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IMPACT OF EXTERNAL DEBT ON ECONOMIC GROWTH IN NIGERIA

Christiana Eberechukwu ORIAKU
Doctoral Student, Enugu State University of Science and Technology, Enugu State

George Chisom OKORIE
Department of Economics, Godfrey Okoye University Enugu, Enugu State

Ekene F. NWAFUOH
Department of Economics, Godfrey Okoye University Enugu, Enugu State

Correspondent Author:
chisomgeo@gmail.com

Abstract

The study examined the impact of external on economic growth in Nigeria for the period 1981 to 2018. Annual time series data on Real Gross Domestic Product, External Debt, External Debt Servicing and Exchange Rate were collected from Central Bank of Nigerian Statistical Bulletin. The study employed Error Correction Model in data analysis. External debt has significant impact on economic growth in Nigeria. The empirical result showed that a percentage increase in external debt increases economic growth by 0.103775 percent. Based on results of the analysis, the study recommends that government should seek for external debt as a complement of internal debt to grow the Nigerian economy. However, the external debt should be channeled to preferred sectors of the economy that have the potentiality to push the frontiers of growth in Nigeria.

Introduction

To achieve sustainable economic growth, less developed countries which have low capital formation need to borrow. This borrowing could be external, which is referred to as external debt or internal. External debt is a major source of public receipts and financing capital accumulation in any economy (Adepoju, Salam and Obayelu, 2007). According to them, less developed countries (LDCs) are characterized by low capital formation resulting from inadequate domestic savings and investment. They therefore, observed that these LDCs when faced with scarcity of capital should resort to borrowing from external sources so as to supplement domestic savings. This submission was corroborated by the study of Sulaiman and Azeez, 20

Even though external debt improves total factor productivity through an increase in output which in turn enhances Gross Domestic product (GDP) growth of a nation, it is widely recognized in the international community that excessive foreign indebtedness in most developing countries is a major impediment to their economic growth and stability (Audu, 2004; Mutasa, 2003). In fact, developing countries like Nigeria have often contracted large amount of external debts that has led to the mounting of trade debt arrears at highly concessional interest rates. Gohar and Butt (2012) opined that accumulated debt service payments create

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a lot of problems for countries especially the developing nations. This is because debt is actually serviced for more than the amount it was acquired and this slows down the growth process in such nations.

According to Pattilo, Poirson and Ricci (2004) low level of debt has positive effects on growth, but above a particular threshold, accumulated debt begins to have a negative impact on growth. Audu (2004) therefore, noted that the inability of the Nigerian economy to meet its debt service payments obligations resulted in debt overhang or debt service burden that has militated against her growth and development.

Nevertheless, the quest for economic growth and development compelled Nigeria to acquire external debt. The first major external loan of US$28 million by Nigeria was acquired from World Bank in 1958 to finance railway construction. Ever since then, there has been accumulation of loans aimed at various development projects without significant results. This study is therefore, embarked upon to ascertain the impact of external debt on economic growth of Nigeria.

Review of Related Literature

The genesis of Nigeria's debt service burden dates back to 1978 after a fall in world oil prices. Prior to this occurrence Nigeria had incurred some minor debts from World Bank in 1958 with a loan of US$28million dollars for railway construction and the Paris Club debtor nations in 1964 from the Italian government with a loan of US$13.1 million for the construction of the Niger dam. The first major borrowing of US$1 billion known as the "Jumbo loan" was in 1978 from the International Capital Market (ICM) (Adesola, 2009).

In 1986, Nigeria adopted the Structural Adjustment Programme (SAP) in other to liberalize her economy and boost Gross Domestic Product (GDP) growth. However, in a bid to ensure the implementation of this policy, the government embarked upon massive borrowings from multilateral sources which resulted in a high external debt service burden and by 1992 Nigeria was classified among the heavily indebted poor countries (HIPC) by the World Bank.

One factor responsible for Nigeria's high external debt was debt overhang.

Debt overhang occurs when a nation's debt is more than its debt repayment ability. Krugman (1988) explains debt overhang as one whereby the expected repayment amount of debt exceeds the actual amount at which it was contracted. According to Borensztein (1990), debt overhang is a situation where the debtor nation benefits very little from the returns on additional investment due to huge debt service obligations. In Nigeria, debt service has increased uncertainty in the economy which discourages foreign investors and also reduces the level of private investment in the economy.

An empirical study by Nurazira and Halim (2013) on, does external debt contribute to Malaysia economic growth? Using ordinary least squares (OLS) and Autoregressive Distributive Lag (ARDL) bound test indicated that a positive relationship exists between external debt and economic growth in Malaysia. The study made use of the following independent variables; external debt,

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exchange rate, inflation, debt management, spanning from 2000 to 2013. The study recommends appropriate liquidation of income for positive growth up to an optimal level in the Malaysian economy.

Mulugeta (2014) carried out a study on impact of external debt and economic growth in Ethiopia, using Vector Error Correction Model (VECM), the study found that external debt has a long run relationship with economic growth in Ethiopian economy. The study considering the rate at which external debt grows in Ethiopia, recommends debt forgiveness.

Gunakar (1990) carried out an assessment of the impact of external debt on economic growth Nepal. The study made use of the following independent variables; exchange rate, external debt, debt management percentage and established a positive relationship between external debt and economic growth in Nepal. This means that as Nepal economy's external debt increases, their economic growth increases.

Erauwoke (2001) studied the effect of external debt on economic growth in Nigeria between 1997 and 2001. Variables employed in the study were external debt, external debt servicing, and gross domestic product. The methodology adopted was multiple regression model and ordinary least squares (OLS) estimating technique. The study found out that there is a positive relationship between external debt and economic growth in Nigeria. However, the study recommended that, due to the instability nature of debt servicing, the country needs reduce the rate of borrowing and embark more exportation of Nigerian products.

Utomi (2012) examined the impact of external debt on economic growth in Nigeria. The study made use of classical linear regression model adopting OLS estimating technique. The result of the study showed that external debt had positive, but insignificant long run relationship with economic growth in the Nigeria economy within the period under review, 1980-2012. The study recommended that quarterly growth rate should be monitored and that exchange rate should be stabilized.

Rashid and Muhammad (2014) studied the role of external debt on economic growth; evidence from Pakistan Economy from the period of 1980 to 2014. The study made use of the following variables; inflation, debt overhang, external debt, real gross domestic product. The multiple linear regression model with OLS estimating technique was used in the analysis. The result of the study indicated that external debt had significant impact on Pakistan economy.

Kasidi and Makame (2013) examined the effect of external debt on economic growth in Tanzania. The study made use of ordinary least squares (OLS) technique and came out with the finding that external debt has positive effect on Tanzanian economy.

Ahimet and Emsen (2013) in their research "the impact of external debt on economic growth in Ghana; made use of Autoregressive Distributive Lag (ARDL) model. The result of the study showed that a negative relationship exists between external debt and economic growth in Ghanaian economy. Empirically, that 1%

increase in additional external debt led to 0.11% decrease in economic growth.

The implication of conflicting results of impact of external debt on economic growth of different countries suggests that, if external debt is appropriately utilized, it will impact positively to economic growth and vice versa.

Methodology

Theoretical Framework

The theoretical framework of this study is anchored on the dual-gap theory. The dual-gap framework is coined from a national income accounting identity which states that excess investment expenditure over domestic savings is equivalent to the surplus of imports over exports. Sustainable economic growth requires a given level of savings and investment and in a case where it is insufficient; it results in external borrowing which is capital inflow. The need to borrow from foreign sources arises from the recognized role of capital in developmental process of any nation. Therefore, external borrowing is a source capital for investment and economic growth.

Model Specification

Following from previous studies reviewed in this study, the model used in evaluating the impact of external debt on economic growth in Nigeria is specified as follows:

RGDP = F (EXD, EDS, DGR, DSGR, EXR).....3.1

Where:

RGDP = Real Gross Domestic Product as a proxy for economic growth.

EXD = External Debt

EDS = External Debt Servicing

DGR = The ratio of External Debt to RGDP

DSGR = The ratio of Eternal Debt Servicing to RGDP

EXR = Exchange Rate of Naira vis-à-vis USD

For estimation purposes, the model is econometrically specified as:

$RGDP = \beta_0 + \beta_1 EXD + \beta_2 EDS + \beta_3 DGR + \beta_4 DSGR + \beta_5 EXR + \mu$...3.2

Where RGDP, EXD, EDS, DGR, EXR and DSGR are as defined above.

β_0 = Constant Term

β_1 = External Debt Coefficient

β_2 = External Debt Services Coefficient

β_3 = Ratio of Eternal Debt to RGDP Coefficient

β_4 = Ratio of Eternal Debt Servicing to GDP Coefficient

β_5 = Exchange Rate Coefficient

μ = Error Term

The a priori Expectation

The a priori expectation explains the signs and magnitude of the parameter estimate. The external debt, external debt servicing, the external debt servicing ratio and exchange rate are expected to have positive relationship with the real gross domestic product. Presentation is given as follows: $\beta_1 > 0$, β_2, $\beta_3 > 0$, $\beta_4 < 0$, $\beta_5 > 0$

Data Required and Sources

Data utilized in this study were sourced from the Central Bank of Nigeria Statistical Bulletin and National Bureau of Statistics (NBS), various years.

Empirical Results

Augmented Dickey Fuller (ADF) Unit Root Test Results

The ADF unit root test result is presented in table 4.1 as follows:

Table 4.1: Unit Root Test Results

S/N	Variables	ADF t-stat	5% critical value	Order of Integration	Decision
1	LOG(RGDP)	-9.047926	-2.954021	I(1)	Stationary
2	LOG(EXD)	-4.472402	-2.954021	I(1)	Stationary
3	LOG(EDS)	-6.389549	-2.960411	I(1)	Stationary
4	LOG(DGR)	-9.154551	-2.954021	I(1)	Stationary
5	LOG(DSGR)	-10.80954	-2.957110	I(1)	Stationary
6	LOG(EXR)	-3.733083	-3.552973	I(1)	Stationary

Source: Author's computation using E-views 8

Table 4.1 above shows that all the time series variables are stationary at order one I(1). Since all the variables are stationary at order one $I(1)$, we move on to test for Co-integration to examine whether they are related in the long run. This was done by carrying out a unit root test of the overall residual of the basic ordinary least squares equation, i.e. the Engle-Granger Co-integration approach.

Co integration Test Results

Table 4.2: Residual Unit Roots Test Result

Null Hypothesis: RESI has a unit root

Exogenous: None

Lag Length: 0 (Automatic - based on SIC, maxlag=7)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-6.445493	0.0000

Test critical values:	1% level	-2.641672
	5% level	-1.952066
	10% level	-1.610400

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(RESI)

Method: Least Squares

Date: 11/27/19 Time: 08:40

Sample (adjusted): 1982 2018

Included observations: 37 after adjustments

Variable	Coef	Std. Error	t-Statistic	Prob.
RESI(-1)	-1.157568	0.179593	-6.445493	0.0000

R-squared	0.580657	Mean dependent var	0.023839
Adjusted R-squared	0.580657	S.D. dependent var	3.285570
S.E. of regression	2.127626	Akaike info criterion	4.379617
Sum squared resid	135.8038	Schwarz criterion	4.425875
Log likelihood	-66.88407	Hannan-Quinn criter.	4.394696
Durbin-Watson stat	1.989918		

Source: Author's computation using E-views 8

The absolute value of the ADF test statistic -6.445493 exceeds the 5% critical value -1.952066 on absolute term, when the analysis was run at no trend, no intercept. Hence, the researcher rejected the null hypothesis of no co-integration. This implies that Co-integration exists among the variables. In this section, the researcher applied the test statistics stated in chapter three of this research work to test for the statistical significance of the estimated parameters.

Table 4.3 Error Correction Model Result

Dependent Variable: D(LOG(RGDP))

Method: Least Squares

Date: 11/27/19 Time: 08:52

Sample (adjusted): 1982 – 201

Included observations: 37 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.654371	2.415222	0.684977	0.2085

D(LOG(EXD))	0.103775	0.04202	2.4695	0.0088
D(LOG(EDS))	0.638485	0.11045	5.7803	0.0000
D(LOG(GR))	-0.368177	0.11122	-3.3102	0.0028
D(LOG(SGR))	-0.640837	0.11703	-5.4756	0.0000
D(LOG(EXR))	0.066720	0.14675	0.4546	0.5387
ECM	-0.702951	0.03599	-19.530	0.0000

		Mean dependent var	15.38566
R-squared	0.814193		
Adjusted R-squared	0.776973	S.D. dependent var	2.062843
S.E. of regression	0.314903	Akaike info criterion	0.698873
Sum squared resid	2.479073	Schwarz criterion	0.971419
Log likelihood	-4.832533	Hannan-Quinn criter.	0.785346
F-statistic	224.0713	Durbin-Watson stat	2.004187
Prob(F-statistic)	0.000000		

Source: Author's computation using E-views 8

Results above show that 1 percent increase in external debt leads to 0.103775 percent increase in economic growth in Nigeria. 1 percent increase in external debt services results to 0.638485 percent increase in economic growth in Nigeria. 1 percent increase in ratio of external debt to gross domestic product leads to 0.368177 percent decrease in gross domestic product in Nigeria. 1 percent increase in the ratio of external debt services to gross domestic product leads to 0.640837 percent decrease in gross domestic product in Nigeria. 1 percent increase in exchange rate leads to 0.066720 percent increase in real gross domestic product in Nigeria.

Furthermore, results also show that the coefficient of ECM is negative (-0.702951) and significant at 5% percent critical level. This shows that about 70 percent disequilibria in the economic growth in the previous years are corrected for in the current year. The significance of the ECM is an indication and a confirmation of the existence of a long run equilibrium relationship between economic growth and the macroeconomics determinants variables used in this study. The robustness of the error correction method further buttresses that only 70 percent is corrected in the previous year.

Test of Hypothesis

H_0: External debt has no significant impact on gross domestic product in Nigeria.

From the statistical test of significance carried above, it was observed that the computed t- value (t*) of external debt was greater than the tabulated value of t-statistics ($t_{0.025}$), which is (2.469504) greater than (2.048). This evidence led to the rejection of null hypothesis (H_0) and

accepting the alternative hypothesis (H_1), implying that external debt has significant impact on gross domestic product in Nigeria.

Summary, Conclusion and Recommendations

The broad objective of this study is to ascertain the impact of external debt on economic growth in Nigeria. The study adopted the error correction model in data analysis sequel to the nature of the time series data.

From the finding of the study, it was established that the speed of adjustment of economic growth to long run equilibrium has an error correction term coefficient of (-0.702951) and significant at 5% percent critical level. This shows that about 70 percent disequilibria in the economic growth in the previous years are corrected for in the current year. Furthermore, results show that external debt and external debt servicing have positive and significant impacts on economic growth in Nigeria. The implication of this result is that external debt and external debt servicing play significant role in stabilizing the economy of Nigeria.

Since external debt has positive and significant impact on economic growth of Nigeria, the study recommends that government should seek for external debt as a complement of internal debt to grow the Nigerian economy. However, the external debt should be channeled to preferred sectors of the economy that have the potentiality to push the frontiers of growth in Nigeria.

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