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## Article

# The effect of foreign debt on the economic growth of Nigeria

Management dynamics in the knowledge economy

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*Reference:* Omodero, Cordelia Onyinyechi/Alpheaus, Ogechi Eberechi (2019). The effect of foreign debt on the economic growth of Nigeria. In: Management dynamics in the knowledge economy 7 (3/25), S. 291 - 306.  
doi:10.25019/MDKE/7.3.01.

This Version is available at:  
<http://hdl.handle.net/11159/4170>

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## **The Effect of Foreign Debt on the Economic Growth of Nigeria**

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**Abstract.** *This study examines the effect of foreign debt on the economic growth of Nigeria. Data for the study are collected from the World Bank and Central Bank of Nigeria Statistical Bulletin. The variables on which data are sourced include nominal gross domestic product, foreign debt stock, foreign debt servicing, inflation rate, and exchange rate. Nominal gross domestic product is the dependent variable while foreign debt stock and foreign debt servicing are the major explanatory variables. Inflation and exchange rates are used as the control variables. The scope of the study covers the period from 1997 to 2017 and data are analyzed using the ordinary least squares regression technique. The regression results indicate that foreign debt exerts a significant negative influence on economic growth while foreign debt servicing has a strong and significant positive impact on economic growth. The other factors are insignificant in explaining economic growth under this scenario. Thus, the study recommends a more purposeful borrowing pattern and revenue generation through profitable capital investments as the remedy for a foreign debt crisis in the country. The study also suggests a revival of abandoned industries as a more effective way of reducing foreign borrowing, creating employment opportunities and alleviating poverty in the country.*

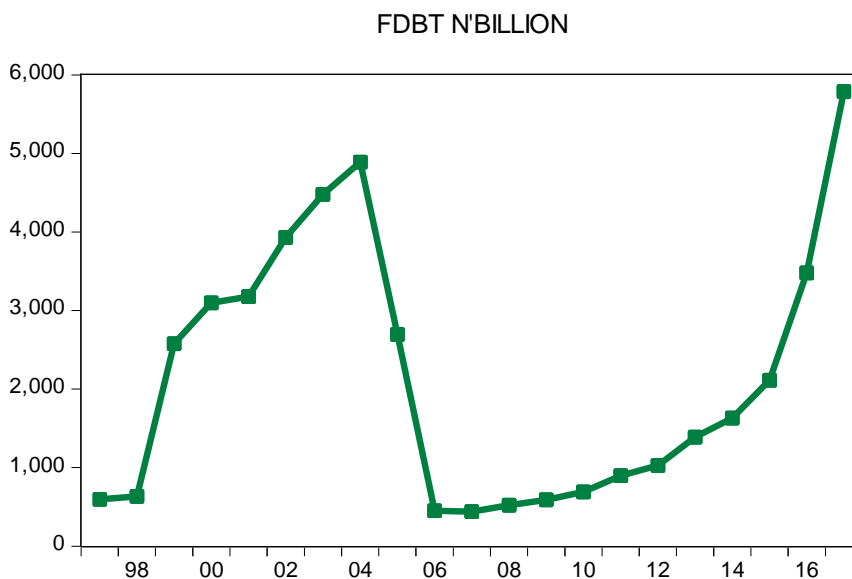
**Keywords:** *foreign debt; debt servicing; economic growth; inflation; exchange rate.*

### **Introduction**

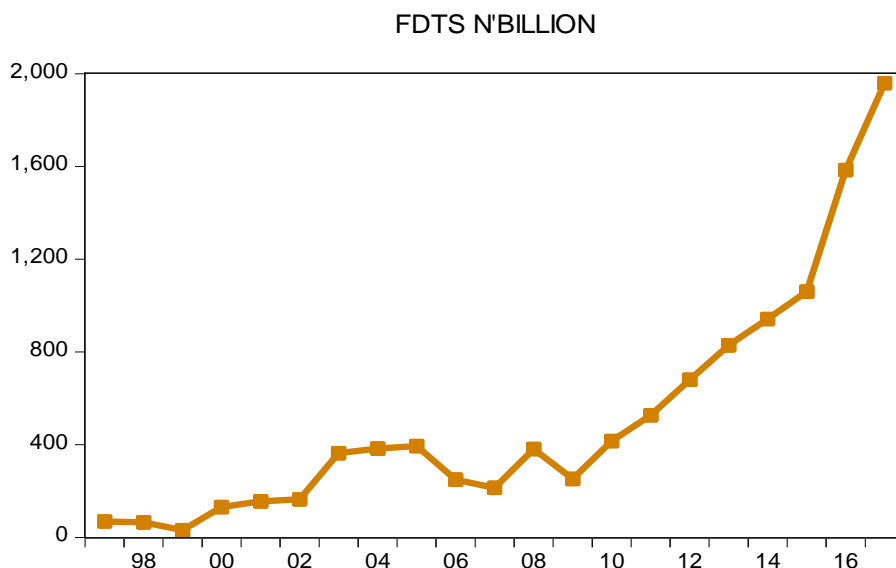
Foreign debt has remained one of the major challenges facing low-income nations like Nigeria due to the constant budget deficit, unfavorable balance of payment and most importantly the inevitable need for industrialization. Soludo (2003) affirms that the adverse balance of payment and budget deficit are the two major issues that lead to the acquisition of foreign loans. When low-income nations are confronted with this dilemma, they have no option than to turn to International Financial Institutions and Bilateral leaders for loans. When such loans are acquired by a nation, debt servicing becomes the order of the day and if it is not well handled, economic growth originally intended will be far-reaching in the process. According to Udeh (2013), settlement of excessive foreign debts hindering the growth of most highly indebted poor countries (HIPC)s has led to the embracing of numerous initiatives ranging from debt rearrangement to absolute revocation. Bakare (2011) submits that external borrowing to foster economic growth and development is not an issue, but the challenge is the

misappropriation of such borrowed funds which in turn results to the economic crisis. Nigeria's foreign borrowing is somehow reckless and non-directional, it has become a norm and issue of politics without major capital projects in mind when foreign loans are contracted.

Nigeria's external debt had its origin in 1958 when a loan of USD28 Million was obtained from the World Bank to construct a railway and other developmental projects (Ndekwe, 2008). In 1985, the problem of debt servicing began as the total foreign debt of Nigeria rose to USD19 billion, but the government was able to repay the foreign creditors (Paris Club) more than USD35 billion while the borrowed money was then less than USD15 billion (Rieffel, 2005). Following the apparent debt overhang in Nigeria, the Obasanjo's led government in 2003-2007 intensely pursued debt revocation which consequently resulted to a reduction of the foreign debt up to USD3.4 billion in 2007 (Adedoyin, Babalola, Otekunri & Adeoti, 2016) and if translated into the local currency it amounted to N438.89 Billion (CBN Statistical Bulletin, 2018). The succeeding administrations after President Obasanjo's tenure swiftly resumed the borrowing to such a level that Nigeria's debt profile (comprising loans from Multilateral, Bilateral, Euro Bond, Diasporal Bond, and others) started rising again from N438.89 Billion in 2007; N523.25 Billion in 2008; N590.44 Billion in 2009; N689.84 Billion in 2010; N896.85 Billion in 2011; N1,026.90 Billion in 2012; N1,387.33 Billion in 2013; N1,631.50 Billion in 2014; N2,111.51 Billion in 2015; N3,478.91 Billion in 2016; N5,787.51 in 2017 to N7,759.20 in 2018 (CBN Statistical Bulletin, 2018).



**Figure 1. Trend of foreign debt in Nigeria from 1997-2017**  
(CBN Statistical Bulletin, 2018)



**Figure 2. Trend of foreign debt servicing in Nigeria from 1997-2017  
(CBN Statistical Bulletin, 2018)**

The figures 1 and 2 above depict the trend of Nigeria's foreign debt stock and debt servicing from 1997 to 2017 respectively. The graphs (FDBT and FDTs) show that during President Obasanjo's led administration from 1998 to 2007 Nigeria's foreign debt obligations were relatively very low while shortly after that, the rise became so rapid and has become worse in the recent times. It can be observed that 2015 to 2018 witnessed the climax of the foreign borrowing with a greater percentage increase in each successive year. The debt servicing is rising in such a manner that the economic growth and development which invariably were the primary purpose for foreign borrowing hence become a secondary issue as the government struggles to meet up with the debt servicing obligation using a huge part of the nation's income.

Several studies have empirically produced statistical evidences that foreign debt impacts positively and significantly on economic growth (Elwasila, 2018; Matuka & Asafo, 2018; Monogbe, 2016; Ndubuisi, 2017; Sulaiman & Azeez, 2012) while the studies of numerous scholars confirm that foreign debt is harmful to economic growth of a nation (Afolabi, Laoye, Kolade, & Enaholo, 2017; Ajayi & Oke, 2012; Akram, 2016; AL-Tamimi & Jaradat, 2019; Mbah, Agu, & Umunna, 2016; Mukui, 2013; Onakoya & Ogunade, 2017; Saxena & Shaner, 2015; Siddique, Selvanathan, & Selvanathan, 2015; Udeh, Ugwu, & Onwuka, 2016) among others. This dichotomy among scholars and policymakers on the issue of foreign debt and economic growth of a nation has motivated this study. The purpose of this study is to determine the impact of foreign debt and foreign debt servicing on the economic growth of Nigeria and to empirically establish their effects as well as the effects of some selected control variables.

### ***The objective of the study***

The primary aim of this study is to investigate the impact of foreign debt and foreign debt servicing on the economic growth of Nigeria. The study also seeks to achieve the following specific objectives:

1. To examine the impact of foreign debt on nominal gross domestic product.
2. To establish the effect of foreign debt servicing on nominal gross domestic product.
3. To assess the influence of inflation rate on nominal gross domestic product.
4. To determine the effect of exchange rate on nominal gross domestic product.

### ***The study hypotheses***

Ho1: Foreign debt does not significantly impact on nominal gross domestic product.

Ho2: Foreign debt servicing does not have a significant effect on nominal gross domestic product.

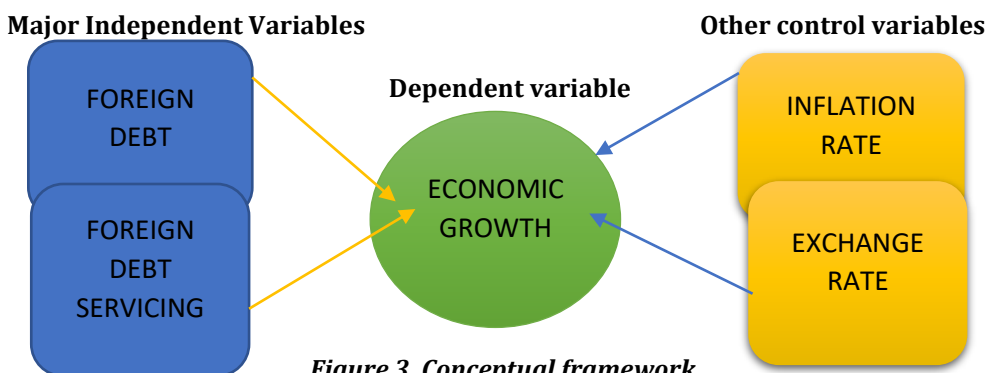
Ho3: Inflation rate does not have a significant influence on nominal gross domestic product.

Ho4: Exchange rate does not significantly affect the nominal gross domestic product.

### **Literature review**

#### ***Conceptual framework***

The dependent and independent variables used in this study have been diagrammatically presented in the Figure 3 below.



***Figure 3. Conceptual framework***

Figure 3 above depicts economic growth as a function of the major independent variables (foreign debt and foreign debt servicing) and the control variables (inflation rate and exchange rate).

#### ***Foreign debt and economic growth***

Foreign debt or external debt refers to the portion of a country's over-all debt that is borrowed from foreign lenders which include commercial banks, governments or international financial institutions (Focus Economics, 2019). The international financial institutions include the World Bank and the International Monetary Fund (IMF). Money borrowed from foreign lenders (usually European, North American, or Japanese) involves interest which must be paid in the same currency in which the loan is taken, therefore, the borrowing country may be required to export its goods to the lender countries to earn that currency (Business Dictionary, 2019a). The disreputable debt

tragedy happens when a certain feeble economy is incapable of meeting up with the debt servicing obligations, but will resort to accepting socially and environmentally precarious conditions (Business Dictionary, 2019a).

Another definition puts it that foreign debt is the money that the government and organizations in a country have borrowed from organizations and governments in other countries (Cambridge Dictionary, 2019). Foreign debt is the amount a country owes to other countries either directly in the form of government to government loans or indirectly due to the negative balance of trade (Business Dictionary, 2019a). However, due to a shortage of resources and some relative advantages, countries depend on one another to enhance their economic growth in order to achieve sustainable economic development (Afolabi et al., 2017). Domestic savings may not be able to provide all the required infrastructures that can lead to the industrialization of a developing country. Therefore, developing countries rely on external financing to fill the developmental vacuum and meet economic growth needs that domestic saving is unable to satisfy.

#### *Debt servicing and economic growth*

IMF (2003) defines debt service as the payments required to be made in respect of both principal and interest for an existing loan. According to Merriam-Webster (2019), debt service is the amount of interest and sinking fund payments due annually on long-term debt. Business Dictionary (2019b) refers to debt service as the payment of principal and interest due on existing debt. IMF (2003) seeks to highlight the difference between actual debt service and scheduled debt service. According to IMF (2003), actual debt service is the set of payments actually made to satisfy a debt obligation, including principal, interest, and any late payment fees. On the other hand, scheduled debt service is the set of payments including principal and interest, which is required to be made throughout the life of the debt (IMF, 2003). In a nutshell, debt service is the amount of money which includes the interest expense and principal – a borrower is required to pay periodically to the lender throughout the lifetime of a loan.

The effect on economic growth is that, if debt servicing is judiciously done, it portrays the borrowing country as a credit worthy country before the creditor countries and other lending organizations. In other words, the economy grows with the inflow of more borrowed funds. The danger is that it may lead to too much dependency on foreign loans and debt overhang. The borrowing country will become so highly indebted, in such a manner that their available resources may not be able to satisfy the debt obligations. Management of debt crisis inhibits economic growth because it involves payment of accumulated interest, principal and interest penalties emanating from failure to keep to the terms. The Highly Indebted Poor Countries (HIPC)s that find themselves in this net attempt debt rescheduling or cancellation negotiations. However, the best option is usually to exercise proper control over foreign borrowing and to do it with a lucrative capital investment in mind. When the borrowed fund is exclusively channeled to profitable projects and their completion, the returns from the investment will help to service the loan in the future and the desired economic growth will be achieved.

***Theoretical review******Overhang debt theory***

According to Myers (1977) debt overhang is a situation where a firm has excess debt such that its business expansion through investment is inhibited and the benefit that would have accrued to the shareholders will rather go to the debenture holders and other creditors. Debt overhang is also observed when a country's level of debt is bigger than its financial capability to keep to the debt terms and agreement which involve debt servicing and repayment arrangement. This theory is established on the principle that if the level of debt will exceed the country's capacity to refund with some imminent likelihood, expected debt service is anticipated to be an increasing function of the country's economic growth level (Adedoyin et al., 2016). Krugman (1988) submits that debt overhang theory indicates the probability that in the future, debt will surpass the country's capability to repay; estimated debt-service costs will decrease further domestic and foreign investment because the expected rate of return from the productive investment projects will be very low to support the economy as the significant portion of any successive economic growth will accrue to the creditor countries. Monogbe (2016) upholds that the failure of the current generation to service the acquired loans will lead to a greater debt burden for the upcoming generation.

***Dependency theory***

Dependency theory is a theory that dealt with several issues but places more emphasis on foreign capital reliance which is associated with this study. The theory states that the advanced nations employ foreign capital as a tool to enforce a progressive arrangement that is not harmonious with the domestic requirements of the developing countries (Ijirshar, Joseph, & Godoo, 2016). The theory stresses that external borrowing serves as a modern-day slavery device whereby the Empire Countries demand more than what they have given in order to further enslave the developing countries (who were their former colonies) and rob them of the independence they claim to have gotten. These Empire Countries use inflows from debt servicing arrangement to further impoverish the developing countries, deny them of desired economic development while at the same time enlarging their empires to remain stronger, better and unbeatable. The consequence of reliance on external debt accumulation is that it becomes a mechanism through which industrialized countries exercise control over the unindustrialized nations by deciding the type of projects, level of expertise, equipment to be provided, number of expatriates and local workers, as well as all pricing decisions (Ijirshar et al., 2016). In addition, the theory contends that the dependency on external funds gives rise to too much fund outflow referred to as debt servicing which takes away the meager resources of highly indebted poor countries as well as hinder their economic growth.

***Empirical review******Studies outside Nigeria***

Rifaqat and Usman (2012) assessed the impact of external debt on the economic growth of Pakistan using both the long and short term approach for a period covering 1970 – 2010. The study employed Gross National Product as a function of external debt in conjunction with other control variables which include expenditure on education,

capital and labor force. The findings revealed among others that external debt had a significant negative influence on economic growth, thereby confirming that a high foreign debt burden impedes economic growth. Kasidi and Said (2013) applied the ordinary least squares (OLS) method to evaluate the impact of external debt on the economic growth of Tanzania from 1990 to 2010. The results showed that external debt stock had a significant positive impact on GDP, while external debt servicing exerted a significant negative influence on GDP. Both results were significant, implying that external debt gives economic progress and also takes it with excessive debt servicing. Debt servicing is so demanding that most developing countries go into fresh borrowing in order to have funds to service old foreign debts to avoid the compounding interest penalties and to remain credit worthy before their foreign lenders.

Mukui (2013) did a study by trying to answer the questions whether external debt and debt servicing payment actually had a significant influence on the economic growth of Kenya. The study employed the linear model to analyze the impact of external debt on the economic growth of Kenya from 1980 to 2011 while including in the model some control variables such as capital formation, domestic saving, inflation, labor force, and foreign direct investment. The results indicated that external debt and debt servicing had negative impacts on economic growth. The control variables that also exerted the same negative influences include domestic saving, inflation and labor force. However, capital formation and foreign direct investment were the factors found to be having a positive and significant impact on economic growth. Thus, the study suggested policies that will increase FDI inflows in Kenya.

Siddique, Selvanathan, and Selvanathan (2015) employed a panel data of 40 highly indebted poor countries from 1970 to 2007 to examine the impact of foreign debt on economic growth. The study made use of panel data estimation of an ARDL model. The results revealed that the external debt of these poor countries had a negative impact on economic growth both in the long run and in the short run. Saxena and Shaner (2015) examined the relationship between economic growth and external debt in India using ordinary least squares technique and a secondary form of data spanning from 1991 – 2015. The study found the existence of a negative relationship between the Gross Domestic Product (GDP) and India's external debt stock.

Akram (2016) examined the effect of public debt on economic growth and poverty reduction in selected South Asian Countries (which included Bangladesh, India, Pakistan, and Sri Lanka) for a period covering 1975 to 2010. The study used a model that incorporated the role of public debt in effecting economic growth which was turned into an equation that was also used to assess the same effect of public debt on poverty. Standard panel data estimation methodologies were applied to estimate the model and the results showed that public debt had a negative impact on economic growth while both the public external debt and the external debt servicing had no significant relationship with poverty reduction which suggested that public external debt has the same effect (whether good or bad) on both the poor and the rich.

Elwasila (2018) investigated the effect of external debt on the economic growth of Sudan from 1969 to 2015, using vector error correction method (VECM). The study also employed exchange rate and foreign direct investment as the controlling factors. The dependent variable was the GDP while the external debt to exports ratio was the proxy for the external debt which is the main explanatory variable. Thus, the findings revealed



that external debt to export ratio had impacted positively on Sudan's economy while the control variables (the exchange rate and FDI) employed exerted a negative influence on GDP growth in Sudan. Matuka and Asafo (2018) examined the impact of external debt on economic growth in Ghana using co-integration analysis and an error correction methodology. The study made use of annual time series data covering a period from 1970 to 2017. The findings indicated that external debt impacted positively on economic growth in Ghana, both in the long and short terms.

Shkolnyk and Koilo (2018) empirically examined the relationship between external debt and economic growth in Ukraine from 2006 to 2016 using different econometric techniques. The study established that a high level of external debt and macroeconomic instability impede economic growth. The study further revealed that the debt burden on Ukraine as found in other emerging economies had denied them expected economic improvement. AL-Tamimi and Jaradat (2019) investigated the impact of external debt on economic growth in Jordan using annual time series data covering a period from 2010 to 2017. The empirical finding revealed that external debt had a significant negative impact on economic growth. Thus, the study suggested foreign direct investment as an alternative method of financing.

### *Studies in Nigeria*

Ajayi and Oke (2012) investigated the effect of external debt on economic growth and development of Nigeria using ordinary least squares regression and secondary data for 27 years. The results showed that the external debt burden had an unfavorable effect on the national income and per capita income of Nigeria. The study further revealed that the enormous size of Nigeria's external debt led to the devaluation of the nation's currency, poor educational system, frequent industrial strike, growth of worker's retrenchment as well as disturbing economic stagnation. Sulaiman and Azeez (2012) studied the effect of external debt on the economic growth of Nigeria using ordinary least squares (OLS) technique and other relevant statistical tools to analyze the data obtained from Central Bank of Nigeria Statistical Bulletin and Debt Management Office from 1970 to 2010. The study found evidence that external debt had positively contributed to Nigeria's economic growth. Although this finding is contradictory when compared with physical realities, however, the authors recommended that external debt should be acquired purely for economic growth purposes and not for political reasons.

Adedoyin et al. (2016) also covered a period from 1981 to 2014 using auto-regressive distributed lag (ARDL) which showed the existence of a significant relationship between external debt and economic growth both in the long and short run, but no causality was found among the variables. This study suggested among others that debt limit should be set and maintained to avoid debt overhang. Ijirshar et al. (2016) used a combination of descriptive statistics and econometric tools to examine the relationship between external debt and economic growth in Nigeria from 1981 to 2014. The result of the study indicated that external debt stock had a significant positive impact on economic growth both in the short and long run. On the contrary, external debt service negatively and significantly impacted on the economic growth of Nigeria. Monogbe (2016) examined the long term effect of external debt on Nigeria's economic performance from 1981 to 2014 using co-integration test, granger causality test, and ordinary least squares method. The study found that external debt had a positive and significant relationship with economic growth.

Mbah et al. (2016) employed an error correction model and ARDL bound testing approach to assess the impact of external debt on economic growth in Nigeria from 1970 to 2013. The study found a long-run relationship among the variable and further established that external debt had a significant negative impact on the economic growth of Nigeria. The study recommended prudent and export induced borrowing. In the study of Udeh et al. (2016), GDP was a function of the external debt stock, external debt service and a control variable being the exchange rate. The study covered a period from 1980 to 2013 and made use of error correction model, ordinary least squares method and so found that exchange rate had a positive relationship with GDP while the external debt stock and external debt service payment exerted a negative impact on GDP.

Afolabi et al. (2017) investigated the long and short term association between external debt and economic growth in Nigeria. The study covered a period from 1980 to 2014 and applied error correction model and granger causality test in order to empirically establish the relationship existing among the variables. Thus, the findings showed that external debt had a negative relationship with economic growth in Nigeria. The suggestion is that external debt should be judiciously used for the provision of infrastructures and projects that will result in economic development and growth. Onakoya and Ogunade (2017) used OLS technique to find evidence on the implication of external debt to Nigeria's economic growth. The study covered a period from 1981 to 2014 and found that external debt did not granger cause economic growth at 5% level of significance. This finding implied that external borrowing in Nigeria is not used for developmental projects which is the major driver for foreign loans.

Ndubuisi (2017) extended the study on the impact of external debt on the economic growth of Nigeria from 1985 to 2015 using the ordinary least squares method and some other statistical tools. The control variables employed were the exchange rate and external reserve while the major independent variable includes external debt stock and external debt servicing. The study also employed the GDP as the dependent variable. Thus, the findings revealed that debt service payment had an insignificant negative impact on economic growth while the external debt stock had a significant positive impact on the economic growth of Nigeria. The control variable which include external reserve and exchange rate had significant impacts on GDP. Thus, the study recommended the use of external debt for infrastructural development.

### ***Gap in the academic literature***

There are obvious discrepancies in the existing studies on the effect of foreign borrowing on economic growth. Kasidi and Said (2013) found that foreign debt impacted positively and significantly on economic growth of Tanzania while debt servicing had a negative influence on Tanzania's economy. The findings of Elwasila (2018) revealed that external debt to export ratio impacted positively on Sudan's economy while Matuka and Asafo (2018) findings indicated that external debt impacted positively on the economic growth of Ghana, both in the long and short terms. The other foreign studies (Akram, 2016; AL-Tamimi & Jaradat, 2019; Mukui, 2013; Rifaqat & Usman, 2012; Saxena & Shaner, 2015; Shkolnyk & Koilo, 2018; Siddique et al., 2015) reviewed in this study provided evidence that foreign debt and its servicing impacted negatively on economic growth. There were also mixed results in the studies carried out in Nigeria. The striking ones were the studies that covered a period from 1981 to 2014

but found different results. For instance, Ijirshar et al. (2016) and Monogbe (2016) covered a period from 1981-2014 and found that external debt impacted positively on economic growth of Nigeria, while the study of Afolabi et al. (2017) which spanned from 1980-2014 revealed a negative influence as well as the finding of Onakoya and Ogunade (2017) which also covered a period from 1981-2014. However, this current study is focused on the impact of foreign debt on Nigeria's economic growth using GDP as a function of foreign debt and debt servicing accumulated over a period of 21 years (1997-2017). The study also employed some selected control variables assumed to be major determinants of the performance of the key variables used in this study.

## **Methodology**

### ***Research design and sources of data collection***

This study employed a causal research design in order to achieve the purpose of the study. According to Kothari (2004), causal research is used to explore the effect of one variable on another and this is consistent with this study which seeks to establish the effect of foreign debt on economic growth. Here, the research adopted the econometric analysis techniques of ordinary least squares (OLS) multiple regression techniques. The study made use of a secondary form of data spanning from 1997 to 2017. All the data employed in this study were obtained from the Central Bank of Nigeria Statistical Bulletin, 2017 edition, and World Bank. Due to the difference in the values, all the data were expressed in logarithm form for uniformity.

### ***Model specification***

The functional and econometric relationship between the dependent variable and the independent variables are seen in the equation below:

$$NGDP = f(FDBT, FDTS, INFL, EXGR) \dots\dots\dots (1)$$

$$LOGNGDP = \beta_0 + \beta_1 LOGFDBT + \beta_2 LOGFDTS + \beta_3 LOGINFL + \beta_4 LOGEXGR + \mu \dots\dots\dots (2)$$

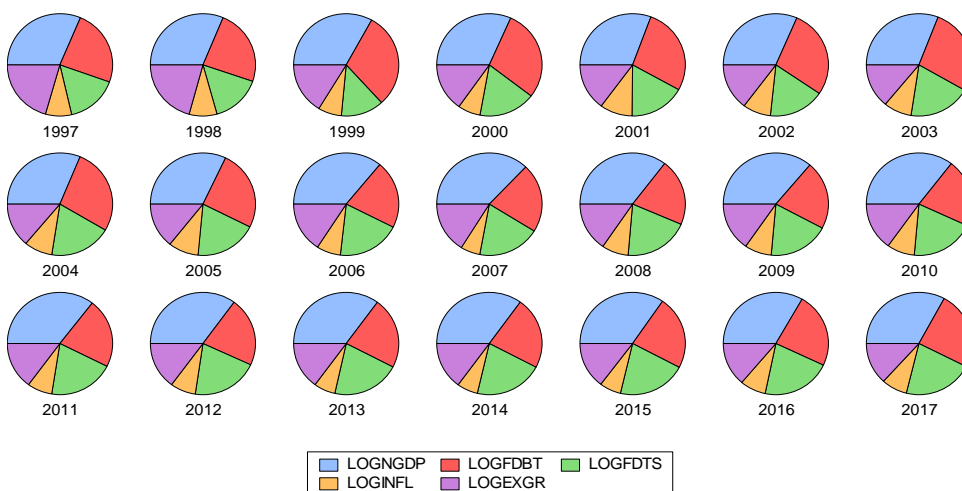
Where:

NGDP = Nominal Gross Domestic Product; FDBT = Foreign Debt; FDTS = Foreign Debt Servicing; INFL = Inflation Rate; EXGR = Exchange Rate;  $\beta_0$  = Constant;  $\beta_1$ - $\beta_4$  = Regression coefficients;  $\mu$  = Error term.

On the a priori, we expect;  $\beta_1 > 0$ ,  $\beta_2 > 0$ ,  $\beta_3 > 0$ ,  $\beta_4 > 0$ .

## Data analysis and interpretation

### *Trend of data from 1997-2017 displayed in pie charts*



**Figure 4. Trend of NGDP, FDBT, FDTS, INFL, EXGR**

Figure 4 above depicts the trend of data employed in this study. The pie charts show the size of the foreign debt and foreign debt servicing cost as well as the dependent variable and the control variables. It can be observed that foreign debt and its servicing increased in size in each of the years. The size of the foreign debt stock and its servicing cost in each of the years as shown in figure 4 reveals that the economy is being suppressed by debt burden. The size of the debt and the servicing cost jointly appear bigger than the nominal GDP which is the proxy for economic growth. This scenario shows that the country is highly geared and requires both foreign and domestic investments to reduce the level of debt saturating the economy.

**Table 1. Summary of statistical indicators**

Model	R	R Square	Adjusted R Square	Std. error of the Estimate	Durbin-Watson
1	.968	.937	.921	.135945767	2.005

a. Predictors: (Constant), LOGEXGR, LOGFDTS, LOGINFL, LOGFDBT

b. Dependent Variable: LOGNGDP

Table 1 above shows the model summary of the regression results of this study. The correlation (R) value of 96.8% implies that the relationship between economic growth and the explanatory variables is very strong and significant. This means that foreign debt and its servicing influence Nigeria's economy substantially. Foreign debt is a macroeconomic factor that its uses and accumulation determine economic growth in the country to a very large extent. In other words, the relationship is so robust that if the foreign debt is accumulated and put into proper use the economy will improve while if wrongly applied, the economy will be depressed. The coefficient of determination (R Square) of 93.7% shows the extent to which all the predictor variables (FDBT, FDTS,

INFL, EXGR) could explain the changes in NGDP. Thus, the remaining 6.3% can be accounted for by other factors that are not included in the model. The value of Durbin-Watson is 2 which indicates the absence of autocorrelation in the sample.

**Table 2. ANOVA test of results**

Model	Sum of Squares	Df	Mean Square	F	Sig.
1 Regression	4.363	4	1.091	59.021	.000
Residual	.296	16	.018		
Total	4.659	20			

a. Dependent Variable: LOGNGDP

b. Predictors: (Constant), LOGEXGR, LOGFDTS, LOGINFL, LOGFDBT

Table 2 shows the ANOVA test of results. F Statistic is used to assess the collective influence of all the explanatory variable on the dependent variable. The rule is that if the p-value is less than 5%, the independent variables jointly and significantly impact on the response variable. The F Statistic in this study is 59.021 and the p-value is  $0.000 < 0.05$ . This result shows that the model is a good fit and statistically significant. It further reveals that all the explanatory variables collectively impact on economic growth significantly.

**Table 3. Regression coefficients and correlations**

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	4.223	.627		6.740	.000		
1 LOGFDBT	-.372	.101	-.294	-3.690	.002	.625	1.599
LOGFDTS	1.067	.071	1.025	14.983	.000	.847	1.181
LOGINFL	-.368	.242	-.115	-1.523	.147	.697	1.435
LOGEXGR	-.450	.221	-.144	-2.032	.059	.794	1.260

a. Dependent Variable: LOGNGDP

### ***The test of multicollinearity***

Multicollinearity occurs when there is an existence of a strong relationship or an overlap between two independent variables or among independent variables assessing the same element. The Variance Inflationary Factor (VIF) is used to measure the velocity with which variances of a variable accelerate. VIF indicates how the variance of a variable increase by the existence of multicollinearity. The extent of collinearity inflates as the variance of a variable increase (Gujarati & Porter, 2009). The rule is that if the value of VIF of a variable exceeds 10, then there is high collinearity between that variable and other independent variables (Gujarati & Porter, 2009). The VIF values of all the independent variables used in this study are all less than 10, therefore, there is no presence of multicollinearity among the explanatory variables.

### ***The test of hypotheses***

The t-statistic is the tool used for hypotheses testing in this study. The study initially hypothesized that FDBT, FDTS, INFL, and EXGR do not have a significant impact on economic growth proxied by NGDP. The FDBT t-statistic is -3.690 and the p-value is  $0.002 < 0.05$ . This result indicates that FDBT has a significant negative impact on NGDP. It implies that foreign debt accumulated within the period under review has a significant negative impact on Nigeria's economic growth. Thus,  $H_{01}$  is hereby accepted and the alternative declined. This result is in agreement with the findings of Afolabi et al. (2017), Ajayi and Oke (2012), Akram (2016), AL-Tamimi and Jaradat (2019), Mbah et al. (2016), Mukui (2013), Onakoya and Ogunade (2017), Saxena and Shaner (2015), Siddique et al. (2015), Udeh et al. (2016) while conflicting with the studies of Elwasila (2018), Matuka and Asafo (2018), Monogbe (2016), Ndubuisi (2017), Sulaiman and Azeez (2012). On the contrary, FDTS t-statistic is 14.983 with the p-value of  $0.000 < 0.05$  level of significance. The result shows that foreign debt servicing in Nigeria has a significant positive influence on economic growth. Therefore,  $H_{02}$  is hereby rejected and the alternative accepted. This result is in discrepancy with the findings of Ijirshar et al. (2016), Kasidi and Said (2013), Mukui (2013), Udeh et al. (2016). The results of INFL and EXGR are not significant in explaining economic growth. Thus,  $H_{03}$  and  $H_{04}$  are accepted and the alternatives rejected.

### **Conclusion and recommendations**

#### ***Conclusion***

Foreign debt accumulation is an economic burden that hinders economic growth instead of improving it as expected. When a foreign debt accumulates over time, it results in debt overhang and the developing country in question remains a perpetual dependent country to the foreign creditor countries using debt servicing instrument to exploit them. Under this scenario, the huge part of the debtor country's resources goes into debt servicing in order for the country to remain credit worthy. This is the situation Nigeria is facing by ensuring that no stone is left unturned in servicing foreign debt so as to attract more debt. As a result, the foreign debt profile keeps rising as well as the servicing cost. The economic implication is that foreign debt servicing impacts positively on economic growth by attracting more debt while the increase in foreign debt leads to debt overhang which depresses the economy. Thus, the seemingly economic improvement experienced by judiciously servicing debt and making Nigeria credit worthy is a mere sham because the increasing level of foreign borrowing is detrimental to the economy and is also enslaving the nation.

#### ***Recommendations***

The study recommends a more purposeful borrowing pattern and development of infant industries. In order to develop infant industries so as to reduce foreign borrowing, the government is encouraged to consider a partnership with foreign counterparts who have the expertise to develop certain natural resources that are yet untapped in some parts of the country. These untapped mineral resources found in various parts of the country include bitumen, coal, columbite, gold, iron ore, kaolin, limestone, marble, tin, uranium (Mutiu, 2016) among others.

Borrowing should not be for political campaigns but for the establishment of lucrative industries such as agribusiness and manufacturing industries. It is usually disheartening to observe that most foreign debts are incurred for political reasons and not profitable ventures. It is advisable to have revenue generation and economic development as the focus in all manner of foreign borrowing. This goal can be achieved through adequate feasibility study required to establish the profitability of capital investment and the likelihood of realizing the goal before foreign borrowing is undertaken by the government. Most failed capital projects have been as a result of lack of proper analysis of the projects and use of the right human resources in the right places. So, the use of the capable human capital is advocated in this study to drive the economy and to make proper use of borrowed funds for profitable capital investments.

The study is also suggesting the revival of abandoned industries in the country. Some industries that have been abandoned over the years can be revived to continue in business, employ experts within the country and run profitably. For instance, the federal government recklessly abandoned Ajaokuta Steel Company (ASCO) after spending about USD7 Billion and almost less than USD1 Billion dollar for completion (Jegede, 2013). The borrowed funds can be used to revive ASCO and Delta Steel Company (DCL) which have the capacity to generate sufficient revenue for the country and employing many jobless Nigerian youths as well as helping in poverty reduction. The study equally suggests the revival of the Nigerian textile industry which contributed about 15% of the manufacturing earnings to the GDP and about 60% to 70% of the textile industry capacity in Nigeria and West Africa but is presently in comatose (Olagide, 2019). The textile industry collapse led to textile importation of about N300 billion which results in the government losing over N75 billion unpaid duties each year due to massive smuggling (Olagide, 2019).

**Acknowledgment.** *The Authors thank the editors and anonymous reviewers of Management Dynamics in the Knowledge Economy for their useful contributions that improved the quality of this work. This study also benefited from the valuable comments of the participants of the 2nd Annual International Academic Conference on Taxation and Business Sustainability organized by The Chartered Institute of Taxation of Nigeria (CITN) in collaboration with Babcock University, Ilishan-Remo, Ogun State, Nigeria.*

## References

- Adedoyin, L.I., Babalola, B.M., Otekinri, A.O., & Adeoti, J.O. (2016). External debt and economic growth: Evidence from Nigeria. *Acta Universitatis Danubius Economica*, 12(6), 179-194.
- Afolabi, B., Laoye, A., Kolade, A.R., & Enaholo, J. (2017). The nexus between external debt and economic growth in Nigeria. *British Journal of Economics, Finance and Management Sciences*, 14(1), 1-17.
- Ajayi, L.B., & Oke, M.O. (2012). Effect of external debt on economic growth and development of Nigeria. *International Journal of Business and Social Science*, 3(12), 297-304.
- Akram, N. (2016). Public debt and pro-poor economic growth: Evidence from South Asian Countries. *Economic Research Ekonomika Istrazivanja*, 29(1), 746-757. doi: 10.1080/1331677X.2016.1197550.

- AL-Tamimi, K.A.M., & Jaradat, M.S. (2019). Impact of external debt on economic growth in Jordan for the period (2010-2017). *International Journal of Economics and Finance*, 11(4), 114-118. doi: 10.5539/ijef.v11n4p114.
- Bakare, A.S. (2011). The macroeconomic impact of foreign aid in Sub-Saharan Africa: The case of Nigeria. *Business and Management Review*, 1(5), 24-32.
- Business Dictionary (2019a). Foreign Debt. Retrieved on June 9, 2019 from <http://www.businessdictionary.com/definition/foreign-debt.html>.
- Business Dictionary (2019b). Debt Service. Retrieved on June 9, 2019 from <http://www.businessdictionary.com/definition/debt-service.html>.
- Cambridge Dictionary (2019). Foreign Debt. Retrieved on June 9, 2019 from <https://dictionary.cambridge.org/>.
- CBN Statistical Bulletin (2018). Annual Statistical Bulletin. Retrieved on March 1, 2019 from <https://www.cbn.gov.ng/documents/Statbulletin.asp>.
- Elwasila, S.E.M. (2018). Effect of external debt on economic growth of Sudan: Empirical analysis (1969-2015). *Journal of Economic Cooperation and Development*, 39(1), 39-62.
- Focus Economics (2019). External debt (% of GDP). Retrieved on June 9, 2019 from <https://www.focus-economics.com/economic-indicator/external-debt>.
- Gujarati, D.N., & Porter, D.C. (2009). *Basic Econometrics* (5th Ed.). Boston: McGraw-Hill.
- IMF (2003). External debt statistics: Guide for compilers and users. Retrieved on June 5, 2019 from <http://www.imf.org/external/pubs/ft/eds/Eng/Guide/index.htm>.
- Ijirshar, V.U., Joseph, F., & Godoo, M. (2016). The relationship between external debts and Economic growth in Nigeria. *International Journal of Economics & Management Sciences*, 6(1), 1-5. doi:10.4172/2162-6359.1000390.
- Jegade, M. (2013). Ajaokuta Steel: An abandoned national treasure. Retrieved on June 11, 2019 from <https://www.thenigerianvoice.com/sports/105241/ajaokuta-steel-an-abandoned-national-treasure.html>.
- Kasidi, F., & Said, M. (2013). Impact of external debt on economic growth: A case study of Tanzania. *Advances in Management & Applied Economics*, 3(4), 59-82.
- Kothari, C. (2004). *Research methodology: methods & techniques* (2<sup>nd</sup> Ed.). New Delhi, India: Newage International Publishers.
- Krugman, P. (1988). Financing vs forgiving a debt overhang. *Journal of Development Economics*, 29(3), 253-268.
- Matuka, A., & Asafo, S.S. (2018). External debt and economic growth in Ghana: A co-integration and a vector error correction analysis. Retrieved on June 5, 2019 from [https://mpira.ub.uni\\_muenchen.de/904631](https://mpira.ub.uni_muenchen.de/904631).
- Mbah, S.A., Agu, O.C., & Umunna, G. (2016). Impact of external debt on economic growth in Nigeria: An ARDL bound testing approach. *Journal of Economics and Sustainable Development*, 7(10), 16-26.
- Merriam-Webster (2019). Definition of debt service. Retrieved on June 5, 2019 from <https://www.merriam-webster.com/dictionary/debt%20service>.
- Monogbe, T.G. (2016). Intergenerational effect of external debt on performance of the Nigeria Economy. *NG-Journal of Social Development*, 5(2), 51-65.
- Mukui, G.K. (2013). Effect of external public debt on economic growth in Kenya. Retrieved on June 5, 2019 from [http://erepository.uonbi.ac.ke/bitstream/handle/11295/60614/Mukui\\_Effect%20of%20external%20public%20debt%20on%20economic%20growth%20in%20Kenya.pdf?sequence=3&isAllowed=y](http://erepository.uonbi.ac.ke/bitstream/handle/11295/60614/Mukui_Effect%20of%20external%20public%20debt%20on%20economic%20growth%20in%20Kenya.pdf?sequence=3&isAllowed=y).



- Mutiu, Y. (2016). 10 major untapped resources in Nigeria. Retrieved on June 11, 2019 from <https://economicconfidential.com/2016/04/10-major-untapped-resources-nigeria/>.
- Myers, S.C. (1977). Determinants of corporate borrowing. *Journal of Financing Economics*, 5(2), 147-175.
- Ndekwe, E.C. (2008). *Government borrowing, monetary supply and monetary policy in Nigeria: Government's monetary impact in mixed economy*. Ibadan, Nigeria: Nigeria Institute of Social and Economic Research.
- Ndubuisi, P. (2017). Analysis of the impact of external debt on economic growth in an Emerging Economy: Evidence from Nigeria. *African Research Review*, 11(4), 156-173. doi: 10.4314/afrrrev.v11i4.13.
- Olagide, F. (2019). Assessing efforts to revive Nigeria's textile industry. Retrieved on June 5, 2019 from <https://leadership.ng/2019/01/08/assessing-efforts-to-revive-nigerias-textile-industry/>.
- Onakoya, A.B., & Ogunade, A.O. (2017). External debt and Nigerian economic growth connection: Evidence from autoregressive distributed lag approach. *Journal of Economics and Development Studies*, 5(1), 66-78. doi: 10.15640/jeds.v5n1a7.
- Rieffel, L. (2005). Nigeria's Paris Club debt problem. Retrieved on June 3, 2019 from <https://www.brookings.edu/research/nigerias-paris-club-debt-problem/>.
- Rifaqat, A., & Usman, M. (2012). External debt accumulation and its impact on economic growth In Pakistan. *The Pakistan Development Review*, 51(4), 79-96.
- Saxena, S.P., & Shanker, I. (2015). External debt and economic growth in India. *Social Science Asia*, 4(1), 15-25.
- Shkolnyk, I., & Koilo, V. (2018). The relationship between external debt and economic growth: Empirical evidence from Ukraine and other emerging economies. *Investment Management and Financial Innovations*, 15(1), 387-400. doi: 10.21511/imf1.15(1).2018.32.
- Siddique, A., Selvanathan, E.A., & Selvanathan, S. (2015). The impact of external debt on economic growth: Empirical evidence from highly indebted poor countries. Economics Discussion/Working Papers 15-10. University of Western Australia.
- Soludo, C.C. (2003). Debt poverty and inequality: Towards an Exit Strategy for Nigeria and Africa. In Okonjo, N., Soludo, C.C., & Muhtar, M. (Eds.), *The debt trap in Nigeria: Towards a sustainable debt strategy* (pp.23-74). Trenton: Africa World.
- Sulaiman, L.A., & Azeez, B.A. (2012). Effect of external debt on economic growth of Nigeria. *Journal of Economics and Sustainable Development*, 3(8), 71-79.
- Udeh, M.C. (2013). *The impact of external debt on the Nigerian economy*. Enugu, Nigeria: Caritas University.
- Udeh, S.N., Ugwu, J.I., & Onwuka, I.O. (2016). External debt and economic growth: The Nigeria Experience. *European Journal of Accounting, Auditing and Financial Research*, 4(2), 33-48.

Received: June 28, 2019

Accepted: July 24, 2019