RESPONSIVENESS OF ECONOMIC GROWTH TO EXTERNAL DEBT IN NIGERIA

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Abstract
This study focused on responsiveness of economic growth to foreign debt in Nigeria, 1986-2013. Specifically, the study sought to: (i) ascertain whether economic growth positively responds to external debt, and (ii) determine whether economic growth significantly responds to external debt. The study adopted ex-post facto design. Annual time series data for 28 years (1986-2013) were generated from the Central Bank of Nigeria Statistical Bulletin, National Bureau of Statistics (NBS) and Debt Management Office (DMO). A preliminary test was conducted using Augmented Dickey-Fuller (ADF) to ascertain data stationarity so as to forestall obtaining spurious regression results. Ordinary Least Squares (OLS) method was used to estimate the variables. External debt stock (EDS), External debt service payment (EDSP) and Foreign exchange rate (FEXR) were applied as explanatory variables, while real gross domestic product (RGDP) formed the dependent variable. Decisions were anchored on a 5% level of significance. The study discovered as follows that: (i) GDP negatively responded to external debt stock, and (ii) GDP had a non-significant response to external debt stock. Based on the findings, the study recommended that external debt can drive economic growth if fiscal discipline and high sense of responsibility is maintained by leaders in managing public funds. Secondly, efforts should be geared toward increased credit delivery (including borrowed funds) to the productive sectors capable of stimulating the economy.

Keywords: Gross Domestic Product, External Debt Stock, External Debt Service Payment, Foreign Exchange Rate

Introduction
There are various mechanisms for achieving optimal macroeconomy. One of such methods is promotion of investment. The need for external capital arises when desired investment exceeds actual domestic savings (Obiechina & Ukeje, 2013). Accordingly, Comeliau (2005); Rahman, Bashar & Dey (2012) view external finance as veritable funding options for developing economies among others that include official development assistance (ODA), foreign direct investment (FDI) and external debt which is focus of the study. The essence of external debt in developing countries has been justified by the two-gap approach developed by Chenery (cited in Okoro, 2011:48), which posits that:
in the short run, the effectiveness of external resources depends on their use to relieve shortage of skills, savings and imported commodities, while the long run fate of these countries depend on the use that is made of the initial increase in output.

The economic processes visualized also rely on the postulations of Chenery & Strout (1966) where economic growth is propelled by domestic saving and reasonable levels of borrowing by a resource deficient country (Ijeoma, 2013). It is imperative to note that aforementioned theory can only make sense if the needy country applies laudable fiscal policies to her borrowing plan. Moreover, countries grappling with deficit budgetary process, dwindling export earnings should seek foreign finance to boost economic growth and stabilize macroeconomic indices (Gohar, Bhutto & Butt, 2012). Similarly, other pro-foreign debt scholars (Sulaiman & Azeez, 2012; Ezeabasili, Isu & Mojekwu, 2011; Ogunmuyiwa, 2011) contend that countries facing paucity of capital resources will resort to borrowing abroad to boost internal saving for purpose of financing development. Undoubtedly, the need for governments to borrow in order to fund a deficit budget has made foreign debt a worthwhile financing instrument (Osinubi & Olaeru, 2006).

In light of the foregoing, the reasons governments borrow can be condensed to two key objectives, which are to bridge the “savings-investment” gap and “foreign exchange” gap. The dual-gap analysis justifies the need for external borrowing as a bid to narrow the saving-investment gap in a country the domestic economy cannot fill. The second objective is to bridge the foreign exchange (export-import) gap. In Nigeria the regular balance of payment deficit often hinder substantial resource inflow (foreign exchange) required for sustainable growth and development. Since foreign exchange revenue required to fund investment appears inadequate, governments leverage on foreign debt to achieve desirable economic turnaround (Utomi, 2014).

Prior to the US$18 billion debt relief package delivered to Nigeria by the Paris Club in April 2006, which was processed from 2005, the country had accumulated a staggering external debt burden estimated at US$35.94 billion by end of 2004. The amount due to Paris Club alone stood at over US$30.8 billion (representing 85.8 per cent of external debt outstanding by creditor category, other categories totaled 14.2 per cent)). Clearly, the largest proportion of Nigeria’s external debt profile was owed to the Paris Club. The disgusting debt history may not be unconnected with long period of unjust, inefficient governance cum uncontrollable wish of our military and political leaders to contract foreign loan for frivolous reasons (Semenitari cited in Ezenwa, 2012). Nevertheless, Nigeria was required to cough up a whopping sum oUS$4.9 billion annually for debt servicing (Aluko and Arowolo, 2010). Fortunately, the debt relief milestone was expected to put Nigerian economy on better springboard of being rejuvenated. On the contrary, the economy seems to be deteriorating by the day with skyrocketing unemployment rate, lowering living standard, and decaying infrastructure, among others, though she is still borrowing.

External borrowing has remained the focus of research and public debate (Aluko & Arowolo, 2010). In this regard, many scholars of diverse background had carried out studies in this area; of this number, Sulaiman & Azeez (2012 and Kasidi & Said (2013) inferred that economic growth positively and significantly responded to foreign debt. Other findings (Adeniji, 2013; Ogunmuyinwa, 2011 and Malik, Hayat & Hayat, 2010) indicated a negative and non-significant response of the dependent variable to the explanatory variable. The apparent dissimilarities in their findings could be traced to the methodology, location of research, nature and sources of data used by different authors. Taking the conflicting results into account, there is obviously no consensus on the matter yet; therefore this study sought to contribute to the debate by either affirming or invalidating previous works in this area.
Following from the research problem, our specific research objectives are to: i) ascertain whether gross domestic product (GDP) positively responds to external debt, and ii) determine whether gross domestic product significantly responds to external debt. GDP is the adopted parameter that measures economic growth.

In line with the stated objectives, our hypotheses formulated in null forms indicate that:

i) Gross domestic product does not respond positively to external debt, and

ii) Gross domestic product does not respond significantly to external debt.

2. Review of Related Literature

2.1 Conceptual Framework

Debt as a source of funding is presented in proper perspectives in terms of what it is used to achieve for an economy.

2.1.1 Concept of Debt

Debt may be defined as the resource or money in use in a country, which may or may not be generated by the residents. Debt may also be described as finance obtained beyond the boundary of a country and does not in any way belong to the populace (Adepoju, Salau & Obayelu, 2007). Put in other words, debt is money, service or property owed and/or represented by a financial instrument or other formal equivalent. The authors further describe debt as what a person legally owes to another or an obligation that is enforceable by legal action to make payment of money.

Anyanwaokoro (2004:153) citing Bowden classifies debt into productive debt and consumption debt. He sees productive debt as self-liquidating debt because it pays itself off and can create additional income for the borrower. He maintains that with productive debt, the more you borrow and invest (if your business expectations come true), the better off you will become in years ahead. For instance, if the government borrows money to finance a steel production plant, refineries or factories etc, these assets will generate the income to be used in repaying the debt. It is therefore, a productive debt. A productive debt provides more free income and financial freedom as time goes on if all things become equal. However, a credit facility obtained to pay for goods, services and expenses on current expenditure that will be gradually used up (consumed) without making any direct income is known as consumption debt. Instead of creating any income, consumption debts become a regular source of drain to the borrower’s income. The borrower has to procure money from other sources to pay off the principal and interest on the loan, and also spend money to maintain and service the consumption of goods. It is observed that the more you acquire consumption debt the less free income and financial freedom you will have in the years ahead. Therefore, debt finance investment needs to be productive and prudently managed to earn a rate of return higher than the cost of debt servicing (Adepoju, et al., 2007).

The main emphasis of this study is on external debt, which is a component of ‘public debt’. When a government borrows, the debt is a “public debt”. Public debts secured either from within a country (internal or domestic) or from outside (external or foreign) are debts incurred by the government through borrowing in the domestic or international markets in order to finance domestic investments. External debts constitute the second half of public debts. The first half, domestic debts is excluded from this study because it is not within the ambit of international finance (Esezobor, 2009:498). He refers to external debt as loans secured from foreign creditors, including governments, financial institutions, corporate bodies and non-corporate bodies. He maintains that external debts are traceable to projects, financing of trade bills and funds to complete official balance of payment schedule. In addition, since the focus of this study relates to external debt,
Adejuwon, James & Soneye (2010) refer to external debt as debt owed by the public and private sectors of the Nigerian economy to foreign interest groups: official and private, which must be repaid in full in the currency of the creditor.

2.1.2 Concept of Economic Output

Economic output is measured in terms of the gross domestic product (GDP). GDP is the total value of goods and services produced in an economy during a given period of time, usually a year. The government expenditure and net exports. GDP reflects the total income earned from internal factors note that GDP calculations take into account the market value of the goods and services produced.

2.2 Theoretical Framework

Several theories have been advanced by scholars in attempt to elucidate the responsiveness of economic growth to foreign debt. One of these theories that have gained recognition of this study is the “dual-gap”. It is briefly discussed below:

2.2.1 Dual-gap Theory

“Dual-gap” hypothesis is the theoretical foundation of this study. The theory credited to Chenery & Strout (1966) makes assumptions why a developing country cannot do without foreign finance as a means of ensuring sustainable growth rather than relying solely on domestic resources that is barely enough (Ayadi & Ayadi, 2008). The two-gap theory contends that growth is limited by two main constraints. Firstly, the saving-investment gap constraints a country’s ability to save and invest. Second, the foreign exchange gap resulting from imbalances in export-import activities frustrate governments’ ability to mobilize foreign exchange revenue needed to stimulate investments.

Theoretically, the rationale for the relationship between foreign loan and the savings-investment gap can be explained within the framework of a simple macroeconomic model of an open economy, where GDP(Y) = Consumption (C) + Saving(S). Therefore,

\[ Y = C + S \]  \hspace{1cm} (1)  

Alternatively,

\[ GDP = C + S + I + (X - M) \]  \hspace{1cm} (2)

Where,

- \( C \) = Consumption
- \( I \) = Investment
- \( X \) = Exports
- \( M \) = Imports
- \( S \) = Savings

In this theory, investment includes both private sector investment and government expenditures. That is,

\[ I = Ip + Ig \]  \hspace{1cm} (3)

Where,

\( Ip \) = private sector investment
\( Ig \) = government expenditures

Since GDP equals domestic consumption plus the domestic saving, it follows from equation (1) and (2) that the demand for domestic investment equals the sum of domestic savings and the import balance on current accounts, which is financed by net borrowing from abroad.

\[ GDP = C + S(M - X) \]  \hspace{1cm} (4)

Where,

\( (M - X) = \text{net borrowing} \)
2.3 Empirical Review

There are various studies that relate to our research topic, and many of such works have been closely examined in line with the objectives of the study as presented hereunder: Loganathan, Sukemi & Sanusi (2010) analyzed the long-run and short-run relationship between foreign debt and macroeconomic performance of Malaysia. They applied annual data series for the period of 1988-2008. The co-integration approach was employed to investigate the long-run relationship: Vector Error Correction Method (VECM) to investigate the short-term dynamics. The results showed a significant long-run and short-run relationship between external debt and macroeconomic variables performance.

Frimpong & Oteng-Abayie (2006) examined the impact of external debt on economic growth in Ghana. Specifically the study sought to determine the existence of a “debt overhang” and/or “crowding out” effects for the period 1970 to 1999. The authors used Augmented Dickey-Fuller Unit Root and Johansen Multivariate approach for co-integration to test for stationary and long-run relationship among variables. A Vector Error Correction method was used to estimate short-run impacts. The results indicated GDP growth positively influenced by external debt inflows and negatively by debt servicing revealing the presence of a “crowding out effect”.

Rahman, Bashar & Dey (2012) explored as its primary objective the relationship between external debt and gross domestic product in Bangladesh. The authors specifically analyzed the importance of foreign debt as a significant source of income for Bangladesh using time series data covering 1972 – 2010. The findings showed a positive and significant correlation between GDP and external debt. The result suggested existence of long-run relationship between GDP and external debt. The result of Granger’s causality test implied there was a bi-directional causality runs through GDP to external debt, as well as external debt to GDP. In his study, Cetin (2013) examined time series analysis of China’s foreign debt components, foreign exchange reserves and economic growth rates within the period of 1982 – 2009, and applied the Granger causality test. It was discovered that China’s short-term external debts, foreign exchange reserves, total external debts had significant impact on China’s economic growth rates within the study period.

Eravwoke & Oyovwi (2013) studied foreign debt and its impact on economic growth in Nigeria. They utilized co-integration technique to establish the quantitative impact and relative significance of the explanatory variables. The study revealed a long-run relationship among the major macroeconomic variables. The results indicated that foreign debt burden, foreign direct investment, inflation and exports had a positive relationship with economic growth. The study then recommended that Nigerian government should not contract further unproductive debt as it might be detrimental to growth and development of the economy.

Ezeabasili, Isu & Mojekwu (2011) investigated the relationship between foreign debt and economic growth in Nigeria. They adopted Johansen Co-integration approach, Error Correction estimates and Granger causality to examine the relationship between the dependent and independent variables for 31 years (1975 – 2006). The result indicated that external debt had a negative relationship with economic growth in Nigeria within the period studied. Malik, Hayat & Hayat (2010) explored the relationship between external debt and economic growth in Pakistan for the period 1972-2005 using time series data. Their result showed that external debt negatively and significantly related to economic growth. The evidence suggested that increase in external debt would lead to decline in economic growth.

Ahmed & Shakur (2011) explored the effects of external debt on economic growth of Pakistan. Time series data from 1981 to 2008 were used. The analysis included five variables: growth rate of GDP per capita was taken as a dependent variable while external debt to GDP ratio, investment to GDP ratio, population growth rate and trade openness was independent variables. Unit Root test
using ADF was applied to ascertain the stationarity. The Co-integration estimation revealed the long-run relationship between external debt and growth rate of GDP per capita. Furthermore, the Granger Causality Vector Error Correction (GCVEC) method showed unidirectional relationship between external debt and growth rate of GDP per capita. There is no doubt that other macroeconomic growth proved that the economic index behind the low economic growth was debt. Kasidi & Said (2013) examined the impact of external debt on economic growth in Tanzania using time series data for the period 1990 to 2010. The study collated secondary data from the Bank of Tanzania (BOT), Ministry of Finance (MoF), Zanzibar, as well as from the World Bank (WB) and International Monetary Fund (IMF) publications. The authors adopted the growth model as used by Malik, Hayat & Hayat (2010) while studying the impact of external finance on economic growth in Pakistan for the period 1972 – 2005). The study utilized the OLS method to estimate the impact of external debt on economic growth. The study also used descriptive techniques such as graphs, charts and tables of external debt on the economy of Tanzania. Given the fact that the study used time series data, it tested for stationary and covariance between the two time periods using ADF Unit Root approach. Also applied are the Johansen Co-integration test to show the long-run relationship of the external debt and GDP. The findings showed that while external debt had a positive impact on economic growth in Tanzania, debt service presented a negative effect on growth. The Co-integration test indicated that there was no long-run relationship between external debt and GDP. This study (Kasidi & Said, 2013) affirmed the work of Ruby (2012) in Bangladesh. Ogunmuyiwa (2011) using time series data, 1970-2007, as well as various econometric techniques like ADF, Granger causality, Johansen Co-integration tests and VEC method proved that causation between external debt and growth could not be established in Nigeria within the study period. He argued that foreign debt could not be used to forecast improvement or slowdown in economic growth in Nigeria. He maintained that causation between debt and economic growth was weak and non-significant as changes in GDP could not be predicted with changes in external debt. The author noted that the periods 1985-1995 and 2000-2004 were of high debt/GDP per cent, which was not unconnected with wasteful expenditures and high level of financial recklessness on the part of Nigerian leaders at that time. He also established debt overhang and decline in foreign investment and growth as fallout of observed governance problems.

Ezenwa (2010) evaluated the effect of external debt stock and debt servicing on economic growth in Nigeria from 1981 – 2010. The models specified the functional relationships between independent variables: inflation rate, exchange rate, interest rate, government expenditure, external debt stock and external debt service, and GDP, which formed the dependent variable. Relevant data were sourced from CBN Statistical Bulletin and DMO quarterly report. Engle and Granger Co-integration and OLS were employed as techniques of analysis. ADF test showed the variables were stationary and reliable for forecasting. The results showed that rising external debt stock inhibited the rate of economic growth in Nigeria within the period studied by increasing the cost of debt servicing beyond the sustainability limit, while external debt servicing did not weaken economic growth. Also, it was discovered that the loans were deployed to unviable projects leaving the external debt stock to increase rapidly due to accrued compound interest. Some of the recommendations are: Nigeria should improve her export activity, invest loans in real sectors and seek fixed interest payment, varying amortization schemes and multi-year rescheduling.

The study of Ajayi & Oke (2012) investigated the effect of external debt on economic growth and development of Nigeria. Their work relied entirely on time series secondary data spanning 27 years. In order to gauge the relationship between external debt and growth of Nigerian economy a simple macroeconomic debt-growth model was applied. The technique of analysis employed was OLS. Debt service payments, external reserves and interest rates were used as independent
variables, while the national income (proxy for Nigerian economy) formed the dependent variable. The results showed that external debt burden had an adverse effect on the nation’s income and per capita income, stressing that high level of external debt led to devaluation of the naira; increase in lay off of workers, continuous industrial unrest and poor educational system.

Sulaiman & Azeez (2012) researched into effect of external debt on economic growth of Nigeria spanning 1970 to 2010. They authors admitted that external debt had contributed positively to Nigeria economy emphasizing that optimal utilization of external debt by the government would avoid debt overhang and crowding out of investments. The model they built for their work used GDP as the endogenous variable to measure economic growth as a function of external debt, ratio of external debt to export, inflation and exchange rate as the exogenous variables. The OLS method, ADF Unit Root test, Johansen Co-integration test and Error Correction (EM) method were employed in the empirical analysis. The Co-integration test showed that long-run equilibrium relationship existed among the variables. The findings from the Error Correction method indicated that external debt had contributed positively to the Nigerian economy. The study recommended that government should ensure economic and political stability, stressing that external financing should be secured mainly for economic reasons rather than social or political reasons.

Ayadi & Ayadi (2008) analyzed impact of huge external debt with attendant service requirements on economic growth of the Nigerian and South African economies. Nigeria’s external debt profile was analyzed utilizing traditional, but innovative models and econometric techniques. The neoclassical growth model that incorporated external sector, debt indicators and some macroeconomic variables were employed to explore a linear and non-linear effect of debt on growth and investment. Both OLS and GLS were adopted in the analysis. Among other results, the negative impact of debt (and its servicing requirements) on growth was confirmed in Nigeria and South Africa. However, South Africa performed better than Nigeria in the use of external loans to promote growth. In addition, external debt contributed positively to growth up to a point after which its contribution became negative (reflecting the presence of non-linearity effect).

Bamidele & Joseph (2013) examined effect of financial crisis, external debt management on economic growth in Nigeria. The model of the study used GDP as the endogenous variable to measure economic growth as a function of foreign direct investment (FDI), external debt, external reserve, inflation and exchange rate which represented the exogenous variables. Annual time series data (1980-2010) were gathered from CBN Statistical Bulletin. Econometric techniques like OLS, ADF Unit Root test and Granger causality test were employed in the analysis. The OLS result showed that a positive relationship existed between foreign direct investment (FDI) and economic growth variables, while debt an inverse relationship existed between foreign debt and economic growth. The findings from Granger causality test showed that causality ran from GDP to FDI and external debt engendered economic growth in the Nigerian economy. The study recommended that government should ensure economic and political stability so as to encourage capital inflow and reduce accumulation of external loan.

Ezike & Mojekwu (2011) examined impact of external debt management on macroeconomic performance in Nigeria for the period 1980–2004. OLS was used to analyze the effect of the data on some macroeconomic indicators generated from CBN database. Preliminary ADF test was conducted to determine stationarity of the data series. The results revealed that reduction in foreign debt stock would enhance macroeconomic performance of Nigeria.

Utomi (2014) focused on impact of external debt on economic growth in Nigeria for the period 1980 – 2012. The researcher adopted the simple open macroeconomic debt-growth model employed by Ajayi & Oke (2012). She used OLS method as technique of analysis. External debt stock, debt service payment constituted the explanatory variables, while real GDP formed the dependent
variable. The findings showed that external debt stock related negatively with real GDP, and debt service payment equally related negatively with real GDP. On the contrary, a positive relationship existed between exchange rate and real GDP.

Ishola, Olaleye & Ajayi (2013) examined impact of external debt on sustainable economic growth in Nigeria for the period 1980 –2010. The study applied OLS method to draw inference on the relationship between external debt and economic growth. The result showed that 12.3 per cent changes in economic growth were caused by external debt and prime lending rate. The research, therefore, recommended among others that government should initiate and develop policies that could address the fundamental causes of external debt. Also, there should be political will on the part of government to ensure proper use of external borrowing to develop other needy sectors of the economy. Thirdly, debt payment plan should be formulated and strictly followed.

The work of Osuji & Ozurumba (2013) focused on impact of external debt financing on economic growth in Nigeria. The study used secondary data covering 1969 –2011 from CBN Statistical Bulletin. The variables were stationary and co-integrated. The VEC model estimate indicated that London debt financing had positive impact on economic growth, while Paris Club debt, multilateral and promissory note debts were inversely related to economic growth. The paper recommended debt service cancellation and global marketing participation to encourage survival of small and medium enterprises (SMEs) in Nigeria.

Uma, Eboh & Obidike (2013) explored the influence of total domestic debt, total external debt cum servicing of external loan from 1970–2010 on the economic development of Nigeria. Data were sourced from CBN Statistical Bulletin and World Bank databank. Preliminary test were conducted for stationarity using ADF and Johansen test for co-integration to ascertain long-run relationship of the variables. OLS method was used to analyze the data. The results showed that total domestic and total external debts were inversely related to real GDP (proxy for economic development), but at a non-significant level. Interest on total external debt related positively to real GDP contrary to our expectation, but at a non-significant level. Based on the findings, the authors recommended among others, the following: i) that government must be sincere and focus more on internally generated revenue to finance development until all the debts and accompanying interest commitments were eventually extinguished, ii) that government to cut down cost of governance aimed at promptly redeeming loan repayments, and iii) that government should diversify the economy as there are many sectors that need to be developed so as to generate more revenue and avoid opting for debt financing as the best funding alternative.

Umaru, Hamidu & Musa (2013) focused on impact of external debt, domestic debt on economic growth in Nigeria covering 1970-2010. The authors used OLS, ADF and Granger causality as techniques of analysis. They argued that debt acquisition had become an inevitable phenomenon in Nigeria despite her huge oil resources. While results of Unit Root test indicated stationarity of all model variables, the result of causality revealed a bi-directional causation between external debt and GDP; no causation existed between external debt and domestic debt. The regression results showed that external debt presented a negative effect on economic growth whereas domestic debt had a positive influence on economic growth. A good performance of an economy in terms of per capita growth might therefore be traced to the level of domestic debt and not on the level of external debt, which is seen as inimical to the economic progress of a country. The paper found out that domestic debt if properly managed could lead to high growth level. A major implication of this result is that concerted efforts should be intensified by policy makers to manage debt effectively by channeling them to the real sector so as to increase the level of output in Nigeria, hence achieving desired level of growth. Another policy implication of the study is that most developing countries contract debt for selfish reasons rather than for the promotion of economic growth. The paper also
recommended that government should rely more on domestic debt in stimulating growth rather than external debt. Government should formulate policies aimed at encouraging domestic savings vis-à-vis domestic investment. The need for borrowing as previously stated is to shorten the domestic savings – investment gap. Therefore, bridging the gap can be a workable solution to Nigeria’s debt phenomenon. For debt to drive growth in Nigeria and other highly indebted countries, fiscal prudence and great sense of responsibility in managing public funds should be the philosophy of these countries’ leaders. Debt can only be reduced to the barest minimum by increasing output. Reinhart & Rogoff (2010) examined the experience of 44 countries on the relationship among central government debt, inflation and growth. The study utilized data covering up to two centuries. Their main finding is that across both advanced countries and emerging markets, high debt/GDP levels (90 per cent and above) were associated with notably lower growth outcomes. Much lower levels of foreign debt/GDP (60 per cent) were associated with adverse outcomes for emerging market growth. It noted that rarely do countries “grow” their way out of debts. The nonlinear response (likely to depart from previous patterns) of growth to debt as debt grew towards historical boundaries was reminiscent of the “debt intolerance” phenomenon developed in Reinhart & Rogoff (2010). As countries hit debt tolerance ceilings, market interest rates could begin to rise quite suddenly, forcing painful adjustment. Of course, there were other vulnerabilities associated with debt buildups, particularly if governments tried to mitigate servicing costs by shortening the maturing structure of debt. As the researchers emphasized countries that chose to rely excessively on short-term borrowing to fund growing debt levels were particularly vulnerable to crises of confidence that could provoke very sudden and “unexpected” financial crises. This would suggest that traditional debt management issues should be at the forefront of public policy concerns. Adesola (2009) analyzed the effect of foreign debt service payments on economic growth and development with emphasis on Nigeria. The study used debt payments to creditors of multilateral institutions, Paris Club, London Club, promissory note holders and others (non-Paris Club) as variables to statistically determine whether they had inverse relationship with GDP and gross fixed capital formation (GFCF) at current market prices. Data covering 1981-2004 were applied with OLS method. The study discovered that debt service payments to the Paris Club and promissory note holders positively and significantly related to GDP and GFCF; debt service payments to London Club and non-Paris Club showed a negative and significant relationship to GDP and GFCF. It therefore recommended, among others, that government should ensure that any loan deal with either London Club or other creditors should be the deal that would open Nigeria to greater trade and investment, and could stimulate the private sector since debt payments to these two creditors impacted negatively on our economic growth. Edu (2011) dealt with Nigeria’s external debt and the implications of Paris Club debt relief on the economy. The study utilized time series data covering the period 1980 - 2008. OLS estimation technique was adopted using an Autoregressive-Distributed Lag Model (ARDLM) to evaluate the stated objectives. The choice of the model was informed by the fact that external debt entailed a spillover of past regime into the current set. The findings of the study showed there was a negative correlation between Total Debt Service (TDS) payment and Debt Financing Investment (DFI); there was a positive and significant relationship between the Paris Club debt relief and growth of the Nigerian economy. Moreover, the Granger causality result revealed there was a strong causal relationship in a longer term period between Gross National Product (GNP) and Total External Debt Stock (EDT). The test therefore showed a unidirectional causality from GNP to EDT. Following from the findings, the study recommended as follows that: i) Nigeria’s monetary and fiscal policies should be structured to discourage accumulation of huge debts so that accruing debt service payments would not negatively affect economic growth, ii) raw materials and machinery
procurement should be done locally where possible to avoid the danger of deficit balance of trade that could also ultimately translate to negative economic growth, iii) the billions of naira previously spent by the Federal Government on servicing Paris Club debts should be deployed to poverty reduction, provision of health and social services, as well as creation of conducive investment environment to boost local industries and export activities.

Ijeoma (2013) explored impact of debt on selected macroeconomic indicators in Nigeria. She used external debt stock, external debt service payments and exchange rate as independent variables as function of GDP and GFCF for the period 1980-2010. Data for the study obtained from secondary sources – DMO, CBN Statistical Bulletin were analyzed using linear regression. The study found out that Nigeria’s foreign debt stock had a significant effect on economic growth. It also revealed that there was a significant relationship between Nigeria’s debt service payments and GFCF. The scholar recommended that government should avoid borrowing as much as possible. She added that since developing countries need to borrow occasionally to enhance domestic saving, borrowing should become an option only when high priority projects were being considered, stressing those loans should be strictly monitored and evaluated to ensure they were invested on targeted viable projects. The study equally recommended government should formulate critical policies capable of encouraging industrialization in order to attract more FDIs into the country.

In his study, Amassoma (2011) examined the causal nexus between external debt, domestic debt and economic growth in Nigeria for the period 1970 – 2009. The author applied VAR and VEC model. The variables were tested for stationarity using ADF and Philip-Perron (PP). The result showed the variables were stationary at first differencing. Co-integration test was also conducted and the result, one the one hand revealed absence of co-integration between domestic debt and economic growth. It, on the other hand, indicated presence of co-integration between external debt and economic growth. The co-integration result also determined the appropriateness of methodological test for causality. The findings of the VAR model showed there was a bi-directional causality from economic growth to external debt. The study recommended government should rely more on domestic debt in driving the process of growth rather than external debt.

Ejigayehu (2013) investigated the effect of external debt on economic growth of eight selected severely indebted African countries, namely: Benin, Ethiopia, Mali, Madagascar, Mozambique, Senegal, Tanzania and Uganda. The study was analyzed based on debt overhang and debt crowding out effect. While external debt to gross national income ratio was applied as a proxy for debt overhang, debt service to export ratio was used as a proxy for debt crowding out. The empirical examination was carried out using a cross-sectional regression model on panel data spanning the period 1991-2010. Preliminary test for stationarity was conducted using ADF. The finding showed that external debt affected economic growth through debt crowding out rather than debt overhang.

Ekperiware & Oladeji (2012) examined structural break relationship between external debt and economic growth in Nigeria. The study used quarterly time series data of external debt stock, external debt service payment and real GDP from 1980 - 2009. An empirical examination was carried out using the chow test technique of estimation to determine the structural break effect of external debt on economic growth as a result of the 2005 Paris Club debt relief. The findings indicated that the 2006 external debt relief caused a structural break in the relationship between external debt and economic growth. Based on the findings, the researchers concluded that external debt relief made resources available for growth-enhancing projects.

Following from the empirical review it can be deduced that economic growth positively and significantly responded to foreign debt on one hand, while other findings, on the other hand showed a negative and non-significant response of the dependent variable to the independent variable.
Based on the conflicting results, this study sought primarily to either affirm or invalidate the findings of existing studies relating to foreign debt finance-growth relationship.

3. Methodology

3.1 Research Design

Ex-post facto design was adopted for this study. The choice of the ex-post facto design is because the research relied on already recorded events, and researchers do not have control over the relevant dependent and independent variables they are studying with a view to manipulating them (Onwumere, 2009:44). In this respect, the researcher is expected to report what has happened to the independent and dependent variables obtained from secondary sources and used in the study. Therefore, ex-post facto design suits the objectives of the study.

3.2 Nature and Sources of Data

The study made use of data that were secondary in nature. Nigerian annual time series data, which covered 1986 - 2013, was utilized for the study. The data were obtained from different sources, including CBN Statistical Bulletin, National Bureau of Statistics (NBS) and DMO.

3.3 Model Specification

This research borrowed its analytical model from the work of Ijeoma (2013), which examined the finance-growth nexus in Nigeria. The linear regression employed by the author is of the form:

\[ Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \varepsilon \]  
(1)

Where,

- \( X_1 \) = External Debt Stock (EDS) \{Independent variable\}, and \( \beta_1 \) coefficient of \( X_1 \)
- \( X_2 \) = Exchange Rate (ER) \{Independent variable\}, and \( \beta_2 \) coefficient of \( X_2 \)
- \( \varepsilon \) = Error term

Models for this study were therefore patterned after the aforementioned model. The functional relationships for the hypotheses one and two are therefore specified as shown below:

\[ \text{Log RGDP} = \alpha_0 + \alpha_1 \text{logFDS} + \alpha_2 \text{logFDSP} + \alpha_3 \text{FEXR} + \varepsilon \]  
(2)

Where,

- \( \text{Log RGDP} \) = Real Gross Domestic Product
- \( FDS \) = Foreign Debt Stock
- \( FDSP \) = Foreign Debt Service Payments
- \( FEXR \) = Foreign Exchange Rate
- \( \alpha_0 \) = Intercept
- \( \alpha_1, \alpha_2, \alpha_3 \) = Coefficients of the independent variables
- \( \varepsilon \) = Error term

3.4 Techniques of Analysis

The OLS method was adopted as technique of analyses. Precisely, ADF test as well as descriptive statistics was used to determine stationarity of the data and describe relationship of the variables respectively.

4. Data Presentation, Analysis and Interpretation of Result

This section presents and interprets data on the topic in focus (see appendix).

4.2 Results and Analyses

4.2.1 Unit Root Test

Time series data are characteristically found to be spurious (unreliable) particularly if the data are not stationary. Thus, in order to get rid of this abnormality, the Unit Root test was conducted on each of the variables under study to determine their stationary traits. Evidences
suggest that if time series data are not stationary, all the usual regression results will, at best, provide spurious regression and, at worst, very misleading. Consequently, ADF Unit Root test was conducted to test the stationary condition of the time series data.
The result of the Unit Root test (Table 4.1) reveals that the variables attained stationarity at both 5% and 10% critical values – for the dependent variable (RGDP) as well the explanatory variables (FDS, FDSP, FEXR). It is obvious that the calculated value is less than critical values for each of the variables tested, which is a confirmation of their stationarity. Moreover, to confirm the reliability of this result, the Durbin Watson statistic value at each point is significant at approximately 2.00. This also shows the absence of traits of autocorrelation in the time series data.

4.2.2 Normality Test

Table 4.2 shows residuals from all the variables, and proves that they are symmetrically distributed. At each Jarque-Bera statistic value, the probability (p-value) value is substantially high among all the variables, and is greater than 5% critical value. The probability values of the JB statistics are 66%, 41%, 85%, 55% and 77%, 33%, 51% and 40%. Since they are greater than 0.05, the null hypothesis that the residuals in the above estimation are normally distributed cannot be rejected.

4.3 Test of Hypotheses

This section tests the hypotheses stated in section one and modeled in section and interprets the OLS regression results using the decision criteria to accept or reject the null/ alternate hypotheses.

4.3.1 Test of Hypothesis One

Ho: Gross domestic product does not positively respond to foreign debt.
Ha: Gross domestic product positively responds to foreign debt
Table 4.3 presents the regression result of Hypothesis One
Dependent Variable: LOG(RGDP)
Method: Least Squares
Sample: 1986 2013
Included observations: 28

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
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<tr>
<td>C</td>
<td>13.55109</td>
<td>0.472509</td>
<td>28.67903</td>
<td>0.0000</td>
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<tr>
<td>LOG(FDS)</td>
<td>-0.088375</td>
<td>0.048319</td>
<td>-1.828993</td>
<td>0.0799</td>
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<tr>
<td>LOG(FDSP)</td>
<td>-0.011242</td>
<td>0.043133</td>
<td>-0.260639</td>
<td>0.7966</td>
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<tr>
<td>FEXR</td>
<td>0.008445</td>
<td>0.000743</td>
<td>11.35924</td>
<td>0.0000</td>
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</tbody>
</table>

R-squared: 0.884772
Mean dependent var: 12.89045

Adjusted R-squared: 0.870368
S.D. dependent var: 0.484973

S.E. of regression: 0.174612
Akaike info criterion: -0.520943

Sum squared resid: 0.731740
Schwarz criterion: -0.330628

Log likelihood: 11.29320
Hannan-Quinn crit.: -0.462762

F-statistic: 61.42754
Durbin-Watson stat: 1.673189

Prob(F-statistic): 0.000000

Source: Author’s computation, 2016

LogGDP= 13.55109- 0.088375LogFDS - 0.011242LogFDSP + 0.008445FEXR

Table 4.3 reveals that Foreign Debt Stock (FDS) has a negative effect on economic growth in Nigeria within the period studied. This was explained by the negative coefficient value (-0.088375) of our explanatory variable (FDS).

The R² is the summary measure that tells us how well the sample regression line fits the data. From the model above, R² of 0.88 means that 88% variation in gross domestic product was explained by a change in foreign debt stock, and the remaining 12% was explained by variables not included in the model. The adjusted R² takes account of more number of regressors if included and it still explains 87% variation in the dependent variable.

The F-statistic (61.42754), which follows the F distribution with a degree of freedom numerator of 1 and a degree of freedom denominator of 24 is significant (P-value = 0.000000) at a critical value of 0.05. This implies that the entire model is significant. The Durbin Watson statistic (DW) has approximated value of 2.0, and shows there is no trace of autocorrelation - meaning that our result is reliable.

Following from the OLS result, null hypothesis is accepted while the alternate hypothesis is rejected. This implies that gross domestic product did not positively respond to foreign debt in Nigeria within the study period. Foreign debt is one of the debt instruments through which Nigeria manages her economy in order to achieve desirable economic growth. Foreign debt was used in this study as one of the major sources of capital resources needed to improve the living standard of Nigerians by curtailing unemployment rate and so on. The results of the study revealed, in other
words, that foreign debt had a negative on economic growth. This implies that a unit change in foreign debt brought about a less than proportionate change in real domestic product.

4.3.2 Test of Hypothesis Two

\( H_0 \): Gross domestic product does not significantly respond to foreign debt.

\( H_1 \): Gross domestic product significantly responds to foreign debt.

Table 4.3 also presents the regression result of hypothesis two, and reveals that Foreign Debt Stock (FDS) has a non-significant influence on economic growth in Nigeria within the period studied. This was indicated by the corresponding probability value of the t-statistic 0.0799, which is more than 0.05 critical values.

5. Summary of findings, conclusion and recommendations

5.1 Summary of Findings

Findings arising from the study can be summarized as follows:

i) GDP had a negative response to foreign debt within the period under focus.

ii) GDP had a non-significant response to Foreign debt within the period studied.

5.2 Conclusion

This study set out to determine whether foreign debt can promote desirable economic performance in Nigeria for the period 1986 – 2013. The study adopted the OLS method to trace the responsiveness of economic growth to foreign debt. The preliminary test of stationarity using Augmented Dickey-Fuller (ADF) was conducted. The respective test showed that both the dependent variable (RGDP) and the independent variables (FDS, FDSP, and FEXR) were stationary at first differencing. Specifically, the study concludes that foreign debt on account of its weak coefficient did not influence economic growth, meaning the contribution made by the former to the latter was statistically non-significant for the period 1986 – 2013. The economic implication is that foreign debt could not be used to forecast improvement or slowdown in economic growth in Nigeria within the period studied. These findings validated the study of Ogunmuyiwa (2011) as the incident may not be divorced from fiscal imprudence of past military and political leaders in Nigeria at that time. These leaders rather than invest the loans on productive sectors of the economy chose to invest on fruitless projects that could not generate revenue capable of at least paying off the facility. This resulted to high debt overhang during the period and fall in investment and growth. Moreover, the findings invalidated the postulation of the “dual-gap” analysis credited to Chenery & Strout (1966), which prescribed the use of foreign debt to augment domestic earnings in order to finance development.

5.3 Recommendations

The following recommendations are made based on the findings of this study.

a) In order to use foreign debt to direct economic growth in Nigeria and other highly indebted jurisdictions fiscal prudence and great sense of responsibility in managing public treasury should be the guiding principle of these countries’ leadership.

b) Policy makers should ensure that contracted debts are committed to cardinal sectors of the economy such as agriculture and manufacturing. Stepping up these activities could lead to optimal harnessing of productive resources for best economic development of the country.

c) Government should minimize the level of deficit financing for example by borrowing less for effective control of inflation rate in Nigeria. This is absolutely necessary because increase in deficit spending overshoots money supply, which negatively affects output growth.
d) Government must adopt fiscal adjustment mechanism that can improve its revenue base through tax rather than borrowing to finance deficit budgetary process.

References


### APPENDIX

#### DATA PRESENTATION

<table>
<thead>
<tr>
<th>YEAR</th>
<th>RGDP (N’M)</th>
<th>FDS (N’M)</th>
<th>FDSP (N’M)</th>
<th>FEXR</th>
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</table>

Sources: Central Bank of Nigeria, Debt Management Office & National Bureau of Statistics

- **RGDP** - Real Gross Domestic Product
- **FDS** - Foreign Debt Stock
- **FDSP** - Debt Service Stock
- **FEXR** - Foreign Exchange Rate