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### Impact of Debt Burden on Economic Growth in Nigeria: A Policy Discourse for a Borrowing Economy

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#### Abstract

This study examined the impact of debt burden on economic growth in Nigeria. Secondary data collected from World Bank national data, central bank of Nigeria bulletin, Nigeria's debt management office annual report, Ministry of finance for a period of 30 years, (1990 to 2020), and ordinary least square statistical tool was used to test the relationship between Nigeria's debt burden and its economic growth. The study found that there is a positive, but

insignificant relationship between foreign debt stock (FDST) and Gross Domestic Product, a negative, and insignificant or weak relationship between foreign debt servicing (FDSR) and Gross Domestic Product. The study concluded that the aggregate of Nigeria's debt burden does significantly affect its economic growth. The study recommends that acquisition of foreign debt should be exclusively on economic considerations.

**Keywords:** Debt Burden, Economic Growth, Ordinary Least Square, Nigeria

#### Introduction

Since 1980's debt crisis comes as a major macroeconomic problem for many developing countries. Following this, different studies are carried out to find out the cause, consequence and as a possible solution to the way out from the crisis. For Krumma (2015), the likely cause of the crisis rooted back to the economic and political conditions of many poor countries in 1970's. During that period, many developing countries got an expanded access to private financial and other trade credits and spend more on public expenditure. Beside this many of the countries were not in a good position to hold out the second oil shock which happened in the late 1970's. During the early 1980's (1980 - 1983) the overall world recession following the oil shock and a response from lender countries (high interest rate, a decline in official lending and a delayed adjustment program...) makes the situation very difficult for many developing countries. As a result, the economic condition of many sub-Saharan countries declines adversely.

As per Iyoha (2009) empirical analysis' during 1980's, the average annual growth rate of real GDP in sub-Saharan Africa countries (SSA) was 1.7%, The annual per capita income declined at an average rate of 2.2% and terms of trade knock down by 9.1%. In line with the above fact a high population growth rate in the region resulted with -0.9 % annual average growth rate of real GDP per capita. Due to this the decade of 1980's is considered as "lost decade" for Africa in terms of development opportunities. The World Bank report in 2014 generalized the possible factors for the poor economic performance in to domestic factors and external factors. As per the report: high population growth rate (which leads to a decline in per capita welfare), insignificant human capital development, poor infrastructure; which in turn affects private sector development and improper policies were categorized as domestic factors along with ethnic conflicts and political instability. In the other side, the successive oil price shock (1973 -1974 and 1978- 1979), an alarming decrease in terms of trade and a recession in the industrialized countries which increased the interest rate categorized as external factors by the report. (World Bank report 2014).

For Agenor and Montel (1996), the original cause for the debt crisis was the excessive borrowing by the public sector to service their existing debt. This happened due to the reverse relationship between the safe real interest rate in the international market and the overall real GDP growth rate in the heavily indebted poor African countries (HIPC's). During most of the years in the decade of 1970's, the real long-term rate of interest in the developed world fell well short of the real growth rate of GDP by HIPC's. This opened a viable option for the public sector to service their existing debt through new borrowing, rather than generating their own resource for the same action (servicing debt). As a result many of the countries experienced a large fiscal deficit.

Krumma (2015) argued that, if the available external loan improves the productive capacity of the borrowing country. It is

unnecessary to take extra external loan to service the original debt. According to Cline (2015), if marginal productivity of each available external debt is greater than or equal with the principal and the interest payment, external debt will have a positive impact on the economy of the borrowing country.

This in turn will require the foreign debt to be used in productive sectors and in basic infrastructures which can enhance the productivity of other sectors. Under this condition external debt servicing doesn't affect economic growth. But, if the borrowing country failed to service its debt, it will lose its' credit worthiness; and this in turn might affect the economic performance of the borrowing country by reducing the availability of foreign debt (Mjema & Musonda, 2014).

An economy which experienced a fiscal deficit can finance the public deficit by borrowing domestically from a private sector through financial institutions or from other international sources. Due to lack of a strong private sector and well-established banking system the amount of money domestically available are very insignificant. In spite of this and other reasons, many poor countries borrow extensively from international lenders and other external sources. External debt may be severe due to a number of reasons: In some cases, the size of the debt might be huge in relation with the economy size of the borrower and this leads to a possible capital flight and more it discourages private investment; Servicing a debt by export earnings may affect economic growth by depleting available income from social service activities; and according to Ajayi (2011), the debt management systems also have a direct macro-economic impact on the borrowing countries.

In general, external debt may affect economic growth in two ways: through the debt overhang effect:- a situation when an accumulated debt, discourage and overhang investment, mainly private investment; as private investors expect an increase in tax by government to pay the accumulated debt; and through debt crowding out effect, this is a situation when income from export is used to pay the accumulated debt. The aggregate effects may in turn affect investment and other macroeconomic indicators.

### Concept of Debt

Countries experiencing fiscal deficits, especially the developing ones borrow to improve their economic growth. Government borrows in principle to finance public goods that increase welfare and promote economic growth (Ogunmuyiwa, 2011). Due to the fact that the domestic financial resources are not adequate, borrowing is acquired from foreign sources. The amount of fund provided by these foreign sources constitutes the external debt of a nation. In Nigeria, external debt is sourced from multilateral agencies, Paris club creditors, London club creditors, Promissory Note holders and other creditors. External debt is one of the sources of financing capital formation in any country (Ayadi & Ayadi, 2008). External debt is acquired to contribute meaningfully to the economy but the future debt service payment poses a threat to economic growth. A number of researchers have examined the effect of external debt on economic growth since the beginning of the new millennium.

External debt is that part of the total debt in a country that is owed to creditors outside the country. The debtors can be governments, corporations or private households. According

to the World Bank definition, "total external debt is a debt owed to non-residents repayable in foreign currency, goods or services". When we trace back countries debt crisis history, we found Mexico as a pioneering country. In 1982 the Mexican government announced it's in ability to service its forthcoming debt from the total 80 billion US dollar owed to international lenders. This taken as the first debt crisis in history; and many scholars regarded it as the first sign of the international debt crisis. In October 1983; 27 countries, 16 from Latin America including Brazil, Mexico, Argentina and Venezuela rescheduled their debt. Subsequently many less developed countries (LDCs) announced their ability to fulfill their debt obligation. This created major loan defaults and failure on the world largest banks. The origin of this debt crisis can be attributed to different factors, and can be seen best by categorizing and studying in a chronological order with the following time periods.

1. First period, 1973 -1978
2. Second period 1979 -1982.

### First period (1973 -1978)

The quadrupling of crude-oil price following the Egypt - Israel war of the October 1973, created many dis-order in the international market. To absorb the effect, producers in the industrialized world increased market price both in the domestic and international market. This created inflationary pressure around the industrialized world; and leaves many of the developing countries on a serious balance of payment problem. (As they were not in a position to with stand the increase in crude oil price and imported goods). Current account deficit in LDCs increased from 8.7 billion US\$ in 1973 to US\$ 42.9 billion in 1974 and US\$ 51.3 billion in 1975.

As a result, many of them started to borrow from banks on the international capital market. This produced a room for major banks to re-channel the fund that they collected from a dollar-based oil exporting countries to budget deficit oil importing countries. Indebtedness rose significantly from US\$ 130 billion in 1973 to US\$ 336billion in 1978. Even in that condition, most countries experienced healthy economic growth and didn't face difficulties in servicing their debt.

### Second period (1979 -1982)

The major event on this period was the decision made by the Organization of Petroleum Exporting Countries (OPEC), which made a more than double rise in the price of crude oil. From US\$ 13 per barrel to US\$ 32 per barrel, this termed as the second oil shock. The response from the industrial world for the second oil shock was much more similar; at the end of 1979 a tight monetary policy adopted by US is followed by other industrialized countries: UK, Germany, France, Italy and Japan. This further worsens the condition of LDC that continued on their intense borrowing from the developed world at a higher interest rate. For instance, LIBOR, London Inter-Bank Offered Rate rise from 9.5 in the mid 1978 to 16.6 until mid - 1981. The corresponding outstanding debt increased from 336 billion US\$ in 1978 to 662 billion US dollar in 1982. The increase in interest rate along with other factors contributed to the severe world recession of the 1981 to 1983. This posed another problem for LDCs as the price and volume of their export fall and reduced their export earnings. Furthermore, the recession forced the industrialized world to adopt a more protectionist

approach on imported goods which reduced LDCs export earnings.

Due to a high US interest Rate and borrowing, bankers are more willing to lend money to US than LDCs and more a rapid appreciation of US Dollar also make the situation worse for LDCs as their real debt- service repayment increase because of this. When we see the fraction of GNP dedicated to interest payment on loans: we found sub-Saharan African countries next to Latin America. i.e., 3.5 in 1980 to 5.6 in 1983 on Latin America countries followed by sub-Saharan African countries as this fraction increased from 1.7 to 2.2 between 1980 and 1983. In general, the debt crisis is highly related with the inability of most developing countries, to service their debt. For instance, in this period (1979-1982) Latin America countries debt increased more than double from \$159billion to \$327billion. This makes Latin American countries the most affected by the crisis.

### **The effect of external debt on investment and economic growth**

The effect of external debt on investment and economic growth can be studied best by having a better understanding on the issue of debt overhang, a term which is directly related with investment and economic growth. Different economists define debt overhang in different ways. For Krugman (1988) <sup>[32]</sup> debt overhang is a situation in which the expected repayment on foreign debt falls short of the contractual value of the debt. Eduardo Borensztein (1990) defines debt overhang as a situation in which the debtor country benefits very little from the return to any additional investment because of the debt service obligations.

In line with issue of debt overhang, policy makers that focused on debt crisis tried to find out whether the problem is a solvency or a liquidity problem. (Agenor & Montiel, 1996) As per Ajayi (2011), a liquidity problem is a short-term problem faced by countries to service the forthcoming debt based on the initial contract. i.e., when countries failed to service current obligation. In the other hand a solvency problem is a long run problem faced by countries when their total liabilities are beyond their ability to pay at any time. For Kletzer (1988) <sup>[33]</sup> most developing countries were solvent. For him the present value of their respective resources (calculated based on discounted value of their real outflows) are much lower than their total debt obligations. Kletzer (1988) <sup>[33]</sup> findings might be a bit old to judge the present status of the heavily indebted poor countries in general and the countries under this study in particular. As an alternative measurement, if we take External debt as a percentage of GNI (External Debt % of GNI) as a measure of ability to pay and see the situation for the countries under this study, ability to pay are improved, as a high ratio means that a particular country would face difficulties in generating enough income to service its external obligations. And the reverse is true for a low External Debt % of GNI.

Moreover, when I compare the Investment GDP ratio of 15 heavily indebted countries in the period 1971-81 (investment GDP ratio of 24 percent) with the period 1982-87 (investment GDP ratio of 18 percent); the latter period decreases by 6 in terms of percentage. For researchers like Eduardo Borensztein (1990), this is mainly due to foreign debt. This in turn negatively affected economic growth followed by a decline in domestic investment and significant capital outflows. It has been hypothesized also foreign debt as the disincentive to invest.

In the other way for Savvides (1992), if a debtor country failed to pay its foreign debt, the condition can be linked to the country economic condition. This kind of countries benefit little from the increase in output or export income; as part of the income is used to pay forthcoming debt. This way the debt overhang can be treated like a marginal tax rate on the country, which lowers return on investment and a hindrance to domestic capital formation. Even in the condition all external debts are owned by government, debt overhang has a negative effect on private saving and investment. In the other side government become preventative; to formulate policies that promote domestic capital formation or to decrease domestic consumption for a higher future economic growth, as the benefit goes to creditors in the form of debt payments.

In an attempt to found the effect of foreign debt on Investment; Eduardo Borensztein (1990) classified the effect of foreign debt on investment in two. i.e., “debt overhang” and “credit rationing” effect. For him, Debt overhang is a condition when the debtor country failed to service its foreign debt obligation fully with the existing resources, and undertake a negotiation with creditors to determine actual debt payment; this time the payment linked to the economic condition of the debtor country. As a result, part of the increase in output will be used to pay the forthcoming debt. This in turn creates a disincentive on private investment and poses a hindrance on the government to pursue the right policies. For Borensztein, debt overhang creates an adverse effect on private investment and become strong when private debt used as measure of debt overhang.

According to Borensztein, the second way that foreign debt affects investment is through the credit rationing effect. This is a condition faced by countries that failed to get a new loan because of their inability or willingness to pay. Classens and Diwan (1990) also categorized the effect of external debt on investment and economic growth in to two. First, debt servicing might put away (take) the limited resource of poor countries that could be used in public spending. More specifically, resources used to service the accumulated debt may crowd out public investment and also private investment. Due to complementarities between private and public investment. Second, external debt might affect economic growth through the debt overhang effect; this is the case when debt servicing discourages current as well as future investment plans.

For Ajiya (2017), the disincentive effect on investment comes when indebted countries failed to service their debt based on the contractual obligation. Therefore, it is not vital to measure debt overhang based on the amount of accumulated debt. He also suggested that, to maintain a stable and unaffected trend in production and investment, a high debt service export ratio should be serviced regularly. Heavy debt servicing put many countries on a fiscal deficit, which will lead to numerous problems; first, servicing a debt may demand an increase in tax to raise resources. The expectation of a higher tax may discourage investment; this is the case for debt overhang. Second, as payments are made using foreign exchange; most indebted countries transfer domestic resources to foreign exchange. To raise large sum of foreign exchange, countries might use aid income. And this will in turn affect overall economic performance. Third, when Poor countries faced a high debt service payment request, they might be forced to reduce spending on public investment. This in turn related to the crowding out effect of

foreign debt. In general, due to a heavy debt service payment and a reduction in government expenditures growth will be retarded. As a general conclusion on the issue of foreign debt, investment and economic growth, Osei (2000) <sup>[41]</sup> suggested the ratio of total external debt to income (GNP) and the ratio of total debt service to exports of goods and services as a good measure of debt burden, as they help to counter debt overhang and debt crowding out effects respectively and that the higher the ratio, the greater the burden.

### Review of Empirical literature

Different empirical studies are carried out since the onset of the debt crisis in the early 1980's. The main objective of these studies centered mainly on the effect of external debt on investment and /or economic growth. The result from the studies showed both positive and negative effects of external debt on investment and economic growth. Some of these studies are stated below chronologically. Bauerfreund (1989) attempted to found the cost of foreign debt on the Turkish economy by adopting a computable general equilibrium model. The author tried to explain the concept of debt overhang using a multi sector, non-linear general equilibrium model by evaluating two debt overhang measures. The two debt overhang measures are set by Sachs (1986) and Feldstein (1986) independently. According to Sachs (1986), when indebted countries faced a high debt service payment, they are forced to levy a tax on the private sector, with the aim of transferring resources to the public sector. Due to an increase in tax, return from investment decrease on the private sector. As a result, overall investment will decrease. For Feldstein (1986) Debt payment also needs a transferring of resources to foreign exchange. After using these two measures on the Turkish economy; Bauerfreund founds a negative effect of external debt payment on investment in 2015. He also pointed out poor internal and external economic policies as the main causes for the debt overhang problem.

Opposite to Bauerfreund finding, Warner (1992) got a positive relationship between external debt and investment. The analysis was carried out on 13 less developed countries over the period 1982-1989, using least square estimation. For Warner: a decline in export prices, high international interest rate and sluggish economic growth in the developed world were the major reasons that puts back the growth rate of investment in most indebted countries. To trap the debt effect, Warner forecast investment on the debt crisis period (1982-1989) by incorporating the above three effects in the model without the debt crisis effect. According to him if the debt crisis effect is critical, the forecast that incorporate increase in export price, high international interest rate and recession in the developed world couldn't track investment; but would track investment if debt crisis is not critical. In other words, if debt crisis effects are important, then this investment forecast which ignores debt crisis should be greater than actual investment. Finally, he runs a panel regression on both forecasted models. The one which encompass debt crisis as a dummy variable took a positive coefficient for the debt crisis dummy variable, which is opposite to external debt theories.

In 2014, Rockerbie criticized Warner (1992) and pointed out the following short comings:

First, he failed to perform a nested and a non-nested test two compare the competing models he developed to forecast

investment. Secondly, he failed to incorporate debt variables in the investment equation as these variables are expected to be endogenous in the model. Third, structural changes like domestic policies and world economic conditions happened in 1982 were expected to be the cause for the debt crisis that has occurred in most indebted countries on the same period. This may weaken the effectiveness of a forecasting equation estimated using sample period of 1960-1981. It is with this reason; Warner's hypothesis is destabilized by the use of a dummy variable for the period 1982 - 1989. After the aforementioned suggestions, Rockerbie runs an ordinary least square estimate for the 13 countries over the same period 1965 – 1990. The estimated result goes well with debt theories; i.e., the debt crisis of the 1982 affects the investment condition of the countries under study. The study encompasses variables that represent domestic monetary and fiscal policies, debt stock and flows and more world economic condition.

According to Cohen (1993) <sup>[18]</sup> the level of debt can't explain the decrease in investment in the highly rescheduling countries. He estimated the investment equation of 81 developing countries using ordinary least square method for three different periods: 1965-1973, 1974-1981 and 1982-1987. As per his result external debt didn't affect the GNP growth rate of the 81 countries. After all, the result from a panel data regression using OLS estimation for two independent consecutive time periods (First period: 1975 -1983; Second period: 1984-2011) yields a negative effect of external debt on Investment.

Fosu (2009) tried to explain the effect of external debt over economic growth on sub-Saharan Africa countries by applying an augmented production function. He used the debt crisis period, 1980-1990 for the analysis. The main aim of Fosu was to examine the debt overhang hypothesis directly. The hypothesis which states foreign debt imposes a negative effect on countries economic growth even without or hardly affecting the level of investment. As per his result, the debt variables which are included in the model took a negative coefficient on the period 1980-1990. Mariono and Delano (2006) <sup>[37]</sup>, employed the standard neo-classical growth model to test the dynamics of external debts, investments and economic growth for Philippines for over a period of 3 years (2000 to 2003). Using this model, the study asserted that higher ratio of change in interest rate spread to change in debt-to-GDP lowers welfare (economic growth and development index) in the long run.

A review of the negative relation put the study of Pattillo (Pattillo, Ricci, Poirson, 2001), which shows that stock of debt is the reason for a slow growth. Audu (2004) <sup>[11]</sup> examined the impact of external debt on economic growth and public investment in Nigeria from 1970- 2002. Using the Co-integration test and Error Correction Method, the study found that debt servicing pressure in the country has a negative and significant effect on the growth process and past debt accumulation negatively affect public investment. Employing data from fifty- nine developing and twenty-four developed economies over a period of 1970 to 2002, Schclarek (2005) <sup>[46]</sup> empirically show that external debt do not have significance in determining the economic performance of a country. However, a segment of his empirical study especially on relationship between external debts and economic growth in developing countries showed that higher growth rate is associated with a relatively lower external debts levels and this inverse relationship is



propelled by bilateral debts rather multilateral debts.

A study by Butts, which examined the effect of external debts (short-term only) and growth rate of GDP for 27 Latin-American countries for over a period of 33 years (1970 – 2003), found that granger causality only existed in thirteen (13) countries. Also, Geiger (1990) [23], conducted a study to check the effect of external debt on economic growth for the nine (9) South American countries over a period of 12 years (1974 – 1986), and he found a statistically significant inverse relationship between the debt burden and economic growth. Furthermore, Cohen (1993) [18], considered dataset of 81 developing countries with focus on a period of 1965-1987 and his study concluded there is a positive relationship between external debts and economic growth. In another closely related study, Hasan adopted cross-country regression analysis to examine causal effect of foreign aid and external debts on economic growth and investment level. The regression result showed that there is quite strong evidence of positive impact of aid both on the growth rate in GDP per capita and the investment rate not external debts.

Some previous studies in Nigeria on the relationship that existed between external debts and economic growth also have this mixed result. Iyoha (1999), investigated the impact of external debt on economic growth in sub-Saharan African countries estimating a small macro econometric model for the period 1970-2004. He found an inverse relationship between debt overhang, crowding out and investment, thereby concluding that external debt depresses investment through both a disincentive effect and a –crowding out effect, thus affecting economic growth. Adepoju *et al* (2007) [3], analyzed the time series data for Nigeria over a period from 1962 to 2006. Exploring time to time behaviour of donor agencies as an outcome of various bilateral and multilateral arrangements, they concluded that accumulation of external debt hampered economic growth in Nigeria.

Hameed, *et al.* (2008) [24], explored the dynamic effect of external debt servicing, capital stock and labor force on the economic growth for Pakistan for a period of 1970-2003. They found an adverse effect of external debt servicing on labor and capital productivity which ultimately hampers economic growth. Ali and Mshelia found among others, both positive and negative relations with GDP, using Nigerian debt data. Smyth and Hsing (1995) [47], have tried to test the federal government debts impact on economic growth and examine if an optimal debt ratio exists that will maximize the economic growth. The author calculated the optimal debt ratio (DEBT/GDP), which represents the maximum real GDP growth rate (38.4%). The DEBT/GDP ratio corresponding to the maximum GDP growth rate is 38.4%.

Moreso, Ayadi and Ayadi (2008) examined the impact of the huge external debt, with its servicing requirements 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. Ogunmuyiwa (2011) examined whether external debt promotes economic growth in Nigeria using time-series data from 1970-2007. The regression equation was estimated using econometric techniques such as Augmented Dickey-Fuller test, Granger

causality test, Johansen co-integration test and Vector Error Correction Method (VECM). The results revealed that causality does not exist between external debt and economic growth in Nigeria.

Furthermore, Adesola (2009) [4] empirically investigated the effect of external debt service payment practices on the economic growth of Nigeria. Ordinary Least Square method of multiple regression was used to examine how debt payment to multilateral financial creditors, Paris club creditors, London club creditors, Promissory Notes holders and other creditors relates to gross domestic product (GDP) and gross fixed capital formation (GFCF) using data from 1981 to 2004. The study provides evidence that debt payment to Paris club creditors and Promissory Notes holders are positively related to GDP and GFCF while debt payment to London club creditors and other creditors shows a negative significant relation to GDP and GFCF. Audu (2004) [11] examined the impact of external debt on economic growth and public investment in Nigeria from 1970-2002. The empirical investigation was done using the Co-integration test and Error Correction Method. The study shows that debt servicing pressure in the country has had a significant adverse effect on the growth process and past debt accumulation negatively affect public investment.

### Data Source and Methodology

The data for the study were obtained mainly from secondary sources, particularly from the Central Bank of Nigeria (CBN) Statistical Bulletin and National Bureau of Statistics. The empirical investigation is carried out with annual data over the period 1990 to 2020. The study is bounded with this time period due to the fact that the effect of debt that many African countries incurred during the major debt crisis in 1980's following the global oil shock and world economic recession, is best dealt in this time period. According to the IMF definition and category all the selected eight countries are among the countries which received continuous debt relief in 2009, 2005 and 2007, to help them towards the millennium development goals that they are intended to achieve by 2015.

Variables selected to analyses under the study include Growth rate of real GDP; initial per capita GDP, Growth rate of investment, population growth rate, trade balance (the difference between Export and Import), Net total debt service, a ratio of net debt service to Export and the ratio of external debt to GNI. The main data source for the variables was World Bank data base supplemented by IMF and respective countries statistics offices. It should be noted that the Net total debt service variable is calculated by taking the difference of Total debt service and Total debt relief for each year, for years that are without debt relief the total debt service can be taken as the Net total debt service. Beside this, due to statistical insignificance during estimation in various steps and methods, the variable marginal productivity of capital and total external debt is omitted from analysis.

The study is designed in such a manner that requires an econometric investigation of the relationship between Nigeria's debt burden or exposure and development tangle, using Ordinary Least Square (OLS) method. The regression model is presented as:

$$\gamma = \alpha + \beta_1 x_1 + \beta_2 x_2 + \dots + \beta_n x_n + \varepsilon \quad (1)$$

Where  $\gamma$  is the rates of economic growth, and  $x_1, \dots, x_n$  are potential explanatory variables.

From equation (1), the logarithms of the variables were obtained so as to bring the time-series data on the variables to the same base. The general econometric model for the study is presented as:

$$y_{it} = \beta_0 + \beta_1 \text{Int GDP}_{i0} + \beta_2 \text{INV}_{it} + \beta_3 \text{N}_{it} + \beta_4 \text{TB}_{it} + \beta_5 \text{DSEX}_{it} + \beta_6 \text{EDY}_{it} + \beta_7 \text{NTDS}_{it} + u_{it} \quad (2)$$

Where,  $y_{it} = \text{RY}$  = the economic growth;  $\beta_0$  = intercept;  $\text{Int GDP}_{i0}$  = is log of the initial per capita GDP in 2011;  $\text{INV}_{it}$  = is the growth rate of investment;  $\text{N}_{it}$  = is population growth rate;  $\text{TB}_{it}$  = trade balance (Export - Import);  $\text{DSEX}_{it}$  = is Debt service export ratio;  $\text{EDY}_{it}$  = Ratio of Total external debt to GNI;  $\text{NTDS}_{it}$  = Net total Debt service;  $u_{it}$  = error term.

## Results and Discussion

The study utilised the OLS technique to estimate the relationship between the debt burden and economic growth in Nigeria for the period under consideration, and the estimated findings are presented in a tabular forms as follows:

**Table 1:** Model Summary

Model	R	R-square	Adjusted R square	Std. Error of the Estimate	Durbin-Watson
1	.977 <sup>a</sup>	.954	.946	7.64486	1.869

**Table 2:** Model Summary

Model	Unstandardized coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error			
(Constant)	7.703	2.149		3.584	.002
FDST	.004	.008	.025	.459	.653
1 FDSR	-.007	.018	-.022	-.402	.693
INFR	.996	0.55	.979	18.231	.000

Source: SPSS, Version 20

a. Dependent Variable RGDP

From the aforementioned, the output in the multiple linear regressions in Table 2 is used to show that the significant level (as calculated) for the t-statistic (of 0.459) for foreign debt stock (FDST) is a probability level of 0.653, which is higher than the a priori 0.05 significance level, implying that the null hypothesis is not rejected. Therefore, we accept the null hypothesis while its alternative is rejected; hence, there is a positive, but insignificant relationship between foreign debt stock (FDST) and Gross Domestic Product in Nigeria for the period under consideration.

By further utilizing the multiple linear regression output in Table 2, it can be seen that the significant level (as calculated) for the t-statistic (of -0.402) for servicing of foreign debt (FDSR) is a probability level of 0.693, which is higher than the a priori 0.05 significant level, implying that the null hypothesis is not rejected. Therefore, we do not reject the null hypothesis, indicating that there is a negative, and insignificant or weak relationship between foreign debt servicing (FDSR) and Gross Domestic Product in Nigeria for the period under consideration. It is apparent from the regression results in Table 2, that the significant level (as calculated) for the t-statistic (of 18.231) for Inflation Rate (INFR) is a probability level of 0.000 which is lower than

the a priori 0.05 significance level, implying that the null hypothesis is rejected. Therefore, we accept the alternate hypothesis while the null is rejected; hence, there is a positive and significant relationship between Inflation Rate (INFR) and Gross Domestic Product (GDP).

**Table 3:** ANOVA

	Model	Sum of Square	df	Mean Square	F	Sig.
1	Regression	19469.362	3	5489.787	111.043	.000 <sup>h</sup>
	Residual	935.102	16	58.444		
	Total	20404.464	19			

a. Dependent Variable: RGDP

b. Predictors: (Constant), INFR, FDSR, FDST

In addition, the F-Statistics from the ANOVA in table 3 shows the overall significance of model stands at an output of 111.043 coupled with a probability of 0.000, which is very low in comparison with the significant threshold of 0.05, implies an overall significance among the independent variables on the dependent variable. This implies that the aggregate of Nigeria's foreign debt does significantly affect its economic growth.

## Conclusion and Recommendations

The study examined the effect of debt burden on economic growth in Nigeria using the ordinary least square method. Results show a significant effect of debt on Gross Domestic Product in Nigeria, and a significant effect of debt servicing on Gross Domestic Product in Nigeria. This implies that the aggregate of Nigeria's foreign debt does significantly affect its economic growth.

It can be deduced from these findings that the fact that politics instigates acquisition of foreign debts is an indication of how highly politics is entrenched above economic considerations in governments economic choices and policies. This is also buttressed by the finding that despite the cost-benefit imbalance, the foreign debt portfolio continued to soar. Given that the negative effect of foreign debt far exceeds the benefit, it is apparent that external debt is injurious to the economy. In furtherance, such debt were poorly negotiated or inappropriately utilized such that it became more a burden than blessing to the company. Speculation prevails in spheres of uncertainty, therefore, the capacity of inflations to spur economic activities shows that there is systemic uncertainty as regards the ability of firms and other economic participant to make profit given the prevailing circumstance, hence engage in economic activities when they are assured of price increase and rising profit. As a matter of recommendations, outstanding external debt should be renegotiated with foreign creditors; the acquisition of foreign debt should be exclusively on economic considerations; structures that instill confidence in private economic participants should be established, and the volume of eternal debt should be gradually scaled down.

## References

1. Abrego L, Ross DC. Debt Relief under HIPC Initiative: Context and Outlook for Debt Sustainability and Resource Flows, United Nations University/ WIDER Journal of Accounting and Financial Management. 2001; 4(4):18-24.
2. Ademola A. Sustainability of Nigeria's Debt Paper presented at a Seminar on the Debt Problem and the Nigerian Economy: Resolution Options, Organized by

- the CBN at Abuja, Nigeria, Oct 1977, 28-29.
3. Adepoju AA, Salau AS, Obayelu AE. The Effects of External Debt Management on Sustainable Economic Growth and Development: Lessons from Nigeria, MPRA, 2007, article-2147.
  4. Adesola WA. Debt servicing and Economic Growth in Nigeria: An Empirical Investigation. *Global Journal of Social Sciences*. 2009; 8(2):1-11.
  5. Ajayi LB, Oke MO. Effect of external debt on economic growth and development of Nigeria. *International Journal of Business and Social Science*. 2012; 3(2):297-304.
  6. Ajayi SI. Macroeconomic Approach to Foreign debt: The Case of Nigeria. AERC, Nairobi. Africa Economic Research Consortium, research paper 8, 1991.
  7. Ajayi SI. Macroeconomic Approach to External Debt: The case of Nigeria, Africa Economic Research Consortium, Research Number, research number 8; 1991.
  8. Ajayi SI. Capital flight and External Debt in Nigeria, Africa Economic research consortium, research number 35, 1995.
  9. Ali BM, Mshelia SI. Impact of external debt services on Nigeria's Economy, *Global Journal of Social Sciences*. 2007; 6(2):111-118.
  10. Ariyo A. Paper Presented at a Seminar on the Debt Problem and the Nigeria Economy. Resolution Options, Organized by CBN. Abuja, Nigeria Oct 28-2, 1997.
  11. Audu I. The impact of external debt on economic growth and public investment: The Case of Nigeria, African Institute for Economic Development and Planning (IDEP), Dakar, 2004.
  12. Barro R, Sala-i-martin X. *Economic Growth*, Edition 2, New York: McGraw-Hill, 2003.
  13. Benedict C, Rina B, Toan QN. External Debt, Public Investment, and Growth in Low-Income Countries, International Monetary Fund, Working paper 03/249, 2003.
  14. Butts H. Short Term External Debt and Economic Growth-Granger Causality, 2009.
  15. Central Bank of Nigeria (CBN) Annual reports and financial statement of accounts. Abuja, Nigeria. Google Scholar, 2015.
  16. Christopher N, Stefan Z. Summary based on chapter 12 of Baltagi: Panel unit root tests, Viena: University of Viena, 2011.
  17. Cline William R. *International Debt Re-examined*, Washington DC: Peterson Institute for International Economics, 1995.
  18. Cohen D. Low Investment and Large LCD Debt in the 1980s. *The American Economic Review*. 1993; 83(3):32-46.
  19. Debt Management Office (DMO). *Nigeria Annual Reports and Statement of Accounts*, 2016. <http://www.dmo.gov.ng>. Accessed 13 April 2018.
  20. Evidence from Latin America and the Caribbean. *The Review of Black Political Economy*. 2016; 36(2):93-111.
  21. Ezike OJ, Mojekwu CA. Foreign direct investment and economic growth in Nigeria: An analysis of the endogenous effects. *Current Research Journal of Economic Theory*. 2012; 4(3):53-66.
  22. Rivera-Batiz FL, Rivera-Batiz LA. *International Finance and Open Economy Macroeconomics*, Edition 2, New York: Macmillan, 1994.
  23. Geiger JM. *Nigeria's External Debt: Causes and Implications*. Ibadan: National Centre for Economic Management and Administration, 1990.
  24. Hameed A, Ashraf H, Chandhary MA. External Debt and its Impact on Economic Business Growth in Pakistan, *International Research Journal of Finance and Economics*. 2008; 20:132-140. ISSN: 1450-2827
  25. Hansen H, Tart F. *Aid and Growth Regressions*. Centre for Research in Economic Development and International Trade University of Nottingham.00/7, 2000.
  26. Hector CB. Short Term External Debt and Economic Growth-Granger Causality: Evidence from Latin America and the Caribbean. *The Review of Black Political Economy*. 2009; 36(2):93-111.
  27. Hernandez EC. Issues in design of Growth Exercises. IM? Working Paper WP/88/65, IMF, Washington DC, 1974.
  28. Hutcheson TL. Foreign debt and Debt Relief. Paper presented at CBN Seminar on Understanding Nigeria's Economic Policy for Finance Correspondents November, 1996.
  29. IMF/World Staffs. *Debt Sustainability in Low Income Countries- Proposal for an Operational Framework and Policy implications*, Feb. 3, 2004.
  30. Erdal KA. A critical Review of external debt and economic Growth Relationship: A lesson for indebtedness countries, Faculty of Economics and Administrative sciences Department of Economics, Bandirma Balikesir Univeristy, 2006.
  31. Keith Pilbeam. *International Finance*, Edition 2, London: City University press, 1998.
  32. Krugman Paul R. Financing versus Forgiving a Debt overhang, *Journal of Development Economics*. 1988; 29:253-268.
  33. Kenneth M, Kletzer, Brian D, Wright. *Sovereign Debt as Intertemporal Barter*, Center for International and Development Economics Research, working papers C98-100, 1998.
  34. King BB. Notes on Mechanics of Growth and Debt. World Bank Staff Occasional. *Journal of Accounting and Financial Management*. 1968-2018; 4(4). ISSN: 2504-8856. [www.iardpub.org](http://www.iardpub.org)
  35. Klein TM. *Foreign Debt Management: An Introduction*. World Bank Technical Papers No. 245, the World Bank, Washington DC, 1994.
  36. Krumma Kashie L. The External Debt of Sub-Saharan Africa: Origins, Magnitude and Implications for action, World Bank, Staff Working Papers 741, 1985.
  37. Mariano AT, Delano D. The impact of foreign direct investment on economic growth: Case of post communism transition economies. *Problems and Perspectives in Management*. 2006; 12(1):17-24.
  38. Mc Donald DC. Debt Capacity and Developing Country Borrowing: A Survey of the literature, IMF Staff Paper. 1982; 29(4).
  39. Mjema GD. The Impact of Foreign Debt Servicing in the Economy of Tanzania: A Simultaneous equation approach, *African Journal of Economic Policy*, 1996.
  40. Nwankwo A. Diagnostic of Nigeria's Debt Problem. Paper presented at the Stakeholders' Forum on Debt Management for the 36 States of the Federation, Organized by Debt Management Office, Aug 30-31,

- 2004.
41. Osei, Barfour. Ghana: The Burden of debt service payment under structural Adjustment, Africa Economic Research Consortium, Research Number 33, 2000.
  42. Patifilo C, Poirson H, Ricci L. External debt and growth (Working Paper 02/69). Washington D.C. International Monetary Fund, 2002.
  43. Rockerbie, Warner D. Did the Debt Crisis Cause the Investment Crisis? Further Evidence, *Applied Economics*, Cilt. 1994; 26:731-738.
  44. Rostow WW. *Stages of Economic Development* (New York. Cambridge), 1971.
  45. Sachs J. The Charade of Debt Sustainability, *Financial Times*, September 26, 2000.
  46. Schclarek A. Debt and Economic Growth in Developing and Industrial Countries. Lund University Working Paper, 2005.
  47. Smyth D, Hsing Y. In search of an optimal debt ratio for economic growth. *Contemporary Economic Policy*. 1995; 13:51-59.
  48. Solomon R. A Perspective on the Debt of Developing Countries. *Brookings Paper on Economic Activity*, 1977.
  49. Uzun A, Kabadayi B, Karakoyi C, Emsen OS. The Impact of External Debt on Economic Growth in Transitional Economies. *Chinese Business Review*. 2012; 2(5).
  50. World Bank Dealing with the Debt Crisis: The Foreign debt Difficulties of Low Income. Africa World Bank Development Report, 1989.