Upshot of Public Debt on Economic Growth: A Study of Nigeria

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Abstract

The study examined the upshot of public debt on the economic growth of Nigeria. The objective of this study was achieved by empirically providing insights to some research questions raised and testing the hypotheses formulated. These hypotheses were tested using economic growth as the depended variable which was proxied by Gross domestic product (GDP) and Public debt as the independent variable represented with the external and internal debt of Nigeria. Two research questions were posed from which we formulated the two hypotheses in accordance with the objectives of our study. Data were collected from the Central Bank of Nigeria (CBN) for the period 1980-2016 given us a total of 102 observations for the three variables. The Johansen's cointegration analysis and the vector error correction methodology (VECM) were engaged to identify the long-run relationships among the variables. Meanwhile, the stochastic properties of the data were assessed on the basis of a series of unit-root tests carried out for each of the variables. This is to ensure that the variables are stationary and that shocks are only temporary and will dissipate and revert to their long-run mean after which the long-run relationship was estimated in order to avoid the tendency for spurious regression estimates, where time-series data is utilized without adequate attention to their stationarity properties. The result showed that domestic debt has a long-run significant positive relationship with the economic growth of Nigeria, while external debt has a long run significant negative relationship with the economic growth of Nigeria. The study recommended that: government should deemphasize the appetite for external loan as it can have about 20% negative influence on the economy. This means that an increase in external debt signals a decrease in GDP by 20%. Although external debt can stimulate aggregate demand and output in the short run. However, it crowds out capital and output in the long run which affect capital accumulation and growth through higher long-term interest rates, higher future distortionary taxation, inflation, greater uncertainty about prospects and policies, constraining the scope for fiscal policies which may result in higher volatility and further lower growth. If government must borrow she should look inwards and borrow internally as internal debt impact positively on the GDP in the long run while maintaining demand and output level in the short run. The reason for this is that domestic debt kindles development of deep liquid internal financial markets and protects the economy from unfavourable external shocks while reducing foreign exchange volatility.

Keywords: Economic growth, Public debt, Gross domestic product, External and Internal debt

1.1 Introduction

Public debt has important influence over the economy of a country both in the short and long run. Debt can stimulate aggregate demand and output in the short run, but crowds out capital and output in the long run. High debt can adversely affect capital accumulation and growth through higher long-term interest rates, higher future distortionary taxation, inflation, greater uncertainty about prospects and policies, constrain the scope for countercyclical fiscal policies which may result in higher volatility and further lower growth (Gale and Orzag, 2003; Baldacci and Kumar 2010; Dotsey, 1994; Cochrane, 2010; Burnside, Eichenbaum and Rebelo, 2001; Hemming, Kell, and Schimmelpfennig, 2003; Aghion andKharroubi, 2007).

Upon these considerations, it is very unlikely for a country to live without a debt and meet all her financial and non-financial statutory obligations. Countries especially, developing countries like Nigeria, as a result of this necessary evil resort to external borrowing in order to meet its needs. This is in consonance with Pattillo, Ricci, and Poirson (2002) who submit that reasonable levels of borrowing by a developing country are likely to enhance its economic growth. When economic growth is enhanced, the economy's poverty situation is likely to be affected positively (Amakon, 2003). In order to encourage growth, countries at early stages of development borrow to augment what they have because of dominance of small stocks of capital hence they are likely to have investment opportunities with rates of return higher than that of their counterparts in developed economies. Ezeabasili (2006) submitted that external borrowings by Less Developed Countries (LDCS) are necessary to supplement the inadequacy of their domestic financial resources and to allow for effective functioning of a productive economy.

According to Soludo (2003), countries borrow for two reasons: macroeconomic reasons for higher investment, higher consumption and to finance transitory balance of payments deficits. This explains that economy indulges in debt to boost economic growth. Also, Gana, (2002) established that external loan is desirable and essential to accelerate economic growth provided it is channeled towards increasing the productive capacity of the economy, promote economic growth and sustainability. Therefore, countries at early stages of development borrow to augment what they have to secure investment opportunities with high rates of return. This becomes possible where borrowed funds and some internally ploughed back funds are properly utilized for productive investment. And do not suffer from macroeconomic instability, policies that distort economic incentives, or sizable adverse shocks. Growth therefore is likely to increase and allow for timely debt repayments. When this cycle is maintained for a period of time, growth will affect per capita income positively (Hussein, 2014).

1.2 Statement of the Research Problem

There exists contrasting views in the existing literatures as to whether public debt influences a countries economic growth. Studies like Ajisafe, Nassar, Fatokun, Soile and Gidado, (2006), Asogwa (2005), Pattillo (2002), Wijeweera, Dollery and Pathberiya, (2005), documented that public debt retards economic growth and creates more dependency on the borrowing country. Ajisafe, Nassar, Fatokun, Soile and Gidado, (2006) posit that debt and lack of growth are clearly interrelated. Excessive stock of debt retards growth and hamper the socio–economic development of the borrowing country. The large debt stock and crushing debt service burden introduces a vicious circle to the analysis of the development problem of these developing countries as debt servicing in the face of inadequate foreign earning leads to severe import strangulation. This is in

consonance with Asogwa (2005) who recorded that domestic debt increases confidence crises as market participants have consistently shown greater unwillingness to hold longer maturities.

Also, Pattillo, Poirson and Ricci (2002) and Wijeweera, Dollery and Pathberiya (2005) noted that debt reduces growth mainly by lowering the efficiency of investment rather than its volume. Summers (1986) warned that debt burdens threatens financial stability with adverse consequence on the real sector of the economy and that an increase in debt stock will create political pressures that will make acceleration of inflation inevitable. He further notes that debt problem, poses quite a number of adverse effects on the economies of the developing countries, generate macroeconomic distortion issues such as capital flight, discouragement of private investment and debt servicing which may lead to debt overhang. Meeting debt service obligations drastically affects other facilities which can be provided to improve the welfare of the citizenry and also crowd out public investment while insufficient public infrastructures discourage private investment.

Proponents for public debt submit that borrowing is desirable and also unavoidable because external borrowing is a first order condition for bridging the domestic gap; while the second order is that such funds should be invested in viable project whose rate of return is higher than that of the interest rate on the loan. Therefore for external debt to serve as an engine of growth it has to be properly managed and the resources it makes provides need to be prudently and efficiently utilized. Ogwuma (1996) is of the view that debts arise from loans and credit procured by the residents of a country from the rest of the world that is meant for bridging the gap between saving and investment. He stipulated that when these resources are productively deployed and utilized, they do not constitute any drain on the future resources. He further buttressed that, to ensure sustainability of debt servicing, borrowing countries need to adopt efficient external debt management strategies, which entail carefully planned schedules of external debt acquisition, deployment and retirement. Creation of domestic debt kindles development of deep and liquid internal financial markets, protect countries from unfavourable external shocks, and mitigate foreign exchange risk (Aizenman, 2004; Kumhof, 2005). The research work seeks to bridge the gap between these divergent views by examining the individual and combined effect of internal and external debt in Nigeria in order to determine proper policy recommendations to the government.

2.0 Review of Related Literature

2.1 Public Debt

Debt is a contractual obligation of owing or accumulated borrowing with a promise to payback at a future date. It is a resource or money used in an organization which is not contributed by its owner and does not in any other way belong to them (Oyejide, 1985). Every economy requires an amount of capital to generate production and sustain development: capital, being a factor of production is particularly important but relatively scarce, and the dearth of capital is much more prevalent in developing countries like Nigeria (Umaru, Hamidu and Musa, 2013). Public debt arises when government borrows, from either internal or external sources so as to finance domestic investment. Public debts either internal or external are debt incurred by the government through borrowing in the domestic and international market so as to finance domestic investment.

Debts are classified into two: productive debt and dead weight debt. A loan obtained to enable the state or nation to purchase some sort of assets is said to be productive debt for instance money borrowed for acquiring factories, electricity, refineries, and railways. However, debt undertaken to finance wars and expenses on current expenditures are dead weight debts. When a country obtains a loan from abroad, it means that the country can import from abroad goods and services to the value of the loan without at the same time having to export anything for exchange. Also capital and interest have to be repaid, the same country will have to get the burden of exporting goods and service without receiving any imports in exchange. Internal loans do not have the type of burden as external loan. These two types of debt, however, require that the borrowers' future savings must cover the interest and principal payment (debt servicing).

2.1.1 Domestic Debt

Domestic debts are instruments of obligation issued by the Federal Government and denominated in local currency. State and local government can also issue debt instrument. Debt instrument consist of Nigerian Treasury certificates, Treasury bills, Federal government development stocks and treasury bonds. Out of these, treasury bills, treasury certificates and development stocks are marketable and negotiable while treasury bonds and advances are not marketable but held solely by the central Bank of Nigeria. Odozi (1996), in his opinion sees domestic debt as the gross liability of Government, his definition included that Federal, State and Local governments transfer obligations to the citizens and corporate firms within the country. The Central Bank of Nigeria (CBN) as banker and financial adviser to the Federal Government is charged with the responsibility for managing the domestic Public debt (Adofu and Abula, 2010).

Alison (2003) and Onyeiwu, (2012) noted three reasons government go for domestic debt. 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 markets). In Nigeria, several factors have been advanced to explain the changing domestic debt profile between the 1960s and now (Odozi, 1996; Rapu, 2003). The major factor include: high budget deficits, low output growth, large expenditure growth, high inflation rate and narrow revenue base.

Olukole (1991) and Onyeiwu (2012), established three effects of domestic debt:

i. 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 fund arise forcing interest rate up;
ii. High rate of poverty: The welfare implication of domestic debt is the unemployment rate increase due to the closure of industries and decline in government finance on social service, infrastructure service since most part of government revenue are used to service the debt. The resultant effect of all these is the rate of poverty continue to rise in the country;
iii. Internal debt may aid government development program if the government sells bonds and development stocks to members of the public to finance its capital expenditure thereby pulling out funds out of personal and corporate income which is effectively utilized in infrastructural projects. The multiplier effects facilitate generation of a multiple of that income leading to economic growth (Onyeiwu, 2012).

2.1.2 External Debt

External debt is that portion of a country's debt that is acquired from any source outside the control of the borrowing country such as foreign clubs, government, corporations, or financial institutions. It is that part of the total debt of a country that is owed to creditors outside the country. The debtors can be private households, government, corporations or clubs. External debt is identified as money owned to foreigners; servicing and payment of actual principal are made in foreign currencies. This payment on foreign debt automatically becomes a source of capital outflow. Therefore it is a liability represented by a financial instrument or other formal equivalent. Huge external debt has an adverse effect on the macroeconomics growth of a country.

2.2 Methods of Debt Management

1. **Debt Rescheduling:** This is the arrangement of terms of debt such as the adjustment of interest rate grade period, principal repayment and maturity. The strategy does not cause any reduction in the stock of debts; rather it facilitates management of debt by providing relief. For instance, Nigeria negotiated services of rescheduling arrangements with the Paris Club of Creditors between 1986 and 1991 to which more than half of the external debt is owed. Although the use of this method has been argued against as it will only lead to the postponement of the evil day of the debtor nation.
2. **Debt Equity Conversion:** This is converting foreign debts into equity in local companies. Under this system, there are some advantages that could be obtained in one hand and loss encountered on the other hand. It makes the economic environment attractive for foreign investments. It also reduces the outstanding stock of the external debts, a situation that will reduce debt service burden. Disadvantages of this method include the fact that the fear of foreign domination in terms of ownership of assets may be counter-productive in relation to economic growth and development. Also debt conversion leads to large increase in money supply that may complicate the problems of inflation (Rhaman, Adeola, Abiodun and Tolulope, 2012).
3. **Ban on External Borrowing**: This is just a temporary measure to stop the government from further borrowing for a particular period of time.
4. **Debt Repudiation:** This involves disowning the debt completely. Many Economists had advocated this. According to Fidel Castro, there is no sense in a developing country like Nigeria paying back debts owing, especially foreign debts, because through colonization African countries had more than paid for debts. However, there is possibility of sanction from the International Monetary Fund (IMF) and the World Bank if Nigeria should repudiate.
5. **Debt Forgiveness:** This arises when the creditor nation decides to forget or write off the debt. Paris Club took this option in favour of some debtors in the past.

2.3 Economic Growth

Economic growth is the positive trend in the nations' total output over a long period of time. This implies a sustained increase in Gross Domestic Product (GDP) for a long time (Lipsey, 1986). While, Schiller (1999) opined that economic growth is an increase in output, an expansion in

product possibility curve. Schiller's (1999) submission was not different from that of Dolan and Lindsey (1991) who sees economic growth as most frequently expressed in terms of increase in Gross Domestic Product (GDP), a measure of the economy's total output of goods and services.

2.4 Theoretical Framework

Theories evolved to explain the concept of debt and economic growth. Iyiola and Iyare (1994) examined the causes of Africa's debt problems and Nigeria in particular and grouped them into four categories as; those arising from fundamental or structural causes; those due to cyclical causes; those arising from a hostile economic and political environment; those due to inappropriate domestic policy. They affirmed that structural weakness in the typical African economy like Nigeria assume a commanding position in causing the debt problem because it made the economy extremely vulnerable to cyclical shocks such as oil price shocks, instability of primary commodity prices and declining terms of trade. This study took a good look at Nigeria's debt problem in the years considered in the study in relation to the existing theories of the Dependency theory and the Walking theory on which our study is anchored on. Considering the amount of loyalty needed from the captains of Nigeria to the developed nations as it relates to the dependency theory. It is clear that Nigeria has a serious indirect problem to contend with. The dependency theory was propounded by Frank (1966).

Frank (1966) opined that dependency concepts of development have meaning when applied to nations within the capitalist world-economy. Frank sees world-economy as being divided into two major components, metropolis and satellite. This concept is basically equivalent to Wallerstein's (1974) concepts of core and periphery. The flow of economic surplus in the world-economy is from the satellite (or periphery) to the metropolis (or core), and the world economy is organized to make this happen. The underdeveloped nations therefore remain underdeveloped because they are economically dominated by developed capitalist nations that have continually been extracting wealth from them. Frank (1966) called this the development process of underdevelopment.

Dependency is defined as an explanation of an economic growth of a state in terms of the external influences which includes political, economic, and cultural on national development policies (Sunkel, 1969). Santos (1970) emphasizes the historical breadth of the dependency theory that it is a historical condition which shapes a certain structure of the world economy such that it favours some countries to the detriment of others and limits the growth possibilities of the subordinate economies. This is a situation in which the economy of a certain group of country is conditioned by the development and expansion of another economy to which their own is subjected (Santos, 1970). It is seen that the dependency theorists characterizes the international system as comprised of two sets of states, variously described as dominant/dependent, center/periphery or metropolitan/satellite. The dominant states are the advanced industrial nations in the Organization of Economic Co-operation and Development (OECD) while the dependent states are those nation states like Nigeria which have low per capita GNPs and which rely heavily on the export of a single commodity for foreign exchange earnings like crude oil and the importation of variety of goods from the western developed dominant states.

Dependency theory also assumes that external forces are of singular importance to the economic activities within the dependent states. These external forces include multinational corporations, international commodity markets, foreign assistance, communications, and any other means by which the advanced industrialized countries can represent their economic interests abroad even in

political issues. The politics in Nigeria is always governed by the interest of these advanced countries. Dependency theory indicates the relations between dominant and dependent states are dynamic because the interactions between the two sets of states tend to not only reinforce but also intensify the unequal patterns. Therefore dependency theory attempts to explain the present underdeveloped state of many nations in the world by examining the patterns of interactions among nations and by arguing that inequality among nations is an intrinsic part of those interactions. The theory explains the nature of the relationship between the countries of the world and the factors that have facilitated dependency of one group of countries on the other.

Countries of the world have been divided along economic prosperity. Countries that are economically buoyant and politically stable are termed developed countries and, on the other hand, countries that are economically backward are tagged developing countries. The dependency theory seeks to establish the factors that have propelled or contributed to the development of the underdeveloped countries. The theory states that the poverty of the developing countries is not because they are not integrated or fully integrated into the world system as is often argued by free market economists, but because of how they are integrated into the system (Adejuwon, James and Soneye, 2010). In addition the dependency of the third countries like Nigeria is as a result of the over confidence on natural economic resource she is blessed and lack of internal integration of these resource with technology.

The growth of the rich nations and that of the poor ones are but two sides of the same coin as underdevelopment of some nations has made the growth for other nations possible and the development of other nations made the underdevelopment of other nations possible. The major victims of these two poles are the vast majority of peasants and urban workers of the underdeveloped world itself. While the members of the developed nations do benefit from this as their standard of living is raised substantially, the greatest benefits go to capitalists in the metropolitan countries, as well as to the agricultural and industrial elites of the satellite countries, hence the latter have close economic and political ties to the metropolitan elite and play a crucial role in retaining, maintaining and sustaining the situation of economic dependency of their states.

They are blind-folded to the stark reality of the lopsidedness in their relationship with the metropolitan capitalists leading to accepted improvised economies of the poor nations who believe that their survival can only be sustained on their dependence to the developed nations. The extent of this accepted slavery is seen in the willingness to borrow what they have and the mismanagement thereof the natural resources embedded upon these nations lending support to the theory of Walking Back developed by Onwuchekwa (2016).

Walking back theory is a conversion process of 2:1 to 1:1, -1:1 respectively. Here a country blessed with abundant resources (both natural and also manpower) is expected to have multiple streams of income (both real and passive income) running into the nations' coffer which would majorly contribute to the nations' Gross Domestic product (GDP). As a result of the dependence and over belief of the natural resources, the country resort into borrowing to finance non capital project or unproductive capital project using the concept of 2:1, where 2 is the nations' resources and one the indebtedness of the country. Improper management of this concept coupled with change of government whereby a new government seeking to also pursue a project that may not necessarily contribute to the development of the economy of a nation may also go into borrowing to finance elephant project.

On the other hand, the lender nations knowing well that the country is blessed with natural resources will gladly oblige. The concept of 2:1 will move to 2:2, 1:1, 1:0. Indicating that country is subsumed with the debt, she owes amidst the natural resources, thus suffering in the midst of abundance. Tracing the cause of the overwhelming debt is the natural resources the nation is blessed with which instead of contributing to the total revenue and by extension the GDP of the nation has instead reduce the GDP of the country. A deflection is the case, making the country to walk back. Borrowing itself or debt itself is not wrong as long as the money is invested into a revenue generation project whereby the revenue generated would be used to pay back the principal loan and interest as they fall due.

2.5 Empirical Studies

Scholars have contributed into the impact of public debt on economic growth. However, their studies show some conflicting results. Hussein (2014) examined the impact of public debt on the performance of the Jordanian economy. The study shows that population growth and public debt have played very crucial role towards economic growth in Jordan. It shows that public debt has promoted economic growth, while population growth hindered it (Egbetunde, 2012). The co-integration results show that public debt and economic growth have long run relationship and are positively related if the government is sincere with the loan obtained and use it for the development of the economy rather than channel the funds to their personal benefit.

Hasen (2001) studied on the impact of aid and external debt on growth and investment shows strong positive relationship of aid both on the growth rate in GDP per capita and the investment rate. Obademi (2012) analyzed the impact of public debt on economic growth in Nigeria. An analysis of the long-run relationship and impact of debt from the perspective of the value impact and proportional impact was done. An augmented Cobb Douglas model was used and a dynamic version of the functional relationship was estimated using Co-integration technique to capture the long-run impact of debt variables on economic growth. The result shows that the joint impact of debt on economic growth is negative and quite significant in the long-run though in the short-run the impact of borrowed funds and coefficient of budget deficit is positive.

Presbitero and Panizza (2013) surveyed the links between public debt and economic growth in advanced economies. The study finds that theoretical models yield ambiguous results. The study also finds the presence of thresholds between debt and growth is not robust to small changes in data coverage and empirical techniques. Instead of comparing growth across a set of pre-established brackets, Minea and Parent (2012) studied the relationship between debt and growth by using the Panel Smooth Threshold Regressions model originally proposed by Gonz´alez, Terasvirta and Van Dijk (2005). This approach allows for a gradual change in the regression coefficient when moving from one regime to the other.

Minea and Parent (2012) found that public debt is negatively associated with growth when the debt-to-GDP ratio is above 90 percent and below 115 percent. However, they also find that the correlation between debt and growth becomes positive when debt surpasses115 percent of GDP. While Minea and Parent's (2012) results should not be interpreted as an argument for fiscal profligacy, they suggest the existence of complex non-linearities, which may not be captured by models that use a set of exogenous thresholds. Minea and Parent (2012) also noted that since Reinhart and Rogoff (2010) found that differences in median growth are much smaller than differences in average growth, researchers should be careful in examining the role of outliers and

check whether their results are robust to using different sources of data (Presbitero and Panizza, 2013).

Ezeabasili and Isu (2011) investigated the relationship between Nigeria's external debt and economic growth, between 1975 and 2006. The result revealed that external debt has negative relationship with economic growth in Nigeria. For example, a one per cent increase in external debt resulted in a decrease of 0.027 per cent in Gross Domestic Product, while a 1 per cent increase in total debt service resulted to 0.034 per cent (decrease) in Gross Domestic Product. Essien and Onwioduokit (1998) adopted the Zeller Reformulation Error (ZRE) in variable type model, and observe that high debt burden has been the root cause of Nigeria's sluggish growth.

Oyejide (1985) recorded that rapid economic growth presumes that public investment may often be necessary at a rate well in excess of public savings. Hence it may become necessary for government to resort to borrowing to supplement public savings and thus fill the resource gap. Therefore, debt becomes a good finance option to facilitate economic development process. Nevertheless, Iyoha (1999) argued that high stock of debt can depress investment and lower the rate of economic growth. Alfredo and Francisco (2004) investigated the relationship between external debt and economic growth for some Latin American and Caribbean countries and found that lower total external debt levels were associated with higher growth rates. Ndung'u (1998) posits that the external debt problem in Africa has led to an investment pause and has reduced growth performance substantially.

Audu (2004) found out that debt servicing has had significant adverse effect on the growth process in Nigeria. The study by Borensztein (1991) found for Philippines that the debt overhang had an adverse effect on private investment. Also, Sanusi (1988) was of view that faulty domestic policy which ranges from project finance mismatch, inappropriate monetary policy and fiscal policy are responsible for domestic borrowing problem. Ajay (1989) traced the origin of Nigeria debt problem to the collapse of the international oil price in 1981 and the persistent suffering of the interactional 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 projects being stalled. He advocates 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 policy and the external factor, which are beyond the control of the economy.

Asogwa (2005) employed a more comprehensive technique in investigating the effect of domestic debt on economic growth concluded that domestic government debt in Nigeria has continued to suffer from confidence crises as market participants have consistently shown greater unwillingness to hold longer maturity debts. The government has only been able to issue more of short term debt instrument.

Abbas and Christensen (2007) analyzed optimal domestic debt level in low-income countries (including 40 sub-Saharan African countries) and emerging markets between 1975 and 2004 found out that moderate level of marketable domestic debt as a percentage GDP have significant positive effect on economic growth. The study also provided evidence that debt level exceeding 35 percentages of total bank deposits have negative impact on the economic growth. (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.

Aminu, Ahmadu and Salihu (2013) investigated the impact of external debt, and domestic debt on economic growth in Nigeria between 1970 and 2010. Ordinary least square was employed to establish a simple relationship between the variables: gross domestic product, external debt and domestic debt. The results of OLS revealed that external debt possessed a negative impact on economic growth while domestic debt has impacted positively on economic growth (GDP). The study recommended that domestic debts if properly manage can lead to high growth level. This means that concerted effort be made by policy makers to manage the debt effectively by channeling them to productive activities (real sector) so as to increase the level of output in Nigeria, hence achieving the desire level of growth. Also, the government should formulate policies aimed at encouraging domestic savings vis-à-vis domestic investment as the need for borrowing is due to gap between domestic savings and investment, therefore, bridging the gap can be a likely solution to Nigeria's debt accumulation.

Adebiyi and Olowookere (2013) studied the implications of debt on economic growth and development employed the ordinary Least Squares Method to analyze the time series data extracted from the CBN statistical bulletin and Debt Management Office in Nigeria between 1990 and 2011. They found that debt holding of government far above certain healthy threshold has negative effect on economic growth. It can lead not only, to capital flight but also discourage private investment. Adebiyi, and Olowookere recommended that the establishment of the Debt Management Office should be seen as a positive step towards enhancing the efficiency of debt management and the effectiveness of monetary policy.

Tajudeen (2012) examined the causal nexus between public debt and economic growth in Nigeria between 1970 and 2010 using a Vector Autoregressive (VAR). The variables used in the study were tested for stationarity using the Augmented Dickey Fuller and Philip Perron test. The results show that public debt and economic growth have long run relationship. Also, a bi-directional causality between public debt and economic growth in Nigeria was observed. The study recommended that government can take a long term loan if they are sincere with the purpose and use the loan for the development of the economy rather than channel the funds to their personal benefit.

Boboye (2012) investigated the effect of the external debt burden on economic growth and development of Nigeria. It adopted regression analysis of OLS on secondary data sourced from the CBN. The finding indicates that external debt burden had an adverse effect on the nation income and per capital income of the nation. High level of external debt led to devaluation of the nation currency, increase in retrenchment of workers, continuous industrial strike and poor

educational system. The finding suggest that debt service obligation should not be allowed to rise more than the foreign exchange earnings and that the loan contracted should be invested in profitable venture, which will generate a reasonable amount of money for debt repayment

Udoka and Ogege (2012) understudied the extent of public debt crisis and its consequences on economic development using data from Nigerian economy for the period 1970 to 2010. It employed the error correction framework and co-integration techniques to test the relationship between per-capita gross domestic product and macroeconomics variables. The test reveals a long relationship between dependent and the independent variables. This implies that political instability may reduce development rate and other independent variables. It was recommended that Nigeria should not borrow now either internally or externally.

Onyeiwu (2012) investigated the relationship between domestic debt and economic growth in Nigeria. The Ordinary Least Squares Method (OLS), Error Correction and parsimonious models were used to analyze quarterly data between 1994 and 2008. The result showed that the domestic debt holding of government is far above a healthy threshold of 35 percent of bank deposit as the average over the period of study is 114.98 percent of bank deposit presenting evidence of crowding out of private investments. The study further revealed that the level of debt has negative effect on economic growth. It was recommended that government should maintain a debt- bank deposit ratio below 35 percent, resort to increase use of tax revenue to finance its projects and divest itself of all projects the private sector can handle while providing enabling environment for private sector investors such as tax holidays, subsidies, guarantees and most importantly improved infrastructure.

Sulaiman and Azeez (2012) examined the effect of external debt on the economic growth of Nigeria. The model built for the study proxied gross domestic product as the endogenous variable measuring economic growth as a function of external debt, ratio of external debt to export, inflation, and exchange rate proxy as the exogenous variables. Annual time series data was gathered from the Central Bank of Nigeria Statistical bulletin and Debt Management Office from 1970 to 2010. The econometric techniques of Ordinary Least Square (OLS), Johansen Co-integration test and Error Correction Method (ECM) are employed in the empirical analysis. The co-integration test shows that long-run equilibrium relationship exist among the variables. The findings from the error correction method show that external debt has contributed positively to the Nigerian economy. It was recommended that government should ensure economic and political stability and external debt should be acquired largely for economic reasons rather than social or political reasons.

Obademi (2013) focused on the impact of external debt on economic growth of Nigeria. The study used a simple regression analysis of the least square method. The empirical results via the parameters' estimates revealed that external debt and debt service have negative and positive influence respectively, though the external debt's estimate was not too strong, on economic growth. In view of the negative contribution of external debt to economic growth, it was recommended that; cost-benefit analysis, prioritization of projects, absorptive capacity of the economy, investment on productive self-financing projects, probity as well as accountability in handling government resources and debt sustainability should form the basis for contracting external debt finance.

Ekperiware and Oladeji (2014) looked at the trend of external debt, debt servicing and debt relief transmissions in the Nigerian economy. The study used structural VAR to trace out the structural effect of external debt, debt servicing and debt relief transmissions in the Nigerian economy. The descriptive analysis showed that the debt relief granted government expenditure on health and education has improved. Also the position of the nation foreign exchange appreciated which resulted to higher economic growth rate in Nigeria. Queuing from the descriptive analysis, the structural VAR result showed a decomposed shock to exchange rate were absorbed by external debt and external debt service after itself. Decomposed shock from health and education outputs were strongly influenced by external debt servicing. The study concluded that external debt is a crucial variable to developing countries and the trickle-down effect of its components are felt in the Nigerian economy. The study recommended good policies to effectively transmit the gains from external borrowing to boost critical infrastructural deficit in the country

Okwu, Obiwuru, Chidi, Obiakor and Oluwalaiye (2016) employed relevant econometric analysis to examine the effects of domestic debt on economic growth in Nigeria during the 1980-2015 periods. Variables of analytic interest were real gross domestic product (RGDP) as economic growth proxy, and domestic debt stock (DDS) and domestic debt servicing expenditure (DDSE) as determinant variables; with government expenditure (GEXP) and banks' lending rates (BLR) exerting moderating influence. Data sets on the variables were generated from relevant publications of the Central Bank of Nigeria (CBN) and National Bureau of Statistics (NBS). On individual merits of the explanatory variables, the results showed evidence of significant short- and long-run positive effect for DDS; negative effect for DDSE but insignificant negative effect for BLR. It was concluded that domestic debt had short- and long-run growth potentials. The study recommended that adequate deployment of domestic debt to key sectors of the economy was necessary for sustainable short run growth that might possible translate to long run growth.

Mba, Umunna and Agu (2016) investigated the impact of external debt on economic growth of Nigeria. Using the Auto Regressive Distribution Lag Model (ARDL) co-integration and error correction models for the periods 1970 to 2013, the result of the study indicated a long-run relationship among the variables and external debt impacts negatively on output. The study recommended that government should imbibe the habit of savings and formulate policies that will attract foreign exchange that could help in financing developmental projects instead of resolving to borrowing.

Okon, Clement and Denies (2013) understudied the relative potency of external and domestic debts on the economic performance in Nigeria. Time series data were obtained for the years 1970 to 2011 and subjected to econometric analysis. The result reveals that external debt is superior to domestic debt in terms of economic growth, external debt and not domestic debt crowd-out domestic investment in Nigeria. The direction and size of the coefficients of external and domestic debts in the investment model were observed to be (-) 0.245 and (+) 1.182 respectively. The study handed that government should have recourse to domestic market-based borrowing in order to help mobilize domestic saving and stimulate domestic investment in Nigeria.

Oluwapelumi, Iyiola and Abiodun (2016) investigated the impact of external debt on economic growth in Nigeria from 1980-2014 using the Vector Error Correction model. It was observed that external debt service payment negatively impacts real GDP per capital growth in Nigeria

significantly, signaling the existence of the debt overhang impact on economic growth. The study also documented a unidirectional causation from real GDP to external debt stock and from external debt service payment to real GDP. It was recommended that external debt should be discouraged for it cannot be relied on by government for the promotion of economic growth because of its retarding influence on growth. Other sources of revenue, such as taxation, and exports promotion should be strengthened and focused on in order to generate the needed funds for the Nigeria's indispensable expenditures to bring about the desired growth.

Nwannebuike, Ike and Onuka (2016) documented that external debt had a positive relationship with Gross Domestic Product at short run, but a negative relationship at long run. Ex-post facto research design was adopted for the study. Data on Gross Domestic Product (GDP), external debt stock and external debt service payment were obtained from World Bank International Debt Statistics. The period of study was 1980-2013. Model was formulated and data were analyzed using Ordinary Least Square. The study concluded that external debt stock and debt service payment had negative impact on the economic growth. It was further recommended that debt management Office should set mechanism in motion to ensure that loans were utilized for purposes for which they were acquired as well as set a ceiling for borrowing for states and federal governments based on well-defined criteria.

Werigbelegha, Chukwunulu and Nwamaka (2014) reported a positive significant relationship between domestic debt and Gross Domestic Product in Nigeria. He noted that a good portion of gross domestic product trends in Nigeria is affected by domestic debt variables. They used secondary data collected from the Central Bank of Nigeria Statistical Bulletin and National Bureau of Statistics for the study. The Hypotheses formulated were tested using the Ordinary Least Square (OLS) model. It was recommended that government should maintain a debt bank deposit ratio below 35 percent and resort to increase use of tax revenue to finance its projects as it is our believe that tax revenue is far from the optimum. Government should divest itself of all projects which the private sector can handle including refining crude oil (petroleum product) and transportation but should provide enabling environment for private sector investors such as tax holidays, subsidies, guarantees and most importantly improved infrastructure.

Egbe and Alfred (2014) examined the impact of external debt on the economic growth in Nigeria. The study made use of the variance decomposition and impulse response from Vector Auto-Regression (VAR), a time-series econometric model for the test. The result reveals that causation between external debt and economic growth is weak in the Nigerian context and external debt figure could not be used to forecast improvement or slowdown in economic growth in Nigeria. Hence, changes in GDP cannot be predicted with changes in external debt. The study observed that major chunk of Nigeria debt were used for selfish for selfish reasons rather than for the promotion of economic growth. It was recommended that for debt to promote growth in Nigeria, fiscal discipline and high sense of responsibility in handling public funds should be the watchword of Nigerian leaders.

Izedonmi and Ilaboya (2012) investigated the debt – growth dynamics in Nigeria. Data from 1980 – 2010 were collected. For test of hypothesis, co-integration and error correction models were done. The study recorded a significant negative relationship between public debt burden and economic growth. The ratio of debt service to export was also found to have negative and

significant effect on economic growth. It was recommended that embargo should be placed on new loan acquisition by the government at all levels unless where it is extremely important. Also, that, concerted effort should be made towards timely loan repayment and servicing to melt down the negative effect or public debt on economic growth.

Also, Anochie, Kalu and Obinna (2015) investigated the empirical relationship between domestic public debt stock and its implications to the economic growth of Nigeria. Using OLS regression techniques and the time series data from 1986 –2005, found that public domestic debt stock has affected the growth of the economy negatively. They recommended that government domestic borrowing should be discouraged and that increasing the revenue base through its tax reform programmes should be encouraged.

Ayunku and Etale (2016) understudied the effect of external debt on the economic growth in Nigeria. The study employed Johansen-Juselius Co-integration test and Vector Error Correction model to analyze the time series secondary data collected for the period 1981 to 2012. The findings revealed that external debt contributes positively to economic growth in Nigeria in the short run but had a statistically negative significant influence on economic growth in the long run. The study recommended that the relevant authorities should be proactive in the management of the country's external debt portfolio and all external borrowings should be judiciously utilized to accelerate the desired economic growth in Nigeria.

Ijeoma (2013) assessed the impact of debt on selected macroeconomic indicators in Nigerian Economy. External Debt Stock, External Debt service payment and Exchange Rate were used to determine their effect on Gross Domestic Product (GDP) for the period 1980-2010. The data collected was analyzed with Linear Regression. The study found that Nigeria's external debt stock has a significant effect on her economic growth. It was recommended that government should avoid borrowing as much as possible. Ijeoma (2013) further advised that were borrowing should only be an option only when high priority projects are being considered and the borrowed funds should be strictly monitored and evaluated to ensure they are used for the purpose for which they are borrowed and government should make policies that will promote industrialization which will in turn attract foreign direct investment.

3.0 Research Methodology

The study investigates the effect of public debt on the economic growth of Nigeria. For this purpose, the researchers employed the quasi-experimental design. Nachmias and Nachmias (1996) explained that quasi-experimental design takes a number of measures, at least three, such that the relationship between the dependent and independent variables over a period of time is established. Our study made use of three variables, two of which are independent and the other dependent. The researchers seek to find out if the two independent variables (external debt and domestic debt) have any significant relationship on the dependent variable (Gross Domestic Product) hence, the researcher's choice of quasi-experimental design. The study made use of secondary data sourced from the Central Bank of Nigeria (CBN) statistical bulletin for the respective years under study.

The data sourced are; Gross Domestic Product, External debts and Domestic Debt. We employed the Johansen's co-integration analysis and the vector error correction methodology (VECM) to identify the long-run relationships among the variables. Meanwhile, the stochastic properties of

the data were assessed on the basis of a series of unit-root tests after which the long-run relationship was estimated in order to avoid the tendency for spurious regression estimates where time-series data is utilized without adequate attention to their stationarity properties. The descriptive statistics for the data was first presented. After that, the unit root test was carried out for each of the variables. This is to ensure that the variables are stationary and that shocks are only temporary and will dissipate and revert to their long-run mean. Next, co-integration test was conducted and then the long-run estimates were presented. Thereafter we also examined the short run estimates incorporating the error correction representation for the model which helps to analyze the short run dynamics of the model. The econometric model which expresses the relationship between the public debt of Nigeria and her economic growth is specified thus:

$GDP = b_0 + b_1 EXDS + b_2 DD + e_t$

Where;
GDP = Gross Domestic Product
EXDS = Total external debts
DD = Domestic Debt
b_0 = Intercept of the relationship
b_1 and b_2 – Measure of the slope
e_t = Noise term
The multi linear regression model relates GDP to the explanatory variable EXD and DD.

4.0 Presentation and Analysis of Data

The series of preliminary estimations such as the descriptive statistics and the Pearson correlation analysis are discussed here. Thereafter, the univariate and multivariate regression estimation is conducted. The results are presented and interpreted below. The quantitative data sourced carrying this study covers the three variables, two of which are independent and the other dependent.

4.1 Descriptive Statistics

Table 1: Descriptive Statistics

	GDP	EXDEBT	DDEBT
Mean	7872726	1060183	1141064
Median	2702719	590441.1	477733.9
Maximum	40530013	4890270	6545115
Minimum	47619.7	1866.8	8215.6
Std. Dev.	11375312	1394588	1652633
Jarque-Bera	13.33656	15.01225	35.50353
Probability	0.001271	0.00055	0.000
Observations	33	33	33

Source: Researchers Compilation (2016) using Eviews 7.0

Where; GDP = Gross domestic product, EXDEBT =External debt, DDEBT = Domestic debt.

Table 4.3 presents the result for the descriptive statistics for the variables. As observed, GDP has a mean value of 7872726 and standard deviation of 11375312. The maximum and minimum

values stood at 40530013 and 47619.7 respectively. The mean values for EXDEBT stood at 1060183 with a standard deviation of 1394588. The maximum and minimum values were 4890270 and 1866.8 respectively. DDEBT is observed to have a mean value of 1141064 and a standard deviation of 1652633. The maximum and minimum values are 6545115 and 35.50353 respectively. The Jacque-Bera statistics and the associated probability values for the variables reveal that they do not deviate significantly from normality and thus the presence of outliers is unlikely.

Table 2: Correlation Result

	GDP	EXDEBT	DDEBT
GDP	1		
EXDEBT	0.128668	1	
DDEBT	0.970916	0.147415	1

Source: Researchers Compilation (2016) using Eviews 7.0

The correlation coefficients of the variables are examined. As observed, a positive correlation exists between GDP and EXDEBT (r = 0.128). A strong positive correlation is observed between GDP and DDEBT (r = 0.971) and a positive correlation is observed between EXDEBT and DDEBT (r = 0.1474). The correlations amongst the explanatory variables are quite within limits and do not raise serious suspicions about multicollinearity. However, the Variance inflation test is also conducted.

Table 3: Variance Inflation Test

Variable	Coefficient Variance	Centered VIF
C	4.65E+11	NA
EXD	0.129466	1.022214
DD	0.092192	1.022214

Source: Researchers Compilation (2016) using Eviews 7.0

The variance inflation factor (VIF) shows how much of the variance of a coefficient estimate of a regressor has been inflated due to collinearity with the other regressors. Basically, VIFs above 10 are seen as a cause of concern (Landau and Everitt, 2003). As observed from table 4.5above, none of the variables have VIF's values exceeding 10 and hence none give serious indication of multicollinearity.

4.2 Unit Root Test Result

The unit root test is applied to examine the stationarity condition of the variables in a time series analysis. This is because econometric analysis conducted using non-stationary data often results in spurious regression estimates. Stationarity indicates that the process mean and variance seem stable and any stochastic shock will return to a proper mean level. The Augmented –Dickey Fuller unit root test is conducted and analyzed below;

Table 4:The ADF Unit Root Test at Levels

	Intercept		Trend and Intercept	
Variable	ADF value	Critical value	ADF value	Critical value
GDP	-0.581	-2.96	-2.943	3.56
EXDEBT	-1.349	,,	-2.427	,,
DDEBT	-2.084	,,	-2.798	,,

Table 5: The ADF Unit Root Test (1st difference)

	Intercept		Trend and Intercept	
Variable	ADF value	Critical value	ADF value	Critical value
GDP	-6.913	-2.96	82	3.603
EXPDEBT	-5.006	,,	24	,,
DDEBT	-6.831	,,	12	,,

Source: Researchers Compilation (2016) using Eviews 7.0

The result of the unit root test at levels with intercept and with intercept and trend. Estimating with intercept, the Augmented Dickey Fuller (ADF) result is as follows; GDP (ADF = 0581.), EXDEBT (ADF = 1.349), DDDEBT (ADF = 2.084), From the ADF values, it is observed that all the variables were less than the critical value of 2.96 at 5% significance level and hence we conclude that the variables are not stationary in levels. Examining the variables at levels with intercept and trend, it is also observed that GDP (ADF=-2.943), EXDEBT (ADF=-2.427) and DDEBT (ADF=-2.798) also maintained their non-stationarity. As shown in table 5, at 1st difference with only intercept, the Augmented Dickey Fuller(ADF) result is as follows; GDP (ADF=-6.913), EXDEBT (ADF=-5.006), DDEBT (ADF=-6.831). From the ADF values, it is observed that all the variables achieved stationarity at first difference both at intercept and intercept and trend and hence we can conclude that all variables are I(1). Once the stationarity properties of the individual series are established, linear combinations of the integrated series are tested for co-integration. Table 7 and 8 below shows the Cointegration result.

4.3 Co-integration Test

Table 6: Cointegration Rank Test (Trace statistics)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	Critical Value	Prob.**
None *	0.857971	78.35050	29.79707	0.0000
At most 1 *	0.377408	17.84703	15.49471	0.0217
At most 2	0.096832	3.157257	3.841466	0.0756
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: Researchers Compilation (2016) using Eviews 7.0

Table 7: Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	Critical Value	Prob.**
None *	0.857971	60.50347	21.13162	0.0000
At most 1 *	0.377408	14.68977	14.26460	0.0428
At most 2	0.096832	3.157257	3.841466	0.0756
Max-eigenvalue 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: Researchers Compilation (2016) using Eviews 7.0

The Cointegration tests are carried out based on the Johansen (1988) and Johansen and Juselius (1992) maximum likelihood framework. The aim is to establish whether long-run relationship exists among the variables of interest. Using the trace statistics and the maximum Eigen value, the results for the test rejects the null hypothesis that there is no co-integrated vector (None). Specifically, the trace statistics show the presence of at least two co-integrating equations while the maximum Eigen value confirms the existence of at least three co-integrating vectors in long run results. According to Engle and Granger (1987), when a set of variables are I (1) and are cointegrated then short-run analysis of the system should incorporate error correction term (ECT) in order to model the adjustment for the deviation from its long-run equilibrium. The vector error correction model (VECM) is therefore characterized by both differenced and long-run equilibrium models, thereby allowing for the estimates of short-run dynamics as well as long-run equilibrium adjustments process.

4.4 Lag Length Selection

One of the considerations in cointegrated modeling is the determination of the appropriate lag length of the autoregressive representation of a cointegrated system. The lag structure of the model has a theoretical implication as the estimation is influenced by the model's dimension.

Table 8: Lag Selection

Lag	Akaike information criteria	Schwartz Criteria	Log-likelihood
0	29.940	30.031	-477.043
1	29.945	30.476	-459.154
2	29.263	29.637	-417.956
3	29.531	30.049	-430.201

Source: Researchers Compilation (2016) using Eviews 7.0

From table, we observe that using the three criteria the minimum estimates are in lag 2. The efficiency methodology proposed by Akaike (1974) is used for selecting the representation of the cointegrated system by selecting the model which minimizes the estimated criterion value. Hence in estimating the error correction model, we utilize a lag length of 2.

4.5 Vector Error Correction Model (VECM)

A VEC Model is a restricted Variance Autoregressive (VAR) model which has cointegration relations built into the specification so that it restricts the long-run behaviour of the endogenous variables to converge to their cointegrating relationships while allowing for short-run adjustment

dynamics. The error correction model is a general framework used to describe the dynamic relationships amongst stationary variables. The result is presented below.

Table 9: Parsimonious ECM Result

Variables	**COEFFICIENT STANDARD ERROR**		**T-STAT**
LONG-RUN ESTIMATES			
EXDEBT	-19.36401	2.2003	-8.80171
DDEBT	25.113	0.589	12.225
C	-11402047		
SHORT-RUN ESTIMATES			
D(GDP(-1))	-0.126320	0.13489	-0.93647
D((GDP(-2))	0.694738	0.09749	7.12620
D(EXDEBT(-1))	-0.383929	0.18721	-2.05080
D(EXDEBT(-2))	-0.284739	0.18426	-1.54532
D(DDEBT(-1))	4.834708	0.55311	-1.54532
D(DDEBT(-2))	2.969377	0.92540	3.20876
ECM(-1)	-0.03	0.0056	-5.339
R-squared	0.943		
Adj. R-squared	0.925		
F-state	52.8209(0.00)		
ARCH	0.87		
Breusch-pagan-Godfrey	0.122		
Ramsey RESET	0.40		

Source: Researchers Compilation (2016) using E views 7.0

The estimates for the short-run results show that the two (2) period lag of GDP, DDEBT appear to be significant at 5%. The expected negative sign for the ECM (-1) is satisfied and it also appeared significant at 5 % (t = 5.33). The ARCH test for heteroscedasticity was performed on the residuals and the results showed probabilities in excess of 0.05, which leads us to reject the presence of heteroscedasticity in the residuals. The Breusch-Godfrey Serial Correlation LM Test for higher order autocorrelation reveals that the hypotheses of zero autocorrelation in the residuals were not rejected. This was because the probabilities (Prob. F, Prob. Chi-Square) were greater than 0.05. The LM test did not therefore reveal serial correlation problems for the model. The performance of the Ramsey RESET test showed high probability values that were greater than 0.05, meaning that there was no significant evidence of miss-specification.

The coefficient of determination of the model is 94.3 which suggest the ECM model explains about 94.3% of the systematic variations in the dependent variables. The F-stat is statistically significant at 5% and hence the hypothesis of no significant long run linear relationship between the dependent and the independent variables is rejected.

4.6 Discussion of Result

The co-integration test indicates the existence of a long-run relationship between the variables and hence normalizing on GDP we generate the estimates for the long run relationship and also the short run and error correction estimates. The long-run estimates of the model as reported in table 7 above shows that EXDEBT exerts a strong negative effect (-19.364) on GDP which is also statistically significant at 5% (t = 8.801) and suggest that an increase in external debts will signal a decline in GDP. The adverse effect of EXDEBT has important influence over the economy both in the short and long run. Debt can stimulate aggregate demand and output in the short run, but crowds out capital and output in the long run.

High external debt can adversely affect capital accumulation and growth through higher long-term interest rates, higher future distortionary taxation, inflation, greater uncertainty about prospects and policies, constrain the scope for countercyclical fiscal policies which may result in higher volatility and further lower growth (Gale and Orzag, 2003; Baldacci andKumar 2010; Dotsey, 1994; Cochrane 2010; Burnside, Eichenbaum and Rebelo, 2001; Hemming, Kell, andSchimmelpfennig, 2003; Aghion andKharroubi, 2007). Consequently, the negative sign on EXDEBT coefficient in the long run is expected and in tandem with prior studies.

DDEBT is observed to have a long run positive impact on GDP (25.113) and also statistically significant at 5% (t=12.2225). This suggests that unlike EXDEBT, DDEBT could impact GDP positively in the long run. The reason behind creation of domestic debt in developing countries is that it kindles development of deep and liquid internal financial markets, protect countries from unfavourable external shocks, and mitigate foreign exchange risk (Del, 2003; Aizenman, 2004; Kumhof, 2005).

5.0 Conclusion and Recommendations

5.1 Conclusion

Public debt has important influence over the economy of a country both in the short and long run. Debt can stimulate aggregate demand and output in the short run, but crowds out capital and output in the long run. High debt can adversely affect capital accumulation and growth through higher long-term interest rates, higher future distortionary taxation, inflation, greater uncertainty about prospects and policies, constrain the scope for countercyclical fiscal policies which may result in higher volatility and further lower growth.

Upon these considerations, it is very unlikely for a country to live without a debt and meet all her financial and non-financial statutory obligations. Countries especially, developing countries like Nigeria, as a result of this resort to external and internal borrowing in order to meet its needs and reasonably enhance its economic growth. When economic growth is enhanced, the economy's poverty situation is likely to be affected positively. In order to encourage growth, countries at early stages of development borrow to augment what they have because of dominance of small stocks of capital hence they are likely to have investment opportunities with rates of return higher than that of their counterparts in developed economies. Therefore economy indulges in debt to boost economic growth.

5.2 Recommendations

Government should deemphasize the appetite for external loan as it can have about 20% negative influence on the economy. This means that an increase in external debt signals a decrease in GDP by 20%. Although external debt can stimulate aggregate demand and output in the short term. However it crowds out capital and output in long run which affect capital accumulation and growth through higher long-term interest rates, higher future distortionary taxation, inflation, greater uncertainty about prospects and policies, constrain the scope for fiscal policies which may result in higher volatility and further lower growth. If government must borrow she should look inwards and borrow internally as internal debt impact positively on GDP in the long run while maintaining demand and output level in the short run. The reason for this is that domestic debts kindles development of deep and liquid internal financial markets, protect the economy from unfavourable external shocks and reduces foreign exchange volatility

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Appendix

Sample (adjusted): 1980 2016
Included observations: 36 after adjustments
Trend assumption: Linear deterministic trend
Series: GDP EXD DD
Lags interval (in first differences): 1 to 1

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.857971	78.35050	29.79707	0.0000
At most 1 *	0.377408	17.84703	15.49471	0.0217
At most 2	0.096832	3.157257	3.841466	0.0756

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

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.857971	60.50347	21.13162	0.0000
At most 1 *	0.377408	14.68977	14.26460	0.0428
At most 2	0.096832	3.157257	3.841466	0.0756

Max-eigenvalue 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

Vector Error Correction Estimates
Date: 06/22/16 Time: 04:11
Sample (adjusted): 1980 2014
Included observations: 36 after adjustments
Standard errors in ( ) and t-statistics in [ ]

Cointegrating Eq:	CointEq1
GDP(-1)	1.000000
EXD(-1)	-19.36401
	(2.20003)
	[-8.80171]
DD(-1)	25.11300
	(12.3404)

	[2.03502]		
C	-11402047		
Error Correction:	D(GDP)	D(EXD)	D(DD)
CointEq1	-0.029783	-0.001837	0.008422
	(0.00558)	(0.00708)	(0.00170)
	[-5.33909]	[-0.25952]	[4.96572]
D(GDP(-1))	-0.126320	-0.383415	0.089996
	(0.13489)	(0.17113)	(0.04101)
	[-0.93647]	[-2.24048]	[2.19437]
D(GDP(-2))	0.694738	-0.069666	0.095226
	(0.09749)	(0.12368)	(0.02964)
	[7.12620]	[-0.56325]	[3.21259]
D(EXD(-1))	-0.383929	0.188845	0.137800
	(0.18721)	(0.23751)	(0.05692)
	[-2.05080]	[0.79511]	[2.42095]
D(EXD(-2))	-0.284739	-0.412322	0.240202
	(0.18426)	(0.23377)	(0.05602)
	[-1.54532]	[-1.76382]	[4.28757]
D(DD(-1))	4.834708	0.161535	0.158894
	(0.55311)	(0.70173)	(0.16817)
	[8.74089]	[0.23020]	[0.94484]
D(DD(-2))	2.969377	1.846471	-1.002228
	(0.92540)	(1.17404)	(0.28136)
	[3.20876]	[1.57275]	[-3.56207]
C	-517939.8	225059.8	140296.9
	(156211.)	(198182.)	(47494.9)
	[-3.31565]	[1.13562]	[2.95394]
R-squared	0.943841	0.437129	0.869577
Adj. R-squared	0.925973	0.258034	0.828078
Sum sq. resids	5.27E+12	8.49E+12	4.88E+11
S.E. equation	489600.7	621148.1	148859.9
F-statistic	52.82091	2.440762	20.95452
Log likelihood	-430.9562	-438.0956	-395.2387
Akaike AIC	29.26375	29.73971	26.88258
Schwarz SC	29.63740	30.11336	27.25623
Mean dependent	1349365.	33272.14	217670.3
S.D. dependent	1799474.	721112.6	359015.1

Determinant resid covariance (dof adj.)	1.09E+33
Determinant resid covariance	4.29E+32
Log likelihood	-1254.784
Akaike information criterion	85.45224
Schwarz criterion	86.71332

Descriptive Statistics

Sample: 1980 2016

	GDP	EXD	DD
Mean	7872726.	1060183.	1141064.
Median	2702719.	590441.1	477733.9
Maximum	40530013	4890270.	6545115.
Minimum	47619.70	1866.800	8215.600
Std. Dev.	11375312	1394588.	1652633.
Skewness	1.473330	1.557771	1.978045
Kurtosis	4.008220	4.100637	6.189059
Jarque-Bera	13.33656	15.01225	35.50353
Probability	0.001271	0.000550	0.000000
Sum	2.60E+08	34986048	37655127
Sum Sq. Dev.	4.14E+15	6.22E+13	8.74E+13
Observations	33	33	33