

# Federal Government Domestic and External Debt: Implications on Nigeria's Economic Growth (1981-2015)

Laosebikan, J.O. (Ph.D.)<sup>1</sup>, Alao, J. A. (M.Phil.)<sup>2</sup>, Ajani, J. O. (M.Sc.)<sup>3</sup>,  
Alabi, F. A. (M.Sc.)<sup>4</sup> & David, J. O. (M.Sc.)<sup>5</sup>

Department of Business Administration, Bowen University, Iwo, Osun State, Nigeria  
<sup>1</sup>[johnsonlaosebikan@yahoo.com](mailto:johnsonlaosebikan@yahoo.com), <sup>2</sup>[alaojohn54@yahoo.co.uk](mailto:alaojohn54@yahoo.co.uk), <sup>3</sup>[ajanijohn@yahoo.com](mailto:ajanijohn@yahoo.com),  
<sup>4</sup>[falabious@yahoo.com](mailto:falabious@yahoo.com) & <sup>5</sup>[joslynks@yahoo.com](mailto:joslynks@yahoo.com)

## ABSTRACT

The overall objective of the research is to analyze the effect of public debt on the Nigerian economy. The study further identified the debt category that has the highest effect on GDP analyzed the trend growth of the two classifications of debt and determined the overall effect of domestic and external debt on the economy of Nigeria. It was revealed in the result that the data (which was screened for stationarity, and it was obvious that the data were stationary at that level and the first difference) is normal at 1%, 5%, and 10% levels of significance and the probability values for the interest rate is greater than 0.05 (0.13) while External debt (0.000), Domestic debt (0.000) and Federal government fixed capital formation (0.000) showed significant values less than 0.05, that is,  $p < 0.05$ . This means that both domestic and external debts of the federal government are statistically significant to economic growth. It was also discovered that the coefficients of domestic debt (0.068), external debt (0.026), interest rate (0.651) and fixed capital formation (1.87) all have positive effects on GDP. Nevertheless, domestic debt has the highest effect on GDP because it has a coefficient of 0.068 which is more than that of the external debt. A cointegration test was also carried out, and it was discovered that there were more than one cointegration equations among the variables. The trend analysis revealed that Federal government had incurred more of domestic debt from 1981 to 2015 than external debt. Invariably there was a considerable fall in the level of external debt in 2006 because of the debt relief was given to the Nigeria government by the various external bodies it was indebted to. Nevertheless, close to this same period and onward, the level of Nigerian domestic debts has drastically increased far and above the external debt. The regression result also revealed that the  $R^2$  squared value of 0.97 indicates that changes in economic growth which are measured by using GDP can be explained by Federal government debts (domestic and external), interest rate and Federal government fixed capital formation up to 97% level.

**Keywords:** Government, Domestic Debt, External debt, Economic Growth and Government

## 1. INTRODUCTION

Government's internal and external debt had been on the increase in the past few decades and in recent years which have resulted in the expansion of the different arms of the government. The form which debt takes and its trend increase could reveal some of its economic implication (Checherita & Rother, 2010). According to Olalekan (2012), "a countries debt structure has a direct impact on the entire economy and this includes the citizens, owned corporate organizations (such as banks), and institutions of the government." In this study, the structure of debt refers to the amount or size of domestic and external debts. It is important to identify the way and manner in which debt builds up from the perspective of economic impact and exit strategy. When debt is used appropriately, a country enjoys economic growth and development on all sides, but this is far from the truth seeing what is obtain in Nigeria and many other African countries (Babu, Kiprop, Kalio, & Gisore, 2015). However, to achieve this feat the government needs to reform its sectors. On the other hand, most loans are not used for the desired purpose, and this has always caused a major problem resulting in the inability to repay debt or service

debt (Izedonmi & Ilaboya, 2012). These repayments have shifted the attention of the government away from improving the health, social and educational sectors with funds (Winifred, 2014).

The major threat to the development of a country or nation is the rising fiscal deficits which are propelled by the higher level of servicing an external debt (Egbe & Alfred, 2015). Concerns were raised by the World Bank when it warned the Nigeria government concerning the alarming rate of its domestic debt (Amassoma, 2011). Heavy debt burden on a nation surfaces as a result of large debt accumulation. In Africa, Nigeria is regarded as one of the richest countries but majority of its citizen live below the poverty line due to so many macroeconomic issues such as corruption and accumulating external debt and debt service payment, high dependency on crude oil as a major source of revenue, inflation, and unemployment (Egbe & Alfred, 2015). According to Checherita & Rother(2010), economic and financial crises can lead the government to the accumulation of debt. In recent times the Nigerian government was faced with a downturn in the economy and debt was seen as one of the temporary solutions to ease the economy.

## **2 Problem Statements**

Debt service is among the principal issues Nigeria's economy has continued to face from the past till date. The government has consistently failed to meet the country's debt service requirements effectively which has resulted in the accumulation of the debts that need to be serviced (Winifred, 2014). The impact of debt service leads to more national issues such as the increase in fiscal deficit which is primarily propelled by higher debt service levels. A larger part of the nation's revenue is repeatedly eaten up due to the issue of debt serving and repayment. Nigeria's external debt has always been on the increasing side; this is a major concern for the future of the country (Ijirshar, Joseph, & Godoo, 2016). According to the World Bank report, in 2001, "the outstanding external debt of Nigeria was \$28.35 million (GDP of 59.4%) while in 1980, the country's external debt was \$8.5 million (GDP of 14.6%)" (Winifred, 2014). The transfer of \$2.3billion was made in 2003 to maintain the nation's external debt when it reached its maximum two years before \$18billion (60%) of the debt (\$30.85billion) owed by Nigeria was written off by the Paris Club group of creditor nations. The situation has remained the same despite the debt relief (\$18 billion) from Paris Club in 2005 as the Nigerian government resorted to borrowing in the later years till date (Winifred, 2014).

Despite the lists of several types of research undertaken on the issue of economic development and debt, there is need to carry out this study to investigate into the trend of the two categories of debt and the effect of a disaggregated approach on the economy of Nigeria over a period. Moreover, this study will view debt from both domestic and external perspective and their respective categories for identifying the category that has the best impact on the Nigeria economy.

## **3. Scope and Objectives of the Study**

This study covered specified debt categories in the area of domestic and external debt in Nigeria, Gross Domestic Product (GDP) from the periods of 1981 to 2015. Additionally, all the necessary information for the research were extracted from World Bank data, CBN Statistical Bulletin, and other relevant statistical publications. Various variables relating to the study were sourced therein which enabled the research to give answers to the questions raised by the study. These variables include GDP, component/categories of public debt, and some control variables, for example, inflation rate, exchange rate, and Federal government fixed capital formation. The choice of the selected period is informed by the series of economic reforms, political reforms and infrastructural reforms that have occurred during this period. For example, the Structural Adjustment Programme was introduced, fluctuations in oil prices among others. Moreover, debt relief was granted to Nigeria by some of its creditors later in 2005 and 2006 which was a laudable achievement then.

The overall goal of the research is to explore the influence of public debt on the economy of Nigeria. The following objectives were stated with the aim of achieving them. They are to:

1. examine the extent by which the elements of the debt category affect Nigeria's GDP;
2. analyze the growth trend of domestic and external debts of Nigeria and;
3. determine the overall effect of domestic and external debt on the economy of Nigeria.

The following research questions will be used to achieve the objectives of the study.

1. To what extent do elements of debt category affect Nigeria's GDP?
2. What is the growing trend of domestic and external debts of Nigeria?
3. What is the overall influence of domestic and external debt on the economy of Nigeria?

#### **4. Significance of the Study**

There are various reasons why any research is worthwhile; the study will shed light on the issues relating to public debt in Nigeria. Various parameters would be considered which will help in reaching a reasonable conclusion about the state of the Nigerian economy. This work will serve as reference material for researchers who intend to carry out similar studies. Moreover, government agencies that deal with the fiscal policy will benefit immensely from the findings of this study.

Nevertheless, theories and concepts relating to the topic under consideration would be reviewed to help the general body of knowledge understand several emerging issues in literature and various economies. Besides, the study will also broaden the knowledge of the researcher on the topic under consideration. It should be noted here that several studies in this area have produced different results due to differences in methodology, components, objectives and available data. This study will attempt to enhance the existing result and provide a meaningful addition to the existing knowledge.

### **5 Review of Literature**

#### **5.1 Overview of Debt and Debt Management**

According to Matthew & Mordecai (2016), "debt is seen as the used money or resource in an organization that does not belong to the owner or was not contributed by the owner of the organization. Additionally, it is regarded as a liability which is represented by instruments of finance or other formal equivalents" (p.3). The total money owed by the government of a particular country to different institutions, agencies, bodies resident within or outside the country can be referred to as public debt (Saifuddin, 2016). They are interest attached and are to be paid back at a stipulated future date including both principal and interest. However, public debt is categorized into two type of debts, namely; domestic debt and external debt.

##### **5.1.1 External debt**

This can be regarded as the portion of a nation's debt which are acquired from sources outside to the country such as foreign corporations, financial institutions and governments (Matthew & Mordecai, 2016; Nwannebuike, Ike, & Onuka, 2016; Saifuddin, 2016). "A situation where the government cannot effectively and efficiently perform its obligation as regards the provision of public goods to the populace to domestically improve the nation's standard of living and economic development, then finance sourcing outside through debt becomes the best alternative (Nwannebuike et al., 2016). This type of debt is funded in foreign currencies with interest attached.

##### **5.1.2 Domestic Debt**

This can be regarded as a part of a nation's obtained debt from sources within the country, for example, the central bank, discount houses, mortgage banks, deposit money banks, and other financial institutions in the country (Matthew & Mordecai, 2016; Saifuddin, 2016). They are provided treasury bonds, treasury bills, and treasury certificates. Other forms of domestic debts are FGN bonds, promissory notes, and development stocks.

##### **5.1.3 Debt servicing**

Debt servicing is referred to as a fixed contractual charge on real domestic income and savings. Debt service charge increases in proportion to the rise in the interest rate or size of the debt. The servicing of debt payment is only done with more external borrowing, export earning, and curtailed import. Hence, debt servicing difficulties are likely to spring up if export earning reduces.

##### **5.1.4 Debt sustainability**

The sustainability of debt is referred to as the capability of consistently maintaining a debt GDP ratio over a period. Thus, when the debt of the GDP ratio attains an extreme rate, its sustainability will be challenged. To establish whether a nation can service its debt, some of the factors have to be evaluated (Ijirshar et al., 2016). The factors are government revenues, exports, the financing mix of the debt as well as the history of the nation's repayment ability (The value of GDP in foreign currency), the prospective part of the nation's deficits, the existing debt stock, and associated debt stock.

### **5.1.5 External Debt Management**

External debt management is a procedure intended to guarantee that the debt stocks will not develop to a level that the nation will not be able to comfortably service its debts and making sure that the terms are not too tasking or demanding. On the other hand, it is a system where the terms of the loan (service arrangement) and debt stock of a country do not create issues for the society and the economy at large. External debt management according to the CBN Statistical Bulletin consists of the judgment on the desirability of accessing more loans and an evaluation of the nation's ability to service subsisting debts (Ijirshar et al., 2016). Thus, in this research, the management of external debt is a technique utilized by the nation's administration known as the Debt Management Board is responsible for ensuring that external debt cannot have any adverse influence on the nation regarding capital generation, investment, and saving. The capital generation should be productive and bearable because it is the basis for economic growth and development.

### **5.2 Economic Development**

Economic development simply refers to an improvement in the living standard of the citizens of a country with a growth that is sustained from a low-income economy to a modernized high-income economy (Matthew & Mordecai, 2016). This process includes attaining a balanced sector in the nation's economy regarding the production of goods and services such as education, health, manufacturing, finance, agriculture, etc. The social issues that pose a danger to the Nigerian economy thereby causing inherent economic challenge are inflation, low per-capital income, unemployment, high reliance on crude oil as the main source of revenue, inefficiency in the mobilization of resources, inequitable distribution of homes, poverty, etc.

### **5.3 Causes of Debt in African Countries**

According to Iyiola and Iyare (1994), as cited in Olalekan (2012), the major causes of Africa's debt problem are four which include; inappropriate domestic policy, hostile political and economic environment, cyclical causes, and those from structural or fundamental causes. They asserted that fundamental shortcoming in the economy of Africa such as Nigeria accepts a perfect spot in creating the debt issues since it pushed the economy to a great degree vulnerable to cyclical shocks, for example, oil price shocks, declining terms of trade, and, primary commodity price instability. Investigating the problems surrounding the debt of Nigeria in the years considered in this research in connection to the obtainable literature of growth theories such as the insights for Nigeria's parliament, the new endogenous growth theory, Rostow's stages of economic growth, Solow's growth model, Doctrine of balanced growth, and theory of Big Push. It is evident Nigeria had a severe issue to battle with considering the amount needed to service the debt of Nigeria regarding the big push theory. According to the Big Push Theory, to conquer the barrier of progress in an economy that is underdeveloped and propel it to the part of consistent progress, a huge all-inclusive program is required in the form of a high-minimum amount of investment. As a result, to achieve this goal, resources have to be freed. The situation, nonetheless, is such that the amount of resources needed to attain the required growth is not limited by the hanging debt over the years. It becomes important to obtain debt either domestic or external sources in Nigeria where financial gaps and budget deficit exist between investment and savings. This process can be applied when one considers the Big Push Theory as postulated by Rosenstein-Rodan. This theory's central purpose is that there is a base level of resources that ought to be committed to the developmental programs of a government for it to possess any success possibility.

### **5.4 The Neoclassical Theory**

Debt has a direct influence on the economy according to the neoclassical growth theory. This theory is anticipated to increase investment if the amount loaned is used optimally. Procedure that deform sizable adverse shocks and economic incentives ought to raise and permit debt repayment on time provided the country utilize the load for productive investment and cannot suffer from the instability of macroeconomics (Matthew & Mordecai, 2016). Alternatively, the indirect debt impact is the effect it has on investment. The resources available for investment by debt servicing are the transmission mechanism through which debts affect growth. Furthermore, public debt will be seen as an implicit tax on the generated resources of the nation. This will ultimately create an issue in which the flow of income will be

reduced from a lower stock of private capital for future generations. Consequently, this might cause a reduction in capital accumulation, a crowding out of private investments, and a rise in long-term interest rate necessary for the growth of productivity.

### **5.5 The Keynesian Theory**

The Keynesian theory acts in the interest of the general public because it views fiscal policy as the paramount strategy that enhances economic development. Keynes theory believes that unemployed finances are withdrawn from personal pockets in a way that the level of consumption by people remains unaltered when the government undertakes borrowing to finance its expenditure. These funds, when injected into the economy by the government, leads to a series of aggregate demand increase which in turn leads to an increase in employment and output. Therefore, to influence the performance of the economy's macroeconomic activities, public borrowing will serve as an alternative option (Matthew & Mordecai, 2016). The decrease on the resources available for investment by debt servicing is affected by debt growth through the transmission mechanism. Capital accumulation is viewed the Keynesian theory as an economic growth catalyst which encourages external loans while injecting funds to increase economic activity. This results in economic growth in the country. Therefore, an advantageous correlation amid external debt and economic growth is supported by the Keynesian theory (Nwannebuike et al., 2016).

### **5.6 Debts-cum-Growth Theory**

The framework of the Debt-cum-growth literature gave rise to the original non-optimizing method where the importance has always been on external debt for the aim of investment which is used for bridging the gap amid savings and domestic investment (Matthew & Mordecai, 2016). Debt capacity regarding cost and benefit of borrowing is considered in the economic development procedure. The theory relies on the argument which states that provided the more to its debt for a while adequately contributes to development; a nation can preserve its capability to service debt. A 'loan' cycle is offered, in which the conduct of capital flows might transform over various levels which are firmly connected to the course of economic development. The merit of the debt cum-growth mode relies on its review of the complications of the debt development procedures into a basic and promptly justifiable knowledge, to be specific that any debt methodology will function, eventually, if there is adequate economic development to boost it. Nevertheless, the framework of the Debt-cum-Growth Model suffers from numerous theoretical issues involving the rigidity of its basic assumptions and theoretical underpinning. This is obvious when analysing debt capacity in a specific manner. The model focuses only on saving gap in investment, and this is a major weakness. However, the surplus saved is required to be transformed into foreign exchange since the foreign financing must have been made in foreign currency. The Debt-cum-Growth is assumed to be silence on this transformation problem as it does not consider the performance of the economy's external sector.

### **5.7 Dual-Gap Theory**

In aiming to reduce the space between the investment and savings level, most economies have experienced shortfalls. Due to this issue, they have relied on consistent external loaning to reduce this gap (Omoruyi, 2005). As pointed out by Chenery (1966), this gap offers the purpose behind foreign debt. According to Hunt (2007), as the increase in investment and savings would lead to a rise in economic growth, it will subsequently fill the lack of investment and savings in the nation. According to Oloyede (2002), the dual-gap gives a structure that demonstrates that the advancement of a country is a component of investment and such venture demands domestic savings which will not be adequate to guarantee that improvement occurs. The national income accounting which entails surplus investment expenditure is the basis from which the dual-gap theory was formed. It is also equivalent to foreign exchange gap (the surplus of import over export) (Winifred, 2014).

### **5.8 Debt Overhang Theory**

The debt overhang theory is placed on the belief that expected debt service might be a rising task of the level of output in the country if the debt will surpass the repayment capability of the country with few probabilities in the future (Egbe & Alfred, 2015). According to Claessens (1996), some new foreign and domestic investors investment are not encouraged while few returns gained through investments in the

domestic economy are consistently taxed away by existing foreign creditors. Since a portion of an increase can be utilized for the servicing of external debt, the debtor country under such circumstance will only partake in any rise in output and exports partially. According to the theory, the part of the debt turns out to be repaid as the debt decrease leads to a rise in investment and repayment capability. The debtor is regarded as being on the wrong part of the debt Laffer curve once the impact is very strong. Hence, the connection between the size of debt and amount of repayment is referred to as the debt Laffer curve. Thus, there is a limit to the accumulation of debt stimulates growth with reference to the debt Laffer curve (Elbadawi et al., 1996). Lensink and White (1999) believe that there is a limit in which further debt is disadvantageous to development with regards to the debt Laffer curve.

### **5.9 Empirical Evidences**

Amassoma (2011) used the Vector Error Correction and Vector Auto Regressive (VAR) models to examine the causal nexus between economic development, domestic and foreign Nigerian debt between 1970 and 2009. The Philip Perron and Dickey-Fuller test were used in the study to test the variables for stationarity. At first differencing, the outcomes showed that the variables were stationary. The result of the co-integration test that was carried out revealed the existence of co-integration between foreign debt and economic development. The result also revealed that there is no co-integration between economic growth and domestic debt. The appropriateness of the methodology test for casualty was determined by the co-integration results. The result from the VEC model revealed a unidirectional causality from economic growth to Nigeria's external debt while the VAR model revealed that there is bi-directional causality between Nigeria's domestic debt and economic development. Based on the findings, it is advised that the Nigerian government ought to rely on domestic debt than foreign debt with the aim of stimulating Nigeria's.

Sulaiman and Azeez (2012) in their study examined the impact of external debt on Nigeria's economic growth. The model developed for the study proxy GDP as the endogenous variable estimating economic development as a component of exchange rate proxy, inflation, the ratio of external debt to export, and external debt as the exogenous variables. The Debt Management Office and the Central Bank of Nigeria Statistics Bulletin provided the annual time series data from 1970 to 2010. To carry out the empirical analysis, we used the Error Correction Method (ECM), Johansen Co-integration Test, Augmented Dickey-Fuller (ADF), and the econometric techniques of Ordinary Least Square (OLS). It was discovered that that long-run equilibrium relationship exists between the variables after making use of the co-integration test. It was also discovered that that external debt has positive contributions regarding the economy of Nigeria after making use of the error correction method. Based on these findings, it is advised that external debt, economic, and political stability ought to be ensured by the Nigerian government for economic reasons and not for political or social reasons.

Moreover, the effect of external debt on Nigeria's economic growth was examined by Nwannebuike et al., (2016). For this study, the research design of the ex-post facto was employed. The exchange rate data was sourced from the 2013 Central Bank of Nigeria Statistical Bulletin while the data on External Debt Service Payment, GDP, and External Debt Stock were sourced from the World Bank International Debt Statistics. The study considered the period from 1980 to 2013. Some diagnostic tests were carried out using the Error Correction Method, Augmented Dick Fuller Unit Root Test, Ordinary Least Square, and Co-integration model. It was revealed that external had a negative correlation with the country's GDP over a long period but positive over a short period.

Furthermore, the exchange rate had a positive correlation with Nigeria's GDP while the external debt service payment was negative. It has been concluded in this study that debt service payment and external debt stock had a negative effect on the Nigerian economy while the exchange rate fluctuation has a positive effect. The study recommends that a limit should be set for federal and state governments borrowing based on criteria that are perfectly defined. The Debt Management Office ought to set in motion a perfect mechanism that will regularly ensure that any loan must be used for the reason it was obtained.

The effect of public debt was on Nigeria's economic growth was examined by Matthew & Mordecai (2016) using the annual series data from 1986 to 2014. The Granger Causality test, ECM, Johansen co-

integration test, and the Augmented Dickey-Fuller test was employed in the study. The Johansen co-integration test results revealed the existence of a long-run correlation among variables such as economic development proxied with GDP per capita, domestic debt servicing, external debt servicing, domestic debt stock, and external debt stock in Nigeria. The Error Correction Method showed that the domestic debt service proved important but had an inverse relationship with the Nigerian economic growth rate. The ECM also showed that the domestic debt stock has a significant and direct relationship with Nigeria's economic growth.

The causal nexus that exists between Nigeria's economic growth and public debt was examined by Egbetunde (2012) from 1970 to 2010 using a VAR (Vector Autoregressive). The Philip Perron and Augmented Dickey-Fuller test were used in the study to test for stationarity. At the first differencing, the results proved that the variables were stationary. The result of the co-integration test revealed the existence of co-integration between economic growth and public debt. The results also proved that economic growth and public debt have a long-run relationship. The existence of bi-directional causality between the Nigerian economic growth and public debt was revealed by the VAR model. In this research, it was concluded that Nigeria's economic growth and public debt are positively related and have a long-run relationship if the government is sincere with using the loan obtained for the economy's development instead of redirecting the funds for selfish interest.

The effect of external debt on Nigeria's economic growth was investigated by Winifred (2014) between 1980 to 2012. To capture the burden of external debt, the time series data on external debt service and external debt stock was utilized. This research used to test the viability of Nigeria's economic development and external debt. The time series data on the overtime exchange rate, external debt payments, external debt stock, and real GDP from 1980 to 2012 was conducted under the empirical investigation. The estimation method used in the research includes the Granger Causality Test, Vector Error Correction Mechanism, Johansen Co-integration, and Augmented Dickey-Fuller (ADF) test. The outcome revealed a bi-directional relationship and an insignificant long-run relationship between Nigeria's economic growth and external debt.

In summary, it is worthwhile that this research should examine the debt composition of the total public debt to understanding from a disaggregated view-point the impact on the nation's GDP which has been absent from reviewed literature. Moreover, several debts have been incurred in recent times which a trend analysis will be needed to explain some salient points in this movement to add to the general body of knowledge in this regards.

## 6. METHODOLOGY

The study covered a period of thirty-four years (1981-2015) by looking at the aggregated and disaggregated view of public debt. The population of the study covers the various economic activities. Secondary data was sourced from the CBN Statistical Bulletin (2015) and the World Bank. Data such as interest rate, GDP, federal government domestic and external debt and federal government fixed capital formation were extracted from the CBN Statistical Bulletin and the World Bank for the purpose of this research. The data obtained was analyzed using statistics such as Johansen co-integrated test, t-statistics, ordinary least square regression, Jarque-Bera test, skewness, kurtosis, standard deviation, mode, median, mean, and augmented Dickey-Fuller test.

### 6.1 Models Specification

The correlation connecting the dependent and independent variables is displayed below using the regression model for the study. The independent variable is the Public Debt Stock which include both domestic and external while Real GDP is the dependent variable.

The model is stated as follows:

$$Y = f(x)$$

$$GDP = f(EDS, DDS, FGFCF, INT)$$

$$RGDP_t = \alpha_0 + \alpha_1EDS_t + \alpha_2DDS_t + \alpha_3FGRE_t + \alpha_4FGFCF_t + \alpha_5INT_t + \mu_t \dots eqn(i)$$

The dependent variable is Y = RGDP (Real Gross Domestic Product)

The independent variables are denoted by the following:

EDS=External Debt Stock

DDS=Domestic Debt Stock

FGFCF=Federal Government Fixed Capital Formation

INT= Interest rate

$\alpha_1 - \alpha_5$  – estimated parameters

$\mu_t$  – stochastic error term

$\alpha_0$  – constant

t – time period

It should be noted that interest rate and federal government fixed capital formation were added as control variables to the model since they are rated as output proximate determinant.

### 6.2 Data Analyses Technique

To determine the impact of public debt on Nigeria's GDP, the Ordinary Least Square Method (OLSM) was applied to the study. The causal relationship and the impacts of variables were explained using the OLSM. Trend analysis was used to analyse the trend changes in public debt.

## 7. RESULTS AND DISCUSSION

### 7.1 Normality and Descriptive Statistics

**Table 1: Normality Tests (Jarque-Bera Test) and Descriptive Statistics**

	RGDP	INTR	LFGDD	LFGEXD	FGFCF	LINF
Mean	31757.15	-0.108333	6.180037	6.077476	47.36471	2.685006
Median	22391.14	3.220000	6.503759	6.437942	38.77000	2.529332
Maximum	69023.93	25.28000	9.310928	8.495003	142.3200	4.287716
Minimum	13779.26	-43.57000	2.415253	0.846383	6.330000	1.686399
Std. Dev.	18151.71	16.59175	2.076758	1.932532	37.38361	0.720615
Skewness	0.874864	-0.939216	-0.276754	-1.050327	1.032152	0.814633
Kurtosis	2.318378	3.781554	1.861818	3.407236	3.032959	2.638844
Jarque-Bera	5.289230	6.208999	2.402743	6.867885	6.216059	4.177414
Probability	0.071033	0.044847	0.300781	0.032260	0.044689	0.123847
Sum	1143257.	-3.900000	222.4813	218.7891	1657.765	96.66023
Sum Sq. Dev.	1.15E+10	9635.011	150.9524	130.7138	47516.15	18.17499

Source: Authors Analysis Result (2918)

Table 1 presents the descriptive statistics where the normality test is given using the Jarque-bera test. The resolution is that the null hypothesis (normally distributed data) will be accepted while the alternative hypothesis will be rejected if the estimate of the probability is greater than 0.01, 0.05, or 0.1. The p-values are greater than the usual significance value of 0.10, 0.05, or 0.01 in the table above. This implies that the null hypothesis of a normal distribution will be accepted (i.e. all the variables are normally distributed according to the result).



**Table 2: Unit Root Test Using the Augmented Dickey-Fuller Test (ADF)**

Variable	Level				First Difference			
	T-Test	Intercept	T-test	Intercept and Trend	T-test	Intercept	T-test	Intercept and Trend
RGDP	10.22	3.63*						
RINT	5.89	3.63*						
INF	2.81	2.61***						
FGDD	5.14	3.65*						
FGEXD					3.34	2.95**		
GFCF			9.22	4.30*	4.43	3.64		

Note: 1% = \* 5% = \*\* 10% = \*\*\*

Source: Authors Analysis Result (2918)

The Augmented Dickey-Fuller Test is utilized to test if a data set is stable or non-stationary. The Gross Domestic Product is significant at the level and intercepts as shown in Table 4.2 above. The calculated value (10.22) of the T-test is greater than the significant value (3.63) of the T-test at 0.01, 0.05, and 0.1 significance level. The Domestic debt (5.14) at 1% significance level, inflation rate (2.81) at 10% significance level, and interest rate (5.89) at 1% significance level. More so, government fixed capital formation is significant at 1% level, intercept, and trend. Nevertheless, at the first difference intercept, the FG's external debt t-test value (3.34) is significant at 5% significance level. The result in Table 2 above showed that all the variables are stationary (that is, no unit root) while some variable are stationary at the first difference. This implies that the co-integration test needs to be conducted.

**Table 3: Johansen Cointegration Tests (Trace Statistics)**

Sample (adjusted): 1983 2016

Included observations: 34 after adjustments

Trend assumption: Linear deterministic trend

Series: RGDP\_2010 INTR INF GFCF FGEXD FGDD

Lags interval (in first differences): 1 to 1

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigen value	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.800919	129.0572	95.75366	0.0000
At most 1 *	0.578742	74.17979	69.81889	0.0215
At most 2	0.477644	44.78642	47.85613	0.0944
At most 3	0.352412	22.70661	29.79707	0.2608
At most 4	0.201148	7.933581	15.49471	0.4725
At most 5	0.008722	0.297861	3.841466	0.5852

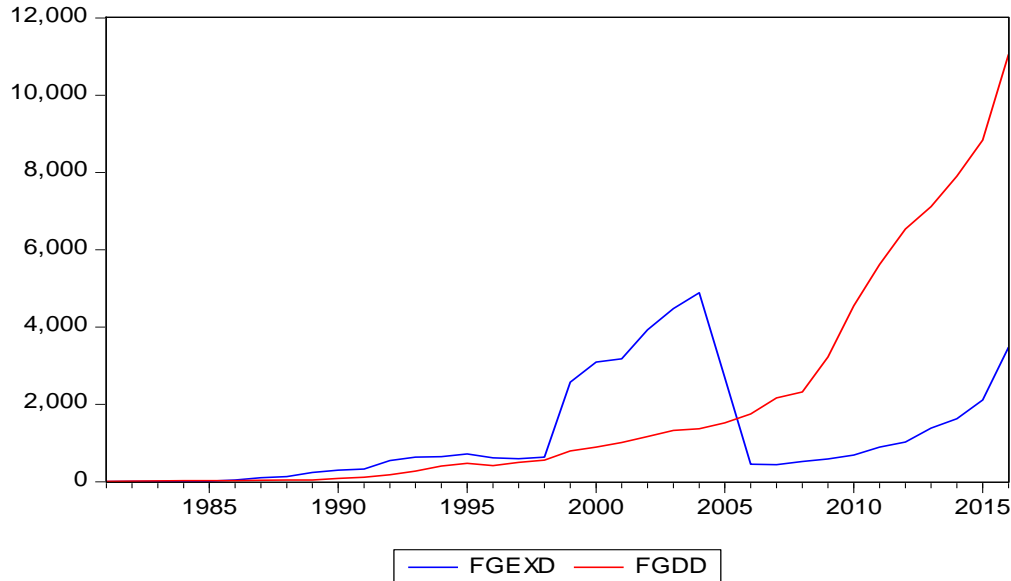
Trace test indicates 2 cointegrating eqn(s) at the 0.05 level.

\* denotes rejection of the hypothesis at the 0.05 level

\*\*MacKinnon-Haug-Michelis (1999) p-values

Source: Authors Analysis Result (2918)

The result in Table 3 showed that there are two co-integration equations at 5% significance level which implies rejecting the null hypothesis. Therefore, there is cointegration among the variables of the study.



**Figure 1: Trend Analysis/Growth of the two Classifications of Federal Government Debt**  
**Source:**

From Figure 1 above which showed the trend analysis of the two classifications of federal government debt in Nigeria, it is evident that domestic debts have increased far more than external debts from the year 2007. However, before this time, domestic debts have always been more than external debts between 1981 and 2006. Nevertheless, there was an intersection between the two classes of debts in 2006, and since then domestic debts have always risen higher than external debts. While this is fair a little, there might be some economic implications on the Nigerian economy during these periods under consideration. This means that the Federal government had serviced more domestic debts during these periods which must naturally be reflected in the GDP of the country. Another significant point from this analysis is that there was a significant drop in the level of federal government's external debt in 2005 which can be credited to the effort of the administration at that time in ensuring a low external debt profile for the country.

**Table 4: Ordinary Least Square**

Dependent Variable: RGDP1990

Method: Least Squares

Sample (adjusted): 1981 2015

Included observations: 35 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	242.3623	13.36453	18.13474	0.0000
FGDD	0.068965	0.004249	16.22930	0.0000
FGEXD	0.026371	0.005342	4.936921	0.0000
INTR	0.651561	0.413931	1.574083	0.1260
FGFCF	1.871571	0.276725	6.763281	0.0000
R-squared	0.977442	Mean dependent var		482.1243
Adjusted R-squared	0.974435	S.D. dependent var		241.6019
S.E. of regression	38.63024	Akaike info criterion		10.27751
Sum squared resid	44768.86	Schwarz criterion		10.49970
Log-likelihood	-174.8564	Hannan-Quinn criter.		10.35421
F-statistic	324.9794	Durbin-Watson stat		0.887505
Prob(F-statistic)	0.000000			

Source: Authors Analysis Result (2918)

The regression result in Table 4 showed the variables of the study. From Table 4 above, the R-squared value of 0.97 proves that the entire independent variable account for the variation of 97% changes in Gross Domestic Product. This also means that the changes in economic growth which are measured by using the GDP can be explained by Federal government debts (domestic and external), interest rate, and Federal government fixed capital formation that is up to 97% level.

From the table above, the calculated t-statistics is 18.13 which is greater than the critical values for the interest rate (1.57), Domestic debt (16.22), External debt (4.94), and Federal government fixed capital formation (6.76). The probability value for constant (0.0000), interest rate p-value greater than 0.05 (0.13) while External debt (0.000), Domestic debt (0.000), and Federal government fixed capital formation (0.000) showed significant values less than 0.05, that is,  $p < 0.05$ .

It can, therefore, be concluded that domestic debt and external debt affect Nigeria's GDP based on the analysis presented above. Meanwhile, domestic debt (0.068), external debt (0.026), interest rate (0.651), and fixed capital formation (1.87) have positive effects on GDP. Nevertheless, domestic debt has the highest effect on the nation's GDP because it has a coefficient of 0.068 which is more than that of the external debt. Bothe debt categories are statistically significant to economic growth, however, domestic debt has a higher positive effect on GDP.

## 8. SUMMARY OF FINDINGS

It was revealed in the result that the data is normal at 1%, 5%, and 10% levels of significance. Moreover, the data were screened for stationarity, and it was obvious that the data were stationary at that level and the first difference. A cointegration test was also carried out, and it was discovered that there were more than one cointegration equations among the variables. The trend analysis revealed that Federal government had incurred more of domestic debt from 1981 to 2015 than external debt. Invariably there was a considerable fall in the level of external debt in 2006 because of the debt relief was given to the Nigeria government by the various external bodies it was indebted to. Nevertheless, close to this same period and onward, the level of Nigerian domestic debts has drastically increased far and above the external debt. The regression result also revealed that the  $R^2$  squared value of 0.97 indicates that changes in economic growth which are measured by using GDP can be explained by Federal government debts (domestic and external), interest rate and Federal government fixed capital formation up to 97% level.

Meanwhile, the probability values for the interest rate is greater than 0.05 (0.13) while External debt (0.000), Domestic debt (0.000) and Federal government fixed capital formation (0.000) showed significant values less than 0.05, that is,  $p < 0.05$ . This means that both domestic and external debts of the federal government are statistically significant to economic growth. It was also discovered that the coefficients of domestic debt (0.068), external debt (0.026), interest rate (0.651) and fixed capital formation (1.87) all have positive effects on GDP. Nevertheless, domestic debt has the highest effect on GDP because it has a coefficient of 0.068 which is more than that of the external debt.

## 9. CONCLUSION

The study, therefore, concludes that domestic debts have grown higher than external debts between 1981 and 2015. However, after the point of intersection between the two debt categories in 2006 which led to a drastic fall in external debt, domestic debts have increased far and above external debt at an increasing rate. It was also discovered that public debts pose a positive impact on the Nigerian economic development between 1981 and 2015. Nonetheless, domestic debts have had the greatest positive effects on economic growth over these periods of time.

## 10. RECOMMENDATIONS

The following recommendations have been suggested for policymakers and every concerned authority based on the findings in this study.

1. Owing to the increasing rate of domestic debts over the years, the government should always ensure that these funds are put to the best use in the economy. This will further make them have a meaningful effect on the Nigerian economic development.
2. The level of external debts have started to increase after their drastic fall in 2006; this requires a wakeup call on the part of the federal government to ensure that it does not pile up these debts. This will lead to more debt servicing on the part of the government.
3. Invariably, the government should try as much as possible to judiciously put to effective and efficient use these debts to achieve better improvements in the economy.

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