loan shall be as stipulated in any agreement in respect of the loan.

c) All sub-national borrowings shall be subject to public disclosure and periodic updates to any original disclosure and the disclosure of material facts shall be the affirmative duty and specifically assigned function of appointed officials, lender's representatives, issuing houses, underwriters and other market participants.

d) Sub-nationals shall devise or put in place a collateral arrangement such as a sinking fund to hedge against potential default to protect investors.

2) Borrowings from Capital Market

The Investments and Securities Act No. 29 2007 (ISA) provides for borrowing by raising of internal loans through issue of securities in the form of Registered Bonds or Promissory Notes by States, Local Governments, and other Government Agencies. Section 222 of ISA defines the bodies to which ISA provisions apply, to include:

- State Governments and the Federal Capital Territory, Abuja.
- Local Governments.
- Any statutory body established by the law of a state of Local Government.
- Any company which is wholly or partly owned by a State or Local Government.

The provision of the Act includes the following:

a) Any internal loan to be raised from the capital market must conform to the requirements of ISA and as may from time to time be directed by the Securities and Exchange Commission (SEC).

b) Before any application is made for contracting a loan from the capital market, such a body making the application must obtain the approved Resolution of the State House of Assembly and the State Executive Council in the case of States and Local Government.

c) All applications to raise funds from the capital market shall, amongst other documents, be accomplished by an original copy of an Irrecoverable Letter of Authority giving the Accountant General of the Federation the authority to deduct at source from the statutory allocation due to the body, in the event of default by the body in meeting its payment obligations under the terms of the loan and the relevant Trust Deed.

3) Borrowing from Commercial Banks

As part of their domestic capital raising options, the sub-nationals may borrow from commercial banks. Such borrowings should be in line with the following:

a) Without prejudice to the provisions of the Nigerian Constitution, "All banks and financial institutions requesting to lend money to the Federal, State and Local Governments or any of their agencies, shall obtain the prior approval of the Minister of Finance in accordance with section 24 of the DMO Act, 2003 and the Fiscal Responsibility Act, and shall state the purpose of borrowing and the tenor".

b) All commercial banks' lending to a sub-national must make a provision (currently 50%) on all such loans in line with the prudential Guidelines of the CBN.

c) Sub-nationals should immediately, upon contracting of a commercial bank loan, furnish to the DMO with details of the loan. The lending bank should furnish DMO and the borrowing sub-national's DMD, where in existence, on a periodic basis with reports on various stages of drawdown on the facility and utilization of same by the borrower.

### 2.8. Empirical Study

The need to finance rising government expenditures has been identified to be responsible for the rapid increase in the stock of Nigeria's domestic debt. Gbosi (1998) opined that borrowing by government from the domestic economy became the main source of financing government expenditure due to the collapse in prices of oil in the international market. He asserts that despite the various efforts made by the government to rationalize public expenditure, much success has not been achieved in reducing its spending and this has continuously raised the size of the domestic debt.

Christensen (2004) analyses the role of domestic debt market in 27 Sub-Saharan African countries (including Nigeria) based on data spanning the period 1980-2000. The study sought to establish whether domestic borrowing crowded out private sector lending in the period. The study found that domestic debt market in these countries were generally small, highly short term, and had a narrow investor base. Theoretically, the process of crowding out arises when government borrows heavily from the domestic market, there would be shortages of loan able funds which drives interest rates up leading to the reduction of private borrowing and hence limiting private investment. The proponents of free market argue that government intervention in the economy should be minimal as state activities compete with private sector for scarce funds in the economy thereby driving price up. The end result is crowding out of private investments by public sector projects.

Ajayi (1989) traces the origin of Nigeria's debt problems to the collapse of the international oil price in 1981 and the persistent suffering of the international oil market and partly due to domestic lapses. As a result of the debt problem, credit facilities gradually dried up, which led to a number of project getting stalled. He advocated the revival of the economy growth as the best and most durable solution to the debt burden. The needed growth, however, is disturbed by two factors, which include, limitation imposed by inappropriate domestic policies and the external factors, which are beyond the control of the economy.

Sanusi (1988), was of the view that faulty domestic policies which ranges from project financing mismatch, inappropriate monetary and fiscal policies was responsible for domestic borrowing problem. He believes that some of the policies were of little significance because of the perceived temporary effect of the external shocks. The expansionary policies, he believes, led to stupendous macroeconomic fallout, which encourage import and discourage export production Ahmed (1984) reflected the causes of debt problem as related to both the nature of the economy and the economic policies put in place by the government. He articulated that the developing economies are characterized by heavy dependence on one or few agricultural and mineral commodities and export trade is highly concentrated on the other. The manufacturing sector is mostly at the infant stage and relies heavily on imported inputs. To him, they are dependent on the developed countries for supply of other input and finance needed for economic development, which made them vulnerable to external shocks.

James (2006) opined that public debt has no significant effect on the growth of the Nigeria economy because the fund borrowed were not channeled into productive ventures, but diverted into private purse. He suggested further, that, for the gains of the debt forgiveness to be realized the War Against Corruption should be fought to the highest.

Oshadami (2006) in her own study concluded that the growth of domestic debt has affected negatively the growth of the economy. This situation is premise on the fact that majority of the market participant are unwilling to hold longer maturity and as a result the government has been able to issue more of short-term debt instruments. This has affected the proper conduct of monetary policy and affected other macroeconomic variables like inflation, which makes proper prediction in the economy difficult.

### 2.9. Statement of Hypotheses

In order to ascertain the objectives of the study and answer the research questions, the following hypotheses will be tested.

1) HO: Internal borrowings have no significant impact on economic growth in Nigeria.

2) HO: There is a negative relationship between domestic debt servicing and internal borrowings in Nigeria.

3) HO: Rising budget deficit has a negative effect on internal borrowing in Nigeria.

## 3. Research Methodology

This study empirically investigated the excessive internal borrowings and debt management in Nigeria. The study covered the period from 2000 to 2020 and adopted an expos-facto research design in order to explain the relationship between the independent and dependent variables.

### 3.1. Method of Data Collection

The data for this research will be obtained from secondary sources, particularly from Debt Management Office (DMO) Annual Report, Central Bank of Nigeria (CBN) Statistical Bulletin, National Bureau of Statistics, and relevant journals, textbooks on financial system in Nigeria.

### 3.2. Method of Data Analysis

To test the stated hypothesis, the researcher employed regression analysis, correlation analysis and the probability significance value to test the hypothesis. For easy computation, Gross Domestic Product, Domestic Debt, External Debt, Total Debt, Total Budget Deficit, Domestic Debt Servicing and Domestic Debt Outstanding in the Nigeria economy were computed and used as valued computations necessary for testing the stated hypothesis.

### 3.3. Model Specification

Objective 1

As mentioned earlier, the models will be derived from the research hypothesis. The researcher in order to ascertain objective number one, will develop his model as follows;

$$GDP = (DD, ED, TD)\mu \tag{1}$$

where

GDP = Gross Domestic Product, a proxy for economic growth in Nigeria (Dependent Variable);

DD = Total domestic debt in Nigeria, a proxy for internal borrowing (Independent Variable);

ED = Total external debt in Nigeria, a proxy for external borrowing (Independent Variable);

TD = Total debt in Nigeria (Independent Variable); and

$\mu$ = error term.

The regression results for Equation (1) is shown in Appendix 1

Objectives II and III

The researcher in order to ascertain objective number two and three will develop his model as follows;

$$Y = (X_1, X_2, X_3)\mu \tag{2a}$$

where;

$Y$ = Total domestic debt, a proxy for internal borrowings in Nigeria (Dependent Variable);

$X_1$ = Total domestic debt servicing in Nigeria (Independent Variable);

$X_2$ = Total budget deficit in Nigeria (Independent Variable);

$X_3$ = Total domestic debt outstanding in Nigeria (Independent Variable); and

$\mu$ = Error Term.

Mathematical expression will be thus:

$$\Delta LY = a_0 + a_1 LX_1 + a_2 LX_2 + a_3 LX_3 + \varepsilon_t \tag{2b}$$

where:

$a_0$ - $a_3$ = parameters;

$LX_1$ - $LX_3$ = Log of proxies in the Nigeria public finance;

$\Delta LY$ = Log of internal borrowings in Nigeria; and

$\varepsilon_t$ = error term.

The regression results for Equations (2a) and (2b) is shown in Appendix 2.

Equations (1), (2a) and (2b) when regressed will be used in testing the hypothesis of the research work.

### 3.4. Estimation Technique

Equations la will be estimated by Ordinary Least Square (OLS) method using the Statistical Package for Social Science (SPSS) 17.

The following results will be achieved after the data have been regressed;

- Correlation, which has to do with the relationship between the variables;
- Coefficient of determination (R), which shows how the dependent variable is being explained by the independent variable(s);
- F* Statistics test, which is used to test if there is a significant relationship between the dependent and independent variables;
- The coefficients, which is used to explain or interpret the model; and
- P Value (sig), which is the probability value of the variables. It can also be used to test a hypothesis.

Decision rule

- For correlation, a positive coefficient of the equation indicates that the dependent and independent variable increases at the same pace, vice versa;
- For the coefficient of determination ($R^2$), the higher the $R^2$, the better the "goodness of fit" of the regression equation while the closer the $R^2$ to zero, the "worst the fit";
- For the F* Statistics test, if the prob. Value of F* < .05, we accept that the regression equation is statistically significant; and
- For the test of the hypothesis, if prob. (sig.) < .05, we accept the alternative hypothesis then reject the null hypothesis.

## 4. Data Presentation and Analysis

In this section, we present and interpret the result from the regression analysis to answer the research questions;

1) To what extent has internal debt affected economic growth in Nigeria?

2) What kind of relationship exists between domestic debt servicing and internal borrowings in Nigeria?

3) To what extent has the rising budget deficit affected internal borrowings in Nigeria?

### 4.1. Data Presentation

The data presented in **Table 1**, illustrates the gross domestic product, domestic debt, external debt and total debt in Nigeria between the year 2000 to 2020.

Similarly, **Table 2** also provides information on Nigeria's domestic debt servicing. Budget deficit and total domestic debt outstanding as well as a breakdown of each between the year 2000 to 2020.

The data reported in **Table 1** and **Table 2** are discussed in greater detail in section 4.2. The important finding from the analysis of the data is to help address the following statement of the problem.

Owing to poor management of borrowed funds and the national economy itself through the selection of inappropriate economic policy which tends to negatively affect the economy.

The high cost of servicing domestic debt may expand beyond the capacity of the economy to cope, thereby impacting negatively on the ability to achieve the desired fiscal and monetary policy.

Excessive domestic debt in Nigeria, poses to the economy unpleasant economic and political consequences as the negative effect can be perceived on the nation's gross domestic production.

Faulty domestic policy which ranges from project finance mismatch, rising budget deficit, inappropriate monetary policy and fiscal policy are responsible for domestic borrowing problem.

**Table 1.** Showing gross domestic product, domestic debt, external debt and total debt in Nigeria (2000-2020).

| Years | GDP (Nbn) | Domestic debt (Nbn) | External debt (Nbn) | Total debt (Nbn) |
|---|---|---|---|---|
| 2000 | 329.1 | 898.25 | 3097.38 | 3995.64 |
| 2001 | 356.9 | 1016.97 | 3176.29 | 4193.27 |
| 2002 | 433.2 | 1166.00 | 3932.88 | 5098.89 |
| 2003 | 477.5 | 1257.12 | 4478.33 | 5808.01 |
| 2004 | 527.5 | 1297.77 | 4890.27 | 6260.59 |
| 2005 | 561.9 | 1275.08 | 2695.07 | 4220.98 |
| 2006 | 595.8 | 2082.01 | 451.46 | 3117.41 |
| 2007 | 634.2 | 2941.81 | 431.08 | 4559.05 |
| 2008 | 672.2 | 2320.31 | 493.18 | 2813.49 |
| 2009 | 716.9 | 3228.03 | 590.44 | 3808.47 |
| 2010 | 775.5 | 4551.82 | 689.85 | 5241.67 |
| 2011 | 575.1 | 5622.84 | 896.85 | 6519.69 |
| 2012 | 599.2 | 6537.53 | 1026.90 | 7564.43 |
| 2013 | 632.1 | 7118.97 | 1387.33 | 8506.30 |
| 2014 | 671.5 | 7904.02 | 1631.50 | 9535.52 |
| 2015 | 690.2 | 8,837.00 | 2,111.51 | 10,948.51 |
| 2016 | 679.3 | 11,058.20 | 3,478.91 | 14,537.11 |
| 2017 | 684.9 | 12,589.50 | 5787.51 | 18,377.01 |
| 2018 | 697.9 | 12,774.40 | 7,759.20 | 20,533.60 |
| 2019 | 518.6 | 14,272.63 | 9,022.42 | 23,295.05 |
| 2020 | 775.5 | 16,023.89 | 12,705.60 | 28,729.49 |

Source: Central Bank of Nigeria Statistical Bulletin, 2020.

Table 2. Showing domestic debt servicing, budget deficit and total domestic debt outstanding in Nigeria (2000-2020).

| Years | Domestic debt servicing (Nbn) | Overall budget surplus (+)/deficit (−) (Nm) | Total domestic debt outstanding (Nbn) |
|---|---|---|---|
| 2000 | 3834.90 | −598.5 | 898,253.90 |
| 2001 | 19,232.10 | −23,408.20 | 1,016,974.00 |
| 2002 | 324,251.70 | −54,719.50 | 1,166,000.70 |
| 2003 | 71,030.90 | −66,162.60 | 1,329,680.00 |
| 2004 | 4396.80 | −11,113.30 | 1,370,325.00 |
| 2005 | 22,557.10 | −58,948.40 | 1,525,906.60 |
| 2006 | 26,954.00 | −43,026.50 | 2,725,947.30 |
| 2007 | 5860.10 | −50,733.00 | 4,127,973.50 |
| 2008 | 25,735.20 | −47,402.60 | 2,320,310.00 |
| 2009 | 162,271.70 | −186,239.80 | 3,218,030.00 |
| 2010 | 225,795.03 | −132,097.55 | 4,551,822.39 |
| 2011 | 108,520.00 | −115,850.00 | 5,622,840.00 |
| 2012 | 97,570.00 | −97,580.00 | 6,537,530.00 |
| 2013 | 115,350.00 | −115,350.00 | 7,118,970.00 |
| 2014 | 83,570.00 | −83,570.00 | 7,904,020.00 |
| 2015 | 115,780.00 | −155,780.00 | 8,837,000.00 |
| 2016 | 267,380.00 | −267,380.00 | 11,058,200.00 |
| 2017 | 23,690.00 | −360,940.00 | 12,589,500.00 |
| 2018 | 255,480.00 | −362,810.00 | 12,774,400.00 |
| 2019 | 482,060.00 | −482,060.00 | 14,272,630.00 |
| 2020 | 617,180.00 | −617,180.00 | 16,023,890.00 |

Source: Central Bank of Nigeria Statistical Bulletin, 2020.

## 4.2. Data Analysis

The coefficient of determination ($R^2$)

In the regression model shown in Table 3, the $R^2$ obtained is .802 this implies that 80.2% of GDP is explained by the changes in the explanatory or independent variables. This indicates that it is a good fit because it tends closer to one. The model is explained properly.

The F statistics test

The F-statistics is used to test it or not there is a significant relationship between the dependent and independent variable in the regression equation.

As presented in Table 3, the calculated F* is 9.472 while its probability value (Sig. F*) is .007. Since .007 is less than .05, we accept that the regression equation is statistically significant; meaning that there is a significant relationship between the dependent and independent variables in the regression equation.

Table 3. Showing the values of F* statistics and coefficient of determination ($R^2$) for equation 1.

| Model | $R^2$ | F* | Sig. F* |
|---|---|---|---|
| GDP | .802 | 9.472 | .007 |

From the foregoing results in Table 4, the constant value of 375.185 implies that without the predictors used, economic growth (GDP) will increase by 375.185 units. A unit increase in domestic debt (DD) will lead to a .098 increase in economic growth. Also, a unit increase in external debt in Nigeria (ED) will lead to a .012 decrease in economic growth. Finally, a unit increase in total debt in Nigeria (TD) will lead to a .002 increase in economic growth in Nigeria.

The coefficient of determination ($R^2$)

According to the regression model shown in Table 5, the R obtained is .953 this implies that 95.3% of Y is explained by the changes in the explanatory or independent variables. This indicates that it is a good fit because it tends closer to one. The model is explained properly.

The F*-statistics test

The F-statistics is used to test if or not there is a significant relationship between the dependent and independent variable in the regression equation.

As illustrated in Table 5, the calculated F* is 47.235 while its probability value (Sig. F*) is .000. Since .000 is less than .05, we accept that the regression equation is statistically significant; meaning that there is a significant relationship between the dependent and independent variables in the regression equation.

The Pearson Correlation, as depicted in Table 6, shows the strength of relationship between the variables. The correlation between $Y$ and $XI$ is .336 which implies a weak positive relationship between the two variables. The positive sign implies direct proportion of the variables i.e. as total domestic debt grows, domestic debt servicing also increases.

The correlation between $Y$ and $X_2$ is −.738 which implies a negative relationship between the two variables. This means that as domestic debt grows, budget deficit decreases.

Finally, the correlation between $Y$ and $X_3$ is .957 which implies a positive relationship between the two variables. This means that as total domestic debt outstanding grows, domestic debt increases.

In the regression model illustrated in Table 7 the constant value of 55.397 implies that without the predictors used, internal borrowings ($Y$) will increase by 55.397 units. A unit increase in domestic debt servicing ($X_1$) will lead to a .001 increase in domestic debt. Also, a unit increase in budget deficit in Nigeria ($X_2$) will lead to a .004 decrease in domestic debt. Finally, a unit increase in total outstanding domestic debt ($X_3$) will lead to a .001 increase in domestic debt in Nigeria.

### 4.3. Test of Hypotheses

Hypothesis I

**Table 4.** Showing the coefficients, T value and probability significance value for equation 1.

| Model | | Unstandardized Coefficients | | T | Sig. |
|---|---|---|---|---|---|
| | | B | Std. Error | | |
| 1 | (Constant) | 375.185 | 117.553 | 3.192 | .015 |
| | DD | .098 | .074 | 1.329 | .226 |
| | ED | −.012 | .067 | −.173 | .867 |
| | TD | .002 | .073 | .024 | .982 |

**Table 5.** Showing the values of F* statistics and coefficient of determination ($R^2$) for Equation (2).

| Model | $R^2$ | F* | Sig. F* |
|---|---|---|---|
| Y | .953 | 47.235 | .000 |

**Table 6.** Showing the correlation between the variables for Equation (2).

| | | $Y$ | $X_1$ | $X_2$ | $X_3$ |
|---|---|---|---|---|---|
| Pearson Correlation | $Y$ | 1.000 | .336 | −.738 | .957 |
| | $X_1$ | .336 | 1.000 | −.554 | .198 |
| | $X_2$ | −.738 | −.554 | 1.000 | −.622 |
| | $X_3$ | .957 | .198 | −.622 | 1.000 |
| Sig. (1-tailed) | $Y$ | . | .156 | .005 | .000 |
| | $X_1$ | .156 | . | .039 | .280 |
| | $X_2$ | .005 | .039 | . | .021 |
| | $X_3$ | .000 | .280 | .021 | . |
| N | $Y$ | 11 | 11 | 11 | 11 |
| | $X_1$ | 11 | 11 | 11 | 11 |
| | $X_2$ | 11 | 11 | 11 | 11 |
| | $X_3$ | 11 | 11 | 11 | 11 |

**Table 7.** Showing the coefficients, T value and probability significance value for Equation (2).

| Model | | Unstandardized Coefficients | | T | Sig. |
|---|---|---|---|---|---|
| | | B | Std. Error | | |
| 1 | (Constant) | 55.397 | 191.056 | .290 | .780 |
| | $X_1$ | .001 | .001 | .692 | .511 |
| | $X_2$ | −.004 | .003 | −1.458 | .188 |
| | $X_3$ | .001 | .000 | 7.713 | .000 |

a. Dependent Variable: $Y$.

Base on the decision rule stated in section 3.3, since DDprob. (sig) i.e. .226. as shown in Table 4 is greater than .05; we therefore accept the null hypothesis. Therefore, we conclude that internal borrowings have no significant impact on economic growth in Nigeria.

Hypothesis II

From Table 6, the relationship between $X_1$ and $Y$ is .336, which shows a positive relationship; we therefore accept the alternative hypothesis which states that there is a positive relationship between domestic debt servicing and internal borrowing in Nigeria.

Hypothesis III

Since $X_2$ prob. (sig) i.e. .188, as shown in Table 7, is greater than .05; we therefore accept the Null hypothesis. Therefore, we conclude that rising budget deficit has a negative impact on domestic debt in Nigeria.

## 5. Conclusion and Recommendations

### 5.1. Conclusion

The summary of the findings of the study is presented below:

1) Internal borrowings have no significant impact on economic growth in Nigeria. This is in line with the empirical work of James (2006), who opined that domestic debt has affected the growth of the economy negatively. Production is low in Nigeria as a result of huge amounts that has been drawn out of the economy inform of domestic debt. As a result of government borrowings from the economy, the internal sector is negatively affected through low productivity and output.

2) There is a positive relationship between domestic debt servicing and internal borrowing in Nigeria, i.e. as total domestic debt grows, domestic debt servicing also increases.

3) Rising budget deficit has a negative impact on domestic debt in Nigeria. The increase in the level of domestic stock over the years was largely due to financing of budget deficit. This caused the nation to be borrowing from financial institutions, which in turn crowds out the private sector.

4) Mismanagement of public funds. Government decisions about how to allocate and spend financial resources have a direct impact on the well-being of the citizens. However, the misallocation, abuse and mismanagement of borrowed funds pose a tremendous challenge for the efficiency and effectiveness of development interventions.

Aid is not a lifetime entitlement. The developed countries are reforming their welfare system to encourage a transition from welfare to workfare, so, too does a country like Nigeria need an exit strategy to escape the entrapment of debt. Nigerians are being misguided to believe that borrowing is inevitable and sacrosanct for economic growth. Whatever the likely benefits derived from the huge internal borrowings, it is bound to have negative economic consequences on the citizens, with the current economic realities, it is imperative that the nation should initiate a comprehensive debt servicing plan. In designing the plan, the government needs to carefully re-examine the nation's borrowing culture with attendant consequences. When loans are incurred, it must be seen that they are repaid without much hardship on the economy and that such loans contribute to the growth of the productive capacity of the economy. In conclusion, the implications of excessive internal borrowings and debt management have been negative in terms of development and growth in Nigeria's economy.

### 5.2. Recommendations

Okonjo-Iweala, Soludo and Muhtar (2003), in their book The Debt Trap in Nigeria—Towards A Sustainable Debt Strategy, captured the salient points and recommendations proffered on reducing the debt burden, and management of domestic debt issue in Nigeria.

1) Firstly, the Federal Government should lay down well considered guidelines for internal loan, defining the purpose, duration, negotiation fee, including the conditions under which it can approve and guarantee a loan.

2) Limit domestic borrowing and mobilize untapped or idle resources such as agriculture, mining, information technology etc. and put these resources to effective use such that the revenue generated from these resources would be used to service her debt obligations rather than consistent borrowing from the domestic capital market and other sources.

3) The place of corruption in public debt in Nigeria is central. Most often, borrowed funds are either misapplied or embezzled. In this regard, government efforts at curbing corruption should be sustained.

4) The Debt Management Office is a step in the right direction. The DMO should be strengthened with appropriate legislation, human and financial resources, and an appropriate incentives framework to carry out its mandate. Government through its agency (DMO) should pay attention particularly to the source and the terms of repayment in contracting new loans. Short term, high and viable interest on loans should be minimized from the domestic capital market.

## Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

## References

Ahmed, A. (1984). Short and Medium Term Approaches to Solving African Debt Problems. *CBN BULLION, 12,* 22.

Ajayi, E. A. (1989). Nigerian Debt Management Experience. *CBN BULLION, 13,* 25.

Alison, J. (2003). *Key Issues for Analyzing Domestic Debt Sustainability*. Debt Relief International Publication.

Anyafo, A. M. O. (1996). *Public Finance in a Developing Economy: The Nigerian Case*. IBS Press.

Asogwa, R. C. (2005). *Domestic Government Debt Structure, Risk, Characteristics and Monetary Policy Conduct, Evidence from Nigeria*. Tulip Press Ltd.

Christensen, J. (2004). Domestic Debt Market in Sub-Saharan Africa. *IMF Journal, 2004,* 23. https://doi.org/10.2139/ssrn.878869

DMO Annual Report (2005). https://www.dmo.gov.ng/publications/reports/dmo-annual-report-statement-of-accounts/1049-dmo-2005-annual-report

DMO Annual Report (2006). https://www.dmo.gov.ng/publications/reports/dmo-annual-report-statement-of-accounts/1056-dmo-2006-annual-report

DMO Annual Report (2010). https://www.dmo.gov.ng/publications/reports/dmo-annual-report-statement-of-accounts/1765-dmo-2010-annual-report

DMO Annual Report (2012). https://www.dmo.gov.ng/publications/reports/dmo-annual-report-statement-of-accounts/1020-dmo-2012-annual-report

Gbosi, A. N. (1998). The Impact of Nigeria's Domestic Debt on Macroeconomic Environment. *First Bank Review Journal, 5,* 24.

James, F. (2006). *The Effects of Public Debt on the Growth of Nigerian Economy*. Unpublished B.Sc. Project, Department of Economics, Kogi State University.

Ministry of Finance (2000). *Economic Report for the First Half of 2000*. Publications/Reports/RD/2000/Half-Year 2000.

Norinson (2010). *Nigeria and Debt Trap Problems: Causes and Solutions*. A Paper Presented at a Conference Organized by the United Bank for Africa, PLC, Lagos.

Odozi, V. A. (1996). Nigeria's Domestic Public Debt Stock: An Assessment. *CBN Bullion, 20,* 11-23.

Okonjo-Iweala (2010). *Okonjo-Iweala Frets over Rising Domestic Liabilities*. The Nations Newspaper of 25 August, 2011.

Okonjo-Iweala, N., Soludo, C. C., & Muhtar, M. (2003). *The Debt Trap in Nigeria. Towards a Sustainable Debt Strategy*. African World Press Inc.

Oshadami, O. L. (2006). *The Impact of Domestic Debt on Nigeria's Economic Growth*. Unpublished B.Sc. Project, Department of Economics, Kogi State University.

Sanusi, J. O. (1988). *Genesis of Nigeria's Debt Problems, Problems and Prospects for Debt Conversion*. A Lecture Delivered on Debt Conversion/Asset Trading Organized by Continental Merchant Bank of Nigeria.

Sanusi, J. O. (2003). *Management of Nigeria's Domestic Debt*. Key Note Address by the Governor of the Central Bank of Nigeria at the 7th Monetary Policy Forum Organized by the Central Bank of Nigeria at the CBN Conference Hall, Abuja.

This Day Newspaper, 6th April (2000). *Nigeria. Debt Relief: Nigeria Signs Final Bilateral Agreement*.

World Bank (1998). *Managing Public Debt: From Diagnostics to Reform Implementation*. The World Bank.

# Appendix

## Appendix 1: Regression Results for Equation (1)

Descriptive Statistics

| | Mean | Std. Deviation | N |
|---|---|---|---|
| GDP | 552.79 | 144.351 | 11 |
| DD | 2.003197E3 | 1.1602726E3 | 11 |
| ED | 2.266021 E3 | 1.7708115E3 | 11 |
| TD | 4.465225E3 | 1.0662971E3 | 11 |

Correlations

| | GDP | DD | ED | TD |
|---|---|---|---|---|
| Pearson Correlation GDP | 1.000 | .892 | −.727 | −.162 |
| DD | .892 | 1.000 | −.756 | −.097 |
| ED | −.727 | −.756 | 1.000 | .692 |
| TD | −.162 | −.097 | .692 | 1.000 |
| Sig. (1-tailed) GDP | . | .000 | .006 | .318 |
| DD | .000 | . | .004 | .388 |
| ED | .006 | .004 | | .009 |
| TD | .318 | .388 | .009 | |
| NG DP | 11 | 11 | 11 | 11 |
| DD | 11 | 11 | 11 | 11 |
| ED | 11 | 11 | 11 | 11 |
| TD | 11 | 11 | 11 | 11 |

Model Summary

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Change Statistics | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | R Square Change | F Change | df1 | df2 | Sig. F Change |
| 1 | .896[a] | .802 | .718 | 76.705 | .802 | 9.472 | 3 | 7 | .007 |

a. Predictors: (Constant), TD, DD, ED.

ANOVA[b]

| Model | | Sum of Squares | Df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 167,185.421 | 3 | 55,728.474 | 9.472 | .007[a] |
| | Residual | 41,185.648 | 7 | 5883.664 | | |
| | Total | 208,371.069 | 10 | | | |

a. Predictors: (Constant), TD, DD, ED; b. Dependent Variable: GDP.

Coefficients[3]

| Model | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|
| | B | Std. Error | Beta | | |
| (Constant) | 375.185 | 117.553 | | 3.192 | .015 |
| DD | .098 | .074 | .787 | 1.329 | .226 |
| ED | −.012 | .067 | −.141 | −.173 | .867 |
| TD | .002 | .073 | .013 | .024 | .982 |

a. Dependent Variable: GDP.

## Appendix 2: Regression Results for Equations (2a) and (2b)

Descriptive Statistics

| | Mean | Std. Deviation | N |
|---|---|---|---|
| $Y$ | 2.003197E3 | 1.1602726E3 | 11 |
| $X_1$ | 8.108359E4 | 1.0840475E5 | 11 |
| $X_2$ | 6.131363E4 | 5.3826209E4 | 11 |
| $X_3$ | 2.204657E6 | 1.2899170E6 | 11 |

Correlations

| | | $Y$ | $X_1$ | $X_2$ | $X_3$ |
|---|---|---|---|---|---|
| Pearson Correlation | | | | | |
| | $Y$ | 1.000 | .336 | −.738 | .957 |
| | $X_1$ | .336 | 1.000 | −.554 | .198 |
| | $X_2$ | −.738 | −.554 | 1.000 | −.622 |
| | $X_3$ | .957 | .198 | −.622 | 1.000 |
| Sig. (1-tailed) | | | | | |
| | $Y$ | . | .156 | .005 | |
| | $X_1$ | .156 | | .039 | .000 |
| | $X_2$ | 005 | .039 | | .280 |
| | $X_3$ | .000 | .280 | .021 | .021 |
| N | | | | | |
| | $Y$ | 11 | 11 | 11 | 11 |
| | $X_1$ | 11 | 11 | 11 | 11 |
| | $X_2$ | 11 | 11 | 11 | 11 |
| | $X_3$ | 11 | 11 | 11 | 11 |

Model Summary

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Change Statistics | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | R Square Change | F Change | df1 | df2 | Sig. F Change |
| 1 | .976[a] | .953 | .933 | 300.8840018 | .953 | 47.235 | 3 | 7 | .000 |

a. Predictors: (Constant), $X_3$, $X_1$, $X_2$.

ANOVA[b]

| Model | | Sum of Squares | Df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 1.283E7 | 3 | 4,276,202.066 | 47.235 | .000[a] |
| | Residual | 633,718.278 | 7 | 90,531.183 | | |
| | Total | 1.346E7 | 10 | | | |

a. Predictors: (Constant), $X_3$, $X_1$, $X_2$; b. Dependent Variable: $Y$.

Coefficients[a]

| Model | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|
| | B | Std. Error | Beta | | |
| (Constant) | 55.397 | 191.056 | | .290 | .780 |
| $X_1$ | .001 | .001 | .070 | .692 | .511 |
| $X_2$ | −.004 | .003 | −.184 | −1.458 | .188 |
| $X_3$ | .001 | .000 | .829 | 7.713 | .000 |

[a]Dependent Variable: $Y$.

## Appendix 3

**Table A1.** External and domestic public debt stock and debt structure.

| Country name | Debt relief | Public debt in 2011 (percent of GDP) | Domestic public debt in 2011 (percent of GDP) | External public debt in 2011 (percent of GDP) | Growth in public debt/GDP in 1996-2011 (p.p.) | Growth in domestic public debt/GDP in 1996-2011 (p.p.) |
|---|---|---|---|---|---|---|
| Burundi | HIPC | 46.7 | 19.7 | 27 | −91.1 | 9.3 |
| Comoros | HIPC | 51.2 | 6.2 | 44.9 | −46.2 | 1.7 |
| Eritrea | HIPC | 135.3 | 95.6 | 39.7 | 87.7 | 54.3 |
| Ethiopia | HIPC | 32.2 | 14.2 | 18.1 | −103.3 | −10.0 |
| Ghana | HIPC | 45.5 | 24.2 | 21.4 | −36.7 | 8.9 |
| Guinea | HIPC | 66.8 | 10.8 | 56 | −15.0 | 7.9 |
| Guinea Bissau | HIPC | 44.1 | 18.3 | 25.7 | −276.2 | 12.2 |
| Haiti | HIPC | 24.5 | 14.3 | 10.2 | −14.0 | 1.3 |
| Kenya | HIPC | 50.2 | 25.9 | 24.4 | −6.9 | 12.1 |
| Nigeria | HIPC | 37.5 | 5.3 | 7.9 | -35.6 | -8.5 |
| Rwanda | HIPC | 24.9 | 7.6 | 17.3 | −64.6 | −8.8 |
| Solomon Islands | HIPC | 23.7 | 5.5 | 18.2 | −11.4 | −11.8 |
| Sierra Leone | HIPC | 61.4 | 15 | 46.5 | −60.5 | 10.2 |
| Togo | HIPC | 27.5 | 10 | 17.5 | −72.7 | 3.3 |
| Tanzania | HIPC | 39.5 | 9.9 | 29.6 | −71.7 | −8.7 |
| Uganda | HIPC | 28.9 | 9.8 | 19.1 | −32.7 | 8.2 |
| Yemen | HIPC | 43.7 | 25 | 18.6 | −30.2 | 23.5 |

Source: Databases on LIC public debt.

**Table A2.** Total domestic debt outstanding and trends in real GDP.

| Years | Total | Overall Budget Surplus (+)/Deficit (−) (#, m) | Domestic Debt Servicing (#, m) | Gross Domestic Product (#, bn) | GDP Growth Rate (%) | Domestic Debt Growth rate (%) |
|---|---|---|---|---|---|---|
| 2000 | 898,253.90 | −598.5 | 3834.90 | 329.1 | 7.4 | 11.51 |
| 2001 | 1,016,974.00 | −23,408.20 | 19,232.10 | 356.9 | 8.2 | 11.67 |
| 2002 | 1,166,000.70 | −54,719.50 | 324,251.70 | 433.2 | 21.2 | 12.78 |
| 2003 | 1,329,680.00 | −66,162.60 | 71,030.90 | 477.5 | 10.3 | 7.81 |
| 2004 | 1,370,325.00 | −11,113.30 | 4396.80 | 527.5 | 10.6 | 3.13 |
| 2005 | 1,525,906.60 | −58,948.40 | 22,557.10 | 561.9 | 5.4 | −1.78 |
| 2006 | 2,725,947.30 | −43,026.50 | 26,954.00 | 595.8 | 6.2 | 38.75 |
| 2007 | 4,127,973.50 | −50,733.00 | 5860.10 | 634.2 | 7 | 29.22 |
| 2008 | 2,320,310.00 | −47,402.60 | 25,735.20 | 672.2 | 6 | −26.78 |
| 2009 | 3,218,030.00 | −186,239.80 | 162,271.70 | 716.9 | 7 | 28.11 |
| 2010 | 4,551,822.39 | 132,097.55 | 225,795.03 | 775.5 | 8.01 | 29.08 |
| 2011 | 5,622,840.00 | −115,850.00 | 108,520.00 | 575.1 | −25.8 | 23.5 |
| 2012 | 6,537,530.00 | −97,580.00 | 97,570.00 | 599.2 | 4.1 | 16.3 |
| 2013 | 7,118,970.00 | −115,350.00 | 115,350.00 | 632.1 | 5.5 | 8.9 |
| 2014 | 7,904,020.00 | −83,570.00 | 83,570.00 | 671.5 | 6.23 | 11.02 |
| 2015 | 8,837,000.00 | −155,780.00 | 155,780.00 | 690.2 | 2.78 | 11.8 |
| 2016 | 11,058,200.00 | −267,380.00 | 267,380.00 | 679.3 | −1.58 | 25.1 |
| 2017 | 12,589,500.00 | −360,940.00 | 23,690.00 | 684.9 | 0.82 | 13.8 |
| 2018 | 12,774,400.00 | −362,810.00 | 255,480.00 | 697.9 | 1.9 | 1.45 |
| 2019 | 14,272,630.00 | −482,060.00 | 482,060.00 | 518.6 | −25.7 | 11.7 |
| 2020 | 16,023,890.00 | −617,180.00 | 617,180.00 | 775.5 | 49.5 | 12.3 |

Source: Central Bank of Nigeria and Debt Management Office.