External Borrowing and Economic Growth in Nigeria

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Abstract

This study is focused on external borrowing and economic growth in Nigeria from the period of 1980 to 2015. The objectives of the study were to; determine the effect of Nigeria's external debt on economic growth, examine the effect external debt service payment on Nigeria's economic growth and determine the effect of external reserves and Nigeria's economic growth. To achieve the stated objectives, secondary data from CBN statistical bulletin was collected on GDP, external debt, external debt service and external reserves. Also, the econometric methods of unit root test, co-integration and OLS test were applied as the techniques of analysis. The Augmented Dickey Fuller stationarity test results showed that all the variables are stationary at order one. The co-integration test showed that the series are co-integrated. Thus, there is long-run equilibrium relationship among the variables. Meanwhile, the OLS showed that the regression coefficient of external debt shows that a percentage increase in external debt will decrease economic growth by 0.116577%. The regression coefficient of external debt service also showed that a percentage increase in external debt service will increase economic growth by 0.402749%. Also, the coefficient of external reserve shows that a percentage increase in external reserves will decrease economic growth by 0.070414%. The R2 of 0.744 showed that 74% systematic variation of the dependent variable was caused by the three independent variables. Based on these findings, the study recommends amongst other that external borrowings should be an exercise of last resort and unproductive borrowing should be discouraged in order to avoid leakage in the economy.

Key words: OLS, ADF, GDP, External Debt, External Debt Service, External Reserves.

1.0 INTRODUCTION

Some of the major problems that hindered the attainment of microeconomic stability and sustainable growth has been macroeconomic factors such as balance of payments disequilibrium, unfavourable trade term, low external reserves and excessive reliance by the federal government on external borrowing from the banking system, particularly the World Bank and International monetary fund, to finance its large and unsustainable fiscal deficits. Such borrowings from the World Bank and other financial institution amounts to the injection of high powered money into the system, which has serious adverse implication on price and exchange rate stability. Similarly, it crowds out the private sector from the credit market, thereby stalling investment and output growth.
External borrowing is a medium used by countries to bridge their deficits and carry out economic projects that are able to increase the standard of living of the citizenry and promote sustainable growth and development (Adepoju, Salau and Obayelu, 2007). Hameed, Ashraf and Chaudary (2008) stated that external borrowing ought to accelerate economic growth especially when domestic financing is inadequate. External borrowing also improves total factor productivity through an increase in output which in turn enhances Gross Domestic product (GDP) growth of a nation. The importance of external borrowing cannot be overemphasized as it’s serves as a promoter of growth and thus improves living standards thereby alleviating poverty.

According to Debt Management Office(DMO,2006), Nigeria spent over$32 billion for debtservices between 1985 and 2001. Apparently, greater revenue of the country was devoted in servicing her debt thus playing down investment capital and economic growth in the country. However, Nigeria hadadebtreliet from Paris Club that saved the country from the yearly $2.3billionthegovernmenttransferedto service its debt.

According to Soludo(2003)the country term of trade with the rest of the world and external reserves are critical condition for debt relief. This is because for an economy to be on the threshold of growth there is the need to be on the threshold of favourable trade term and huge reserves. Similarly, CBN (2007) affirms that external reserves was used as a negotiation exist payment of Paris Club debt in Nigeria and is also used to manage the exchange rate through the intervention of foreign exchange rate market. Thus, the motives for holding adequate level of external reserves can therefore be summarized as the reasons why individuals hold money. But despite the high stock of external reserve in Nigeria which was US$7.47 billion in 2003, US$16.96 billion in 2004 and over US$120 billion in 2012, GDP growth remains sluggish, exchange rate remains high as well as decline in trade openness. The non-utilization of Nigeria’s huge external reserves for the development of infrastructure and social services and the poor management of the reserves which has, to a large extent affected the growth of the economy remain a major concern to the nation. Thus, low level of reserves could be caused by huge external debt.

Moreover, an external borrowing problem would naturally result when a country debt services increases over the year; thereby the resources that should have been employed for the execution of the productive projects are employed in the financing of such debt. Thus, large external debt service payments impose a number of constraints on a country’s growth prospects. It drains countries limited resources and curtails financial resources for domestic development needs.

In lieu of the above stated problems, it could be affirms that sluggish growth, low reserves huge external debt services could be caused by external debt. The above state of affair raises the following research questions; what is the effect of external borrowing on economic growth in Nigeria? What is the impact of external debt servicing on economic growth in Nigeria? What is the impact of external reserves on economic growth in Nigeria? It is the answers to these questions that motivated this research work.

2.0 LITERATURE REVIEW
2.1 Theoretical Framework
Several theoretical contributions have been made as regards the subject matter of external debt and economic growth, but the research centred on debt overhangs theory and dependency theory.

2.1.1 Debt Overhangs Hypothesis
The theory implies that debt reduction will lead to increased investment and repayment capacity and, as a result, the portion of the debt outstanding becomes more likely to be repaid. When this effect is strong, the debtor is said to be on the 'wrong side' of the debt Laffer curve. In this case, the debt Laffer curve refers to the relationship between the
amount of debt repayment and the size of debt. However, the idea of debt Laffer curve also implies that there is a limit at which debt accumulation stimulates growth (Elbadawi, Ndulu and Ndung’u, 1996). In reference to debt Laffer curve, Lensink and White (1999) argue that there is a threshold at which more debt is detrimental to growth.

2.1.2 The Dependency Theory
This theory is based on the assumption that resources flow from a poor and underdeveloped states to a wealthy states thereby enriching the latter at the expense of the underdeveloped states. The phenomenon associated with the dependency theory is that poor states are impoverished while rich ones are enriched by the way poor states are integrated into the world system (Todaro, 2003; Amin, 1976). Thus, lack of close integration, diffusion of capital, low level of technology, bad leadership amongst others could cause the underdevelopment in an economy (Momoh and Hundeyin, 1999).

To this school of thought, a way out of the problem is for third world countries to seek foreign assistance in terms of aid, loan, and investment and allow undisrupted operations of the Multinational Corporations (MNCs).

2.2 Empirical Literature
Empirical studies on external debt and economic growth in the developing economies are numerous. Such works include; Ogummuyiwa (2011) who examined the effect of external debt on economic growth in Nigeria using time-series data from 1970-2007. The regression equation was estimated using econometric techniques granger causality test. The results revealed that causality does not exist between external debt and economic growth in Nigeria. Sulaiman and Azeez (2012) examined the effect of external debt on economic growth in Nigeria. Ordinary Least Squares (OLS), Augmented Dickey-Fuller (ADF) Unit Root test, Johansen Co-integration test and Error Correction Method (ECM) were employed in the empirical analysis. The findings from the error correction method show that external debt has contributed positively to the Nigerian economy.

Ayadi and Ayadi (2008) examined the impact of external debt on economic growth of the Nigerian and South African economies. The Neoclassical growth model which incorporates external debt, debt indicators, and some macroeconomic variables was employed and analyzed using both Ordinary Least Square (OLS) and Generalized Least Square (GLS) methods. Their finding revealed negative impact of debt and its servicing requirement on the economic growth of Nigeria and South Africa.

Adesola (2009) used OLS to investigate the effect of external debt service payment practices on the economic growth in Nigeria. The study provides evidence that debt payment to Paris club creditors and Promissory Notes holders are positively related to GDP and gross fixed capital formation while debt payment to London club creditors and other creditors show a negative significant relation to GDP and gross fixed capital formation.

Uloma (2013) assessed the impact of debt on selected macroeconomic indicators in the Nigerian economy. To achieve the aim of the study, the researcher used external debt stock, external debt service payment and exchange rate as variables to determine the effect on Gross Domestic Product (GDP), and Gross Fixed Capital Formation (GFCF) for the period 1980-2010. Data for the study were secondary data drawn from Debt Management Office, CBN Statistical Bulletin and analyzed with Linear Regression. The study found that Nigeria’s external debt stock has a significant effect on the economic growth. It also revealed that there is a significant relationship between Nigeria’s debt service payment and her Gross Fixed Capital Formation.

Choong, Lau, Liew, and Puah (2010) examined the effect of different types of debts on the economic growth in Malaysia during the period 1970 – 2006. Using Co-integration test, the findings suggest that all components of debts have a negative effect on long run economic growth. Similarly, Ogege and Ekpudu (2010) examined the impact of debt
burden on the Nigerian economy. Ordinary least square (OLS) was used to test the relationship between debt burden and growth of the Nigeria economy. The result showed a negative relationship between debt stocks of internal and external; and gross domestic product, meaning that an increase in debt stock will lead to a reduction on the growth rate of Nigerian economy.

Momodu (2012) examined the correlation between debt servicing and economic growth in Nigeria. The study sought to find a relationship between the Gross Domestic product (GDP) and Gross Fixed Capital Formation of Current Market Prices (GFCF) using Ordinary Least Square multiple regression method. The study revealed that debt payment to Nigerian creditors has significantly impacted on the GDP and GFCF.

Ekperiware and Oladeji(2012) examined the relationship between external debt and economic growth in Nigeria from 1980-2009. An empirical investigation was conducted using the chow test technique of estimation to determine the structural break effect of external debt on economic growth in Nigeria as a result of the 2005 Paris Club debt relief. The result of their findings revealed that the 2005 external debt relief caused a structural break effect in the relationship between external debt and economic growth. Based on these findings they concluded that the external debt relief made available resources for growth-enhancing projects.

3.0 METHODOLOGY

This section presents the methodology adopted in testing the economic and econometric theories as regards the subject of discussion. Data for the study were obtained from CBN statistical bulletin. Although there are several econometrics analysis that could be used to confirm an economic argument and explain the behaviour of external borrowing and economic growth; but this study adopted the unit root test, OLS and cointegration test. The unit root test serves as the test for stationarity of the variables. The OLS was used to determine the relationship between the dependent and the independent variable. The cointegration method was used to determine the long run equilibrium relationship among the variables.

Model Specification

In order to put the variables on the same scale and also reduce the problem of multicollinearity, we specified the log-linear form of the model thus;

\[ \text{LogRGDP} = \text{Log}\beta_0 + \text{Log}\beta_1 \text{EXD}_t + \text{Log}\beta_2 \text{EDS}_t + \text{Log}\beta_3 \text{ERS}_t + \text{U}_t \]  

(3.1)

Where; \( \text{RGDP} \) is Real Gross Domestic Product (Economic Growth), \( \text{EXD} \) is External Debt, \( \text{EDS} \) is External Debt Service, \( \text{ERS} \) is External Reserves, \( \text{Log} \) is Natural Logarithm, \( \text{U} \) = Error Term, \( t \) = Time/Period. On the apriori, we expect \( \beta_1 > 0, \beta_2 < 0 \) and \( \beta_3 > 0 \)

4.0 RESULTS AND DISCUSSION

Table 4.1 OLS Results

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>t-stat</th>
<th>Prob</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>10.69421</td>
<td>28.81133</td>
<td>0.0000</td>
</tr>
<tr>
<td>EXD</td>
<td>-0.116577</td>
<td>-7.058973</td>
<td>0.0003</td>
</tr>
<tr>
<td>EDS</td>
<td>0.402749</td>
<td>2.547989</td>
<td>0.087</td>
</tr>
<tr>
<td>ERS</td>
<td>-0.070414</td>
<td>-4.011392</td>
<td>0.0057</td>
</tr>
</tbody>
</table>

\( R^2 = 0.7445 \)  
\( \text{F-stat}=20.4 \)  
\( \text{f-prob (0.00002)} \)  
\( \text{DW}=1.527 \)

Source: Authors Computation from (E-view 9.0)

The OLS results reported on Table 4.1 showed that the regression coefficient of external debt appeared with negative sign and statistically significant at 5% level. Thus, a percentage increase in external debt will decrease economic growth by 0.116577%. Also, the t-statistic of 7.0589 with the t-prob of 0.0003 showed that there is a significant relationship between external debt and economic growth in Nigeria during the period of study. Thus, the alternative hypothesis was accepted. The regression coefficient of external debt service appeared with positive sign and statistically significant at 5% level.
Thus, a percentage increase in external debt service will increase economic growth by 0.402749%. Also, the t-statistic of 2.5479 with the t-prob of 0.087 showed that there is a significant relationship between external debt service and economic growth in Nigeria during the period of study. Thus, the alternative hypothesis was accepted. The regression coefficient of external reserve appeared with negative sign but statistically significant at 5% level. Thus, a percentage increase in external reserves will decrease economic growth by 0.070414%. This does not conform to the apriori expectation. But the t-statistic of 4.0113 with the t-prob of 0.0057 showed that there is a significant relationship between external reserves and economic growth in Nigeria during the period of study. Thus, the alternative hypothesis was accepted. The R² of 0.744 shows that 74% systematic variation of the dependent variable was caused by the three independent variables (external debt, external debt service and external reserves). This shows the good fit of the model. Also, the Durbin Watson of 1.52 showed the presence of lesser serial autocorrelation of the explanatory variables in the model.

**Table 4.2: Unit Root Test of Stationarity**

<table>
<thead>
<tr>
<th>Variables</th>
<th>ADF Test</th>
<th>1% critical value</th>
<th>5% critical value</th>
<th>10% critical value</th>
<th>Order of Integration</th>
</tr>
</thead>
<tbody>
<tr>
<td>LOG(GDP)</td>
<td>-38.42312</td>
<td>-3.639407</td>
<td>-2.951125</td>
<td>-2.614300</td>
<td>1(1)</td>
</tr>
<tr>
<td>LOG(EXD)</td>
<td>-6.760688</td>
<td>-3.639407</td>
<td>-2.951125</td>
<td>-2.614300</td>
<td>1(1)</td>
</tr>
<tr>
<td>LOG(EDS)</td>
<td>-5.746757</td>
<td>-3.653730</td>
<td>-2.951125</td>
<td>-2.614300</td>
<td>1(1)</td>
</tr>
<tr>
<td>LOG(ERS)</td>
<td>-5.566086</td>
<td>-3.653730</td>
<td>-2.951125</td>
<td>-2.614300</td>
<td>1(1)</td>
</tr>
</tbody>
</table>

Source: Authors Computation from (E-view 9.0)

The result of the augmented dickey fuller stationarity of each of the series is presented in Table4.2 illustrated that all the variables are homogenous of order one. Meaning that they were stationary at first difference.

**Table 4.3: Co-integration Result for the Estimated Model**

<table>
<thead>
<tr>
<th>(Trace Statistics) k=3, r=2</th>
<th>Critical Values (5%)</th>
<th>Prob</th>
<th>(Max-Eigen Statistics) k=3, r=2</th>
<th>Critical Values (5%)</th>
<th>Prob</th>
</tr>
</thead>
<tbody>
<tr>
<td>183.7605</td>
<td>47.85613</td>
<td>0.0000</td>
<td>139.2493</td>
<td>27.58434</td>
<td>0.0000</td>
</tr>
<tr>
<td>44.51115</td>
<td>29.79707</td>
<td>0.0005</td>
<td>26.93522</td>
<td>21.13162</td>
<td>0.0068</td>
</tr>
<tr>
<td>17.57593</td>
<td>15.49471</td>
<td>0.0240</td>
<td>17.42966</td>
<td>14.26460</td>
<td>0.0153</td>
</tr>
<tr>
<td>0.146277</td>
<td>3.841466</td>
<td>0.7021</td>
<td>0.146277</td>
<td>3.841466</td>
<td>0.7021</td>
</tr>
</tbody>
</table>

Source: Authors Computation from (E-view 9.0)

Note: r= number of cointegrating vectors and k = number of lags in model. * rejection of the H0

The results of both Trace and Max-Eigen statistics revealed the existence of three co-integrating vectors in the model. Thus, the null hypothesis of no co-integration, among the variables was rejected. This is because trace and max-Eigen statistics are greater than the 5% critical value at non-hypothesized. Therefore, a unit root in external debt, external debt service and external reserves will impact on GDP in Nigeria during the period of study. Since the series are co-integrated, then, the output model showed that there is long-run equilibrium relationship among the variables.

### 5.0 CONCLUSION AND RECOMMENDATIONS

This study is focused on external borrowing and economic growth in Nigeria within the period under 1980 -2015. As Nigeria went borrowing to finance trade and increase economic growth, external credits were received from various sources including bilateral and multilateral arrangements, and private commercial banks and international financial bodies that are spread all over the world. The country’s debt became a source of worry
and subject of discussion when the projects for which the loans were contracted for, could not generate enough revenue to offset the credit and their accommodated interests. Hence external debts seriously impacted on economic growth, thus retarding economic growth in Nigeria.

Based on empirical results; the augmented dickey fuller stationarity test of each of the series showed that all the variables are homogenous of order one. The co-integration test shows that the series are co-integrated. Thus, there is long-run equilibrium relationship among the variables. The Structural Break result shows that the f-value of the two period were statistically significant in explaining the impact of external debt on economic growth in Nigeria. Therefore, to check the scourge of escalating external debts, Nigeria needs fundamental changes in her economic structures, especially in its production and consumption patterns. And to do this requires innovative and courageous policy measures. Palliative measures, where necessary should be put in place to cushion the impact of external borrowing on economic growth in Nigeria. To achieve long-term solution to the problem of external debts burden, there should be promotion of the country’s export trade and drastic production in the merchandise imports. Also, stimulation of domestic production to liberate the Nigerian economy from the shackles of wants and excessive dependence on external economics, which build up debt. This will increase domestic productivity in all sectors of the economy and ensure self-radiant and possible debt free economy. There should be restriction on external borrowing tendencies of levels of government and agencies as well as private sector organizations. External borrowings should be an exercise of last resort and should be exclusive responsibility of the Federal Government.

REFERENCES


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