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**Original Research Article** 

# Sustainability of External Debt on Economic Growth: Econometric Evidence from Nigeria

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Article History Received: 18.02.2022 Accepted: 23.03.2022 Published: 04.04.2022 Abstract: External debt sustainability includes external debt stock, external debt service and external debt to export ratio while gross domestic product is used as a proxy for economic growth. This study adopted the descriptive expost facto research design and the time series data on the variables were gotten from the CBN statistical bulletin (2020) and the Nigerian Bureau of Statistics (2018). The data were analyzed using the Granger Causality Test and the Ordinary Least Square regression analysis. The findings of the study revealed that external debt has positive and significant relationship with economic growth while external debt service and external debt to export ratio both has a negative relationship with economic growth. The results of the Granger Causality test revealed that unidirectional causality (effect) was found flowing from external debt to exports ratio and external debt to economic growth while there was no causality found between external debt service and economic growth in Nigeria. The study recommended that the monetary authorities should ensure that external debt incurred would ultimately result in economic growth by judiciously allocating these debts to sectors that boost output productivity and that external debt policies decisions should be founded on sustainability indicators such as external debt to export ratio, ensuring that debt is maintained below established thresholds.

**Keywords:** External debt, External debt service, External debt to export ratio, Gross Domestic Product, Sustainability, Economic growth.

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# **INTRODUCTION**

Most emerging economies borrow for development and other related purposes. Though when a nation is highly geared, it can have severe consequences on the economy. For accelerated development in order to rapidly grow the Nigerian economy, external financing may be required. However, the Nigerian debt have grown excessively even after the debt forgiveness by the Paris Club Creditors in 2006. It is a widespread occurrence across the less developed economies that there is fund scarcity to complete both technological and infrastructural projects, which has been the case for several years. Most of the developing countries fall back on internal and external borrowings of funds to finance their various governmental projects due to insufficient or inadequate financial resources in their respective economies (Olusegun, Oladipo and Omotayo, 2021; Osakwe, Anachedo and Okonkwo, 2022). 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 (Omodero and Alpheaus, 2019).

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This incessant rise in the external debt record is premised on the need to achieve sustainable economic growth and development. Though, during the era of unparalleled increase in external debt outline the economy of the nation lurched into recession recording negative economic growth in two successive quarters in 2016. After the economy exited the recession in the third quarter of 2017, the growth rate has been sluggish forcing the IMF to decrease the growth forecast for Nigeria from 2.6% to 1.5% in 2018 (Anderu, Adeleke and Adeniyi, 2019). Nigeria has continued to record economic underperformance owing to minimal level of funds available for executing developmental projects. Excess of expenditure over revenue often translates into budget deficits.

With recent plans by the federal government to acquire more external debt, a lot of debate has arisen regarding the impact that this debt would have on the Nigerian economy. External debt seems to have its benefits and disadvantages, making it difficult to determine the impact of external debt on economic growth without statistical examination. A major problem is that empirical studies have procured contrasting results. Some studies have empirically produced statistical evidences that foreign debt impacts positively and significantly on economic growth (Ndubuisi, 2017; Elwasila, 2018; Matuka and Asafo, 2018; Oladipo, Efuntade, Avo and Taiwo, 2020) while the studies of numerous scholars also found that foreign debt is harmful to economic growth of a nation (Onakoya and Ogunade, 2017; Afolabi, Laoye, Kolade, and Enaholo, 2017; AL-Tamimi and Jaradat, 2019; Omodero and Alpheaus, 2019; Anderu et al., 2019). The study specifically targets to examine the external debt, external debt service and external debt to export ratio on gross domestic product in Nigeria.

# **REVIEW OF RELATED LITERATURE**

External debt or foreign debt can be defined as that part of the total debt that is owed to lenders outside the country (Olusegun et al., 2021). In the study of Oladipo et al., (2020) external debt is defined as the total debt that residents of a country have acquired from foreign creditors to supplement their capital savings and to supplement their domestic debt with domestic lenders. The debtors may be the government, companies or nationals of this country. The debt comprises loans granted by private commercial banks, foreign governments or global financial institutions such as the International Monetary Fund (IMF) and the World Bank. One of the major concepts of external debt is debt sustainability, which is the extent of debt that allows a debtor nation to cater for its current and future debt service duties wholistically,

In the study of Oladipo et al., (2020) debt sustainability is defined as the ability to keep a constant debt to GDP ratio over a period of time. Sustainability is challenged when the debt-to-GDP reached an excessive ratio value. Other sustainability indicators include debt to export ratio, debt service to export ratio, debt to revenue ratio. There are a number of factors that come into play when establishing if a country is able to service its debt. These factors include the stock of existing debt and associated debt service, the projected path of its deficits, the combination of debt financing and its capacity to repay in terms of the foreign exchange value of GDP exports and government receipts.

# **ECONOMIC GROWTH**

Economic growth is a change in the long run which comes about by increase in the rate of savings and aggregate production in an economy. Similar to this definition, Ajayi and Olugboyega (2012) perceived economic growth as the increment over time of a country's real output of commodities and services. An interesting view purported by Freedman, Todaro, and Smith (2015) considered economic growth to be an explanation of the system in one or more dimensions with no change in its structure. However, economic growth is linked to the quantitative and sustained increase in output or per capita income of the country, accompanied by an expansion of labour input, the level of consumption, capital and the volume of trade. This represents an increase in a country's real gross domestic product over a given period, typically a fiscal year (Oladipo et al., 2020).

Keynesian theory of public debt – Keynes postulates that if government borrow to finance its expenditure, idle funds are withdrawn from the individual reserves in a manner that spending habit is not affected. If the fund is pushed into the economy by the government, it leads to numerous upsurges in aggregate demand producing a rise in output and employment. Therefore, external debt can be used to influence macroeconomic performance of the economy (Olusegun *et al.*, 2021).

On the contrary, the unintended effect of external debt is its effect on investment. The dynamics through which debts disturb growth is its discount on the resources for investment by debt servicing. External debt also acts as an implicit tax on the fund of a nation and have implication on posterity in the form of a reduced flow of revenue from a lower stock of private capital. This in turn, may lead to an increase in long-term interest rates, a crowding out of private investments necessary for productivity growth, and a reduction in capital accumulation (Victor, Joseph and Godoo, 2016).

#### **EMPIRICAL REVIEW**

Osakwe, Anachedo and Okonkwo (2022) studied the effect of rising external debts on the Nigerian economy from a period of 1990 – 2020. The variables tested were External debt, Exchange rate, growth rate of GDP and Inflation rate. Findings revealed that external debt impedes economic growth leading to deteriorating exchange rate which is followed by increase in inflation. The study recommends that the fiscal authorities should liaise with the monetary authorities on the best sources and uses of funds to eradicate the issue of financial mismatch but rather contribute both to infrastructural development and economic growth in the country.

Ekor, Orekoya, Musa and Damisah (2021) examined the impact of foreign debt on economic growth in Nigeria. The study adopted the Auto Regressive Distributed Lag (ARDL) model in analyzing the data. The findings of the study showed that in the long run, external debt and the associated debt service payment have negative effects on the Nigerian economy.

Olusegun *et al.*, (2021) examined debt service and its impact on economic growth of the country. It specifically examined the impact of debt servicing on economic using its role on public sector financial management as a mediating factor. Data collated were analyzed using both descriptive and covariance estimate method of analysis. The findings revealed among other things that; there was presence of co-integration (long-run relationship) among the dependent and all the explanatory variables which is a clear indication that working debt servicing has positive and significant impact on economic growth of the country both in short and long run

Olusegun, Olufemi and Olubunmi (2020) investigated the impact of external debt on economic growth in Nigeria between 1981 and 2018 using AutoRegressive Distributed Lags (ARDL) and the Error Correction Mechanism (ECM) estimation technique. The study revealed that external debt and foreign direct investment positively affect economic growth. The error correction model coefficient which is -0.969 means that nearly 96.9 percent of any disequilibrium in economic growth is corrected by the external debt, domestic debt, foreign direct investment and government expenditure within one period (one year).

Anderu *et al.*, (2019) examined the relationship between external debt and the Nigerian economic growth between 1980 and 2016. Auto-Regressive Distributed Lag (ARDL) and descriptive statistics were applied. The results revealed that

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external debt has significant inverse relationship and impact on Nigeria's economic growth.

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 data were analyzed using Ordinary Least Square regression method. The empirical finding revealed that external debt had a significant negative impact on economic growth.

Odubuasi, Uzoka and Anichebe (2018), analyzed the effect of external debt on the economic growth of Nigeria from 1981 to 2017 using Granger Causality and Johansen Co-integration estimation technique. The study revealed that external debt stock and government capital expenditure have positive on Nigeria's economic growth while external debt service had no significant impact on economic growth.

Inna and Viktoria (2018), investigated the nexus between external debt and economic growth in emerging economies between 2006 and 2016 and made use of ADL model and correlation analysis. The study revealed that external debt had no impact on the economic growth of the countries that were examined.

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.

Afolabi, Laoye, kolade and Enaholo (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.

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.

Mbah, Agu and Umunna (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.

Udeh *et al.*, (2016) examined the impact of external debt and debt service payment on economic growth in Nigeria. In their study, 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.

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.

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.

#### **METHODOLOGICAL DIMENSION**

This study adopts a similar model to the one used in the study of Oladipo *et al.*, (2020) in which Gross Domestic Product (GDP) was expressed as a function of Debt to GDP Ratio (DGR), Debt to Export Ratio, Inflation Ratio, Debt Interest service Ratio (ISR) and Exchange Ratio (EXR). This study however equates GDP to the interaction of External Debt (EXD), External Debt Service (EDS) and Debt to Export Ratio (DER). This functional equation is expressed as equation 3.1;

GDP = *f*(EXD, EDS, DER) ...... 3.1

Where;  $\alpha_0$  is the intercept  $\alpha_1$ ,  $\alpha_2$ , and  $\alpha_3$  are the regression coefficients  $\mu_t$  is the stochastic error term.

Where; LGDP = Logged values of GDP LEXD = Logged values of EXD LEDS = Logged values of EDS LDER = Logged values of DER

#### **ANALYSIS AND RESULTS**

The value of external debt and debt service payments in Nigeria seems to follow an upward trend over time. Following the debt forgiveness granted to Nigeria by the Paris Club Creditors in 2006, external debt and debt service payments fell significantly. However, Nigeria has incurred more debt and have a higher debt profile than before the debt relief was granted. However, sustainability seems to be evident in the fact that debt to export ratio has remained below 1 since the debt relief was granted. The table below gives a more detailed statistical description of the trends in the study variables.

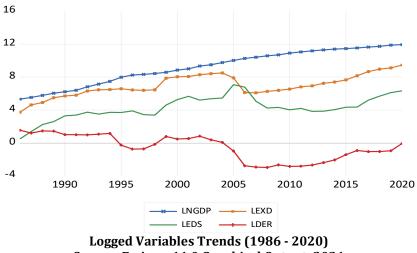
Descriptive Statistics					
	NGDP	EXD	EDS	DER	
Mean	38283.90	2253.780	165.7629	1.341015	
Median	13301.60	716.8656	65.99000	0.754070	
Maximum	152324.1	12705.62	1172.720	4.646817	
Minimum	202.4400	41.45240	1.631595	0.050372	
Std. Dev.	46466.17	2866.314	251.1402	1.404941	
Skewness	1.082817	2.010125	2.677768	0.903900	
Kurtosis	2.904204	6.908421	10.05895	2.573917	
Jarque-Bera	6.852922	45.84733	114.4945	5.030790	
Probability	0.032502	0.000000	0.000000	0.080831	
Sum	1339937.	78882.31	5801.700	46.93553	
Sum Sq. Dev.	7.34E+10	2.79E+08	2144428.	67.11126	
Observations	35	35	35	35	

Source: E-views 11.0 Output, 2021

According to the descriptive statistics in table 4.2, the external debt in Nigeria averaged  $\pm 2253.78$  billion annually, over the reviewed period. The average annual payment for debt servicing amounted to  $\pm 169.72$  billion. The statistics revealed that Nigeria's external debt servicing from 1986 to 2020 have amounted to a sum of  $\pm 5,801.7$  billion.

#### DATA ANALYSIS

The data were analyzed using the OLS regression analysis and the Granger Causality test. This section is therefore split in two. The OLS regression was used to show the direction of the relationship (positive or negative) while the Grander Causality test was used to examine impact or effect among the variables. Figure 4.1 is a graph that shows the trends of the logged variables. Logging the variables enables them to be readable in the same graph.



Source: E-views 11.0 Graphical Output, 2021

The trends of the logged variables shows that economic growth seems to be constantly on the rise over the period under review. External debt seems to follow similar trend except for the year 2006 when the Paris Club Creditor forgive Nigeria of 60% debt. However the rising trend continued afterwards (Olusegun, Oladipo and Omotayo, 2021). On the other hand, debt service to export ratio

seemed to follow the opposite trend, falling slowly into a negative over the period under review. External debt service seems to rise with economic growth and external debt. However, it was slower than external debt to recover from a significant decline in 2006 (See Figure 4.1). Table 4.3 shows the ordinary least square regression output for nominal GDP and EXD, EDS and DER. The table contains statistics which includes; the regression coefficients, probability values (p-values) of the t-statistics, the R-squares, Fstatistics and Durbin-Watson (DW) statistics among other statistics.

#### **Ordinary Least Square Regression**

Regression Result for NGDP, EXD, EDS and DER					
Dependent Variable: LNGDP					
Method: Least Squares					
Date: 11/22/21 Time: 11:42					
Sample: 1986 2020					
Included observations: 35					
Variable	Coefficient	Std. Error	t-Statistic	Prob.	
LDER	-15321.31	3463.277	-4.423933	0.0001	
LEDS	-35.77720	20.72892	-1.725956	0.0943	
LEXD	10.91706	1.787901	6.106078	0.0000	
С	40155.87	8491.914	4.728719	0.0000	
R-squared	0.698735	Mean dependent var		38283.90	
Adjusted R-squared	0.669580	S.D. dependent var		46466.17	
S.E. of regression	26709.75	Akaike info criterion		23.33066	
Sum squared resid	2.21E+10	Schwarz criterion		23.50841	
Log likelihood	-404.2865	Hannan-Quinn criter.		23.39202	
F-statistic	23.96648	Durbin-Watson stat		0.331417	
Prob(F-statistic)	0.000000				
Common Fraince 110 Province Output 2021					

#### Regression Result for NGDP, EXD, EDS and DER

Source: E-views 11.0 Regression Output, 2021

As shown in table above, external debt has a positive relationship (r = 10.91) with GDP in Nigeria and the relationship is statistically significant (p = 0.000). This indicates that every billion naira increase in external debt has coincided with an increase of 10.91 billion naira in GDP. On the other hand, the value of debt service payment (EDS) and the selected sustainability ratio (Debt to export ratio) were found to negatively predict GDP in Nigeria. Based on the regression coefficients of - 35.78 and -15321.31, the results revealed that a decline of 35.8 billion and 15.32 trillion can be predicted by unit increases in the value of debt

service payment and debt to export ratio respectively. However, the prediction is significant in the case of debt equity ratio and insignificant in the case of external debt service.

The R-squared value (0.698735) indicates that about 69.9% of the trends in GDP can be explained by the collective variations of EXD, EDS and DER. The probability of the F-statistic shows that collectively, the EXD, EDS and DER have a significant relationship with GDP.

#### **Grander Causality Test**

Pairwise Granger Causality Tests				
Date: 11/22/21 Time: 13:42				
Sample: 1986 2020				
Lags: 1				
Null Hypothesis:	Obs	F-Statistic	Prob.	
LEXD does not Granger Cause LNGDP	34	0.17889	0.6752	
LNGDP does not Granger Cause LEXD		8.14929	0.0076	

#### Granger Causality Test for EXD and NGDP

Source: E-views 11.0 Granger Causality Output, 2021

The null hypothesis shown in the table above are tested using the probability of the F-statistic. The null hypothesis is accepted in the first case (p > 0.05), indicating that no causality flows from external debt to economic growth. On the other

hand, the null hypothesis is rejected in the second case (p < 0.05), indicating that causality flows from economic growth to external debt. This shows that there is unidirectional causation flowing from economic growth to external debt.

Pairwise Granger Causality Tests			
Date: 11/22/21 Time: 13:41			
Sample: 1986 2020			
Lags: 1			
Null Hypothesis:	Obs	F-Statistic	Prob.
LEDS does not Granger Cause LNGDP	34	1.55554	0.2217
LNGDP does not Granger Cause LEDS		0.83532	0.3678

Granger Causality Test for EDS and NGDP

Source: E-views 11.0 Granger Causality Output, 2021

The result shown in table 4.5 reveals that the probability of the F-statistics between EDS and NGDP are greater than 0.05 in both null hypotheses. This implies that there is no causality between external debt service and economic growth.

Granger Causality Test for	DEKa	ING NGDP	
Pairwise Granger Causality Tests			
Date: 11/22/21 Time: 13:40			
Sample: 1986 2020			
Lags: 1			
Null Hypothesis:	Obs	F-Statistic	Prob.
LDER does not Granger Cause LNGDP	34	3.29507	0.0492
LNGDP does not Granger Cause LDER		0.04887	0.8265

# Granger Causality Test for DER and NGDP

Source: E-views 11.0 Granger Causality Output, 2021

As shown in table 4.6, the null hypothesis is rejected in the first case (p < 0.05), indicating that causality flows from debt to export ratio to economic growth. On the other hand, the null hypothesis is accepted in the second case (p > 0.05), indicating that no causality flows from economic growth to debt to export ratio. This shows that there is unidirectional causation flowing from debt to export ratio to economic growth.

#### **Test of Hypotheses**

The decision rule is to accept that the null hypothesis is of no significant effect if the p-value is greater than 0.05. Otherwise, the alternate hypothesis is accepted.

**Hypothesis One**: As shown in table, the corresponding p-value is 0.6752 which is greater than 0.05, indicating that the null hypothesis is accepted. Therefore, external debt does not have significant impact on gross domestic product in Nigeria

**Hypothesis Two:** As shown in table, the corresponding p-value is 0.2217 which is greater than 0.05, indicating that the null hypothesis is accepted. Therefore, external debt service does not have significant impact on gross domestic product in Nigeria.

**Hypothesis Three:** As shown in table, the corresponding p-value is 0.0492 which is less than 0.05, indicating that the alternate hypothesis is accepted. Therefore, external debt to export ratio do have significant impact on gross domestic product in Nigeria.

# **DISCUSSION OF THE FINDINGS**

This study sough to examine the effect of external debt on economic growth in Nigeria. The study therefore examined the effects of external debt stock, external debt service and external debt to export ratio on economic growth in Nigeria using both Ordinary least square and Granger causality tests. The findings of the study revealed that in line with the expectation of the researcher, external debt positively predicted economic growth in Nigeria and the prediction was significant. This indicates that economic growth is found to be high in periods when external debt was high and low in periods of low external debt stocks. This study confirms the theoretical positions of the Keynesian theory of public debt which connects external debt with economic growth in a positive relationship (Victor et *al.*, 2016). Though this finding contrasts the findings of Ekor *et al.*, (2021) and Omodero and Alpheaus (2019), however, this finding is in line with the findings of Olusegun et al., (2020) and Oladipo et al., (2020) which found that external debt has a significant and positive relationship with economic growth. The findings of the study however revealed that this was a mere relationship and did not translate into effect as the hypotheses of a significant effect of external debt on economic growth was rejected. Inna and Viktoria (2018) also found that external debt had no impact on the economic growth of emerging economies like Nigeria. On the contrary, it was economic growth that was found to affect external debt. By implication, Nigeria increases her debt figure in response to increase in economic growth.

On the other hand, the findings of the study revealed that external debt service has a negative relationship with economic growth in Nigeria but the relationship was insignificant. This negative relationship was initially expected by the researcher as according to the Solow growth model, external debt service reduces government infrastructure spending because the resources are being used to service the debt instead of being used wisely (Oladipo et al., 2020). This implies that in periods of high debt service, the Nigerian economy has performed this poorly. However, negative relationship does not imply that external debt service causes poor economic performance as the study could not confirm the hypothesis of a significant effect between external debt service and economic growth. Odubuasi et al., (2018) also found that external debt service had no significant impact on economic growth. Furthermore, Ndubisi (2017) also found that debt service payment had an insignificant negative impact on economic growth.

Finally, the findings of the study revealed that as the researcher expected, external debt to export ratio has a negative relationship with economic growth in Nigeria and the relationship is significant. It follows that period of high debt sustainability (low external debt to export ratio) have significantly coincided with periods of high economic growth. The findings also revealed that the relationship is more than mere coincidence as the Granger Causality test showed that external debt to export ratio granger causes economic growth in Nigeria. The findings summarily indicates that the effect of external debt on the Nigerian economy depends on the level of sustainability as only the sustainability measure was found to significantly affect economic growth.

# **CONCLUSION & RECOMMENDATION**

External debt in Nigeria has not been used for strictly for growth purposes as economic growth is what prompts Nigeria to secure more external debt. Interestingly, the ratio of external debt to export significantly affects economic growth in Nigeria. This shows the level of debt sustainability is relevant in external debt policy decisions. If debt outgrows revenue generated from export, the economy will start to feel the harsh effects of the external debts.

The study recommend that monetary authorities should ensure that external debt incurred would ultimately result in economic growth by judiciously allocating these debts to sectors that boost output productivity and to ensure that debt service payments does not have significant negative effect on the Nigerian economy, the allocation of debt to various sectors should also be dependent on the capacity of these sectors to generate revenue for debt service payment.

External debt policies decisions should be founded on sustainability indicators such as external debt to export ratio, ensuring that debt is maintained below established thresholds while monetary authorities should ensure that export grows faster than external debt figures so as to prevent deteriorating economic conditions. This could be done through export incentives such as lower export taxes, subsidizing cost of producing major export commodities.

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