### EXTERNAL DEBT SUSTAINANBILITY AND POVERTY REDUCTION IN NIGERIA

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### **ABSTRACT**

This work was set to examine external debt sustainability and poverty reduction in Nigeria. Poverty rate was used as dependent variable while external debt (EXDBT), debt sustainability (DTS), which was proxied with debt to revenue ratio, exchange rate (EXR), interest rate (INT), were used as the independent variables and inequality (INE) as the control variable. Time series data spanning the period 1985 to 2022 were used. Data series were tested for stationarity with the aid of the Augmented Dickey-Fuller (ADF) statistics. The results shows a mixed order of integration. The model was estimated using Autoregressive Distributed Lag (ARDL) model and Pairwise granger Causality tests. It was found that in the short run, external debt had a positive and significant relationship with poverty, Debt sustainability, exchange rate and inequality had a negative and insignificant relationship with poverty rate while inequality had a positive and insignificant relationship towards the reduction poverty while in the long run, external debt and interest rate were positive and statistically significant, debt sustainability, exchange rate were negative and statistically significant and inequality was negative but statistically insignificant. Also the granger causality test shows that there is no causality relationship across the variables and also external debt was not a determinant component of poverty reduction. The study recommends that government should ensure that 30-40% of external debt is targeted as a catalyst for poverty reduction in Nigeria.

Keywords: External Debt, Debt Sustainability, Poverty Reduction, ARDL, Nigeria.

## Introduction

In recent times, discussions of external debt in less developed economies such as Nigeria had been on the rise. The severity of this issue was exacerbated by the mounting external debt levels and incidence of poverty in Nigeria coupled with burden of the debt sustainability. With declining revenue and level of domestic economic activities that had characterized Nigeria's economy, internally generated funds were unfeasible (Ehikioya, Omankhanlen, Osuma & Inua, 2020). The reason for external borrowing was that countries, particularly

developing economies, do not have enough internal financial resources, necessitating the need for outside aid (Yerima & Tahir, 2020). Today, external debt posed a major concern to Nigerians due to its relevance in the macroeconomic activities of the nation. It is also well known that an unsustainable external debt could create several undesirable consequences such as currency devaluation, foreign exchange crisis and erosion of a country's credit worthiness and poverty.

Nigeria is a deeply indebted poor country, in stark contrast to the false perception of it as an "oil rich" nation. The country's debt stock rose to US\$33,348.08 billion as at December 31, 2020 (DMO, 2021). For many years now, the sustainability of public debt has remained an important discourse in macroeconomic environment. This could be attributed to the growing level of indebtedness across the globe as efforts are being made to adequately meet the current and future debt service obligations without resorting to debt relief, rescheduling or accumulation Ozigbu (2018).

The sustainability of Public debt has to do with the strength of an indebted country to substantially meet its current and future debt service obligations without resorting to debt relief, rescheduling or accumulation of arrears. Debt sustainability is considered when the government of a particular country can fulfill all of its existing and future settlement obligations without exceptional monetary support or defaulting. It refers to the expectation that borrowers will be able to pay off their debt without having to make unreasonably big adjustments to their income and expenses (IMF). Mustapha and Prizzon (2015) opined that the sustainability of countries' debts is a function of how they use any new borrowing or other finance sources. They further explained that the use of loans to fund consumption and other non-productive activities tends to undermine the sustainability of future borrowing. Oyedele, Emerah and Ogege (2013) argue that high level of indebtedness is most common in developing economies considering the low level of domestic savings, high deficits in the current account, increasing levels of imports, especially capital goods and commitment to poverty alleviation.

In Nigeria, the issue of public debt sustainability has continued to generate concern among policy makers and other key players in the economy following the episode of high debt profile in recent years. Prior to late 1970s, the debt profile in Nigeria was not an issue to worry about as it was very much within the capacity of the country to service. However, the glut in the global oil market in addition to fiscal deficits and shocks in the external sector triggered the quest for foreign loan with a view to financing growth and development activities. Despite various efforts to engender debt sustainability in Nigeria, the incidence of poverty has continued to deepen.

However, one of the primary macroeconomic and socio-economic problems was the rising pace of poverty. The rising pace of poverty had been alarming in Nigeria. In 2018, Nigeria was named as the World Bank's poverty capital, knocking out India from the top spot (Kharas et al., 2018). The report noted that for every minute, about six persons entered the poverty net in Nigeria. Consequently, in 2020, about seven million Nigerians fell into extreme poverty,

making Nigeria to retain the top spot with about 93.9 million Nigerians living in poverty (Uzoho, 2021).

Nigeria's difficulties with rising poverty have been addressed by a number of policies. Nonetheless, these measures have fallen short of the intended outcomes. Despite successful attempts to reduce poverty, the situation worsened and hindered human growth. Nigeria confronted a conundrum regarding the timing and means of resolving its issues with poverty and inequality. Numerous strategies, including loan programs and policies centered on rural areas, had been promoted, but they had not succeeded in the desired results. Despite the above efforts, poverty had continued to rise. The continuous increase in extreme poverty in Nigeria had been identified as a significant pushed factor for the migration of Nigerians to other parts of the world, in order to escape poverty and improve living standards of family members at home (Adams & Cuecuecha, 2013; Kiiru, 2010). However, in spite of these loans (external debt), and government effort to sustain debt, the expected level of development was not achieved and poverty situations remained unchanged or even worse in Nigeria; it is against the backdrop, that the study seeks to ascertain the impact of external debt sustainability on poverty reduction in Nigeria.

# Objectives of the Study

The primary objective of the study is to investigate how Nigeria's external debt and debt sustainability affects efforts to mitigate poverty. The specific objectives are:

- i. To determine the impact of external debt on poverty reduction in Nigeria.
- ii. To examine the impact of debt sustainability on poverty reduction in Nigeria.
- iii. To ascertain the causality relationship between external debt sustainability and poverty reduction in Nigeria.

## **Review of Empirical Literature**

Nanfa, Ajang, Timnan, Azi, Diemsan, Dawel and Salami (2023) evaluated the effect of state debt on the decline of poverty in Nigeria through independent time series information covering the period 2000–2021. The data used in the study were estimated using descriptive statistics, correlational matrix, as well as Error Correction Mechanism (ECM). The results demonstrated that although household debt and debt servicing have an inverse and significant association with poverty reduction in Nigeria, external debt provided advantages and substantial impact on that country's efforts to reduce poverty. The report suggests, in light of these data, that in order to significantly lower poverty in Nigeria, the government should examine and review current policies and incentives of external borrowing in Nigeria and the current administration needs to mobilize domestic savings efforts to tackle the incidence of poverty in the country.

Sattoriy (2022) utilized panel fixed and Random effects models, to examine the impact of governmental debt on reducing poverty within developing nations, with specific focus on Central Asian Nations from 2000 to 2021, taking into account several additional factors including institutional quality, human development index, inflation, population growth, and economic growth. It showed that while economic growth, institutional quality and the human

development index (HDI) have adverse effects on public debt, poverty, population and inflation have positive impact on poverty.

Okoye and Obi (2022) analyzed the nexus between public debts, poverty and unemployment in Nigeria An unrestricted vector auto-regression model, poverty and unemployment rates for the years 1981–2021, and secondary data on state debts (measured by internal and external loans) were utilized in the analysis. The indicators showed that internal and external debts had an effect on unemployment rates in Nigeria, but they had no effect on poverty. The implication is that most of the public debts incurred within the period of investigation were not growth-oriented and could partly be explained by the majority of the borrowings used to pay for consumable items, which constituted the majority of the trade imbalances. In order to keep debt below the globally advised level for developing countries like Nigeria, the study suggested maintaining the present debt-to-GDP ratio of less than 20 percent.

Nwanolue, Obiora, and Okeke, (2021) examined the relationships between foreign financing and Nigeria's efforts to eradicate poverty between 2010 and 2020. The descriptive statistics tests were applied in this study. The variables used were external loans, aid donors, aid effectiveness, aid inflow, among other things. The study found out that Nigeria's external borrowings have not offered support for poverty alleviation with its characteristic low disbursements. It equally found out that the loans were not invested in productive sectors for beneficial effects on poverty alleviation. Given the results, the investigation suggested that Nigeria needs to engage in external borrowings for poverty alleviation and these external funds are to be invested solely on projects that will yield high returns.

Sani and Yahaya (2021) examined how the correlation between governmental debt and the prevalence of poverty was influenced by institutional quality. A sample of forty-two SSA nations were used to investigate the correlation between national debt and poverty incidence from 2011 to 2019 by adopting Generalized Method of Moment (GMM) technique. The analysis's conclusions demonstrated a negative association between household final consumption spending per capital and state debt, indicating that public debt accumulation is a major contributor to poverty within Africa's Sub-Saharan Region. However, the result indicated that, while public debt accumulation aggravates the incidence of poverty, such an appalling trend can be reverted or even prevented.

Ojewumi and Aremu (2021) examined external debt impact on poverty incidence in Nigeria using data spanning the period 1981 and 2018. The data were analyzed using the Error Correction Mechanism. Poverty is positively impacted significantly bythe amount of debt outside of the country, poverty incidence and payment for debt servicing in Nigeria. Accordingly, the study concluded that Nigeria's economy cannot thrive with a high amount owed in debt service and international debt.

Mathew and Adetayo (2022) examined the effects of Nigeria's economic expansion on the sustainability of its debt. The research employed annual data spanning four decades (1981-2020). Because of this, the positive and negative effects of the debt variables were separated using the non-linear autoregressive distributed lag (NARDL) econometric technique to

ascertain whether the inconsistent findings reported in earlier research could be explained by unidentified asymmetries. The analysis found that while short-term economic growth in Nigeria is significantly impacted by the amount of total debt outstanding as well as the debt service payments made, Long-term viability requires just a reduction in the entire debt stock prosperity of the economy. It showed that a rise in the overall growth of the economy was negatively impacted by debt stock for a while. However, after one year, the effect became positive. The results of the research recommendations suggest that in order to optimize the social benefits of debt, the nation's ability to produce more should be enhanced by increasing infrastructure investments made possible by the debt accumulation.

Gobna, Usman and Mohammed (2022) explored the effects of public debt sustainability policies and their growth implications for the Nigerian economy from 1981 to 2021 using the (ARDL) models. The outcomes suggest that Public Debt-to-Oil Revenue ratio (PDOR) depicts a significantly adverse effects in the near- and long-term economic growth. Additionally, it demonstrates that the ratio of public debt to non-oil revenue possesses a favorable long-term association with financial expansion and an unbalanced influence in the short term. The study concludes that economic growth needs to be enhanced through improved government non-oil revenue. Therefore, to bolster economic growth, the Nigerian government needs to improve revenue generation through non-oil industry by encouraging private investments and widening the tax net.

Ozigbu (2018) reviewed the effects of the Nigerian debt sustainability with the prevalence of poverty. In particular, Stock-Watson Dynamic Least Squares (DOLS) was used to evaluate the effects of the stock and interest payments on external debt, a proxy for external debt servicing, on the quantity of individuals that are impoverished. The findings suggest that increasing borrowing from external sources has emerged as de-enabler of economic development due to associated increase in poverty incidence. Interestingly, it is also drawn from the findings that Nigeria demonstrates considerable level of liquidity and solvency with regard to meeting the external debt servicing obligations, thus, advancing on the path of debt sustainability without significant distortions in macroeconomic outcomes.

### Methodology

The study covers the period 1985-2022. Annual data for the period were collected and employed for the analysis and the variables includes external debt, debt sustainability (proxy as debt to revenue ratio), exchange rate, interest rate and inequality, The data employed in the study were collected from secondary sources, such as the African Development Index (ADI) and World Bank Development Indicators (WDI).

## **Theoretical Framework**

Dual gap theory by Harrod (1939) and Domar (1957) was used as the study's theoretical foundation. The two-gap model is an expansion of the development of the Harrod-Domar growth model which was centered on less developed nations that faced two gaps in their development. The two gaps are the gaps between savings and investment which could hamper the growth of the economy and secondly, the gap between export revenue and import or foreign exchange gap. Therefore, they propounded that, to close this gap, there was need

for external financing either in form of external borrowing, foreign aid etc. so as to achieve the necessary economic growth and development. Using Nigeria as an example, there was proof that the nation does not have enough savings to affect the amount of investment. Apart from that, the numbers of domestic resources have also been found to be inadequate to spur growth and development. Hence, the reason why countries embarked on external borrowing to close the gap. By closing this gap, it is expected that provision of public goods and services would be embarked upon so as to achieve economic prosperity that will bring about reduction on unemployment and poverty. This is because, to reduce socio economic development problems, external borrowing has to be directed at those activities that will reduce poverty drastically.

### The Basic Model

The model for the study is autoregressive distributed lag (ARDL) model by Peseran, Shin and Smith (2001). This model was adopted because it is suitable even for small sample. It has the advantage of generating short run and long run results simultaneously. Most importantly, it is applicable when the variables have mixed order of integration, 1(0) and 1(1).

## **Model Specification**

The functional relationship between the dependent variable and the independent variables can be expressed as:

$$POV_t = \beta_0 + \beta_1 EXDT_t + \beta_2 DTS_t + \beta_3 EXR_t + \beta_4 INT_t + \beta_5 INE_t + \mu_t \tag{1}$$

Converting some of the variables in (2) into the natural log, the model is presented below:

$$POV_t = \beta_0 + \beta_1 lnEXDT_t + \beta_2 DTS_t + \beta_3 EXR_t + \beta_4 INT_t + \beta_5 INE_t + \mu_t$$
 (2)

The ARDL model employed in the study is written thus:

$$POV_{\tau} = \theta_{0} + \sum_{i=1}^{n} \theta_{1} POV_{\tau-1} + \sum_{i=1}^{n} \theta_{2} \Delta lnEXDT_{\tau-1} + \sum_{i=1}^{n} \theta_{3} \Delta DTS_{\tau-1} + \sum_{i=1}^{n} \theta_{4} \Delta EXR_{\tau-1} + \sum_{i=1}^{n} \theta_{5} \Delta INT_{\tau-1} + \sum_{i=1}^{n} \theta_{6} \Delta INE_{\tau-1} + \emptyset_{1} POV_{\tau-1} + \emptyset_{2} LnEXDT_{\tau-1} + \emptyset_{3} DTS_{\tau-1} + \emptyset_{4} EXR_{\tau-1} + \emptyset_{5} INT_{\tau-1} + \emptyset_{6} INE_{\tau-1} + \mu_{\tau}$$

$$(3)$$

Where: POV= Poverty Headcount Ratio,  $LnEXDT=\log$  of External Debt, DTS=Debt sustainability which is proxied as debt to revenue ratio, EXR = Exchange Rate, INT =Interest Rate (Lending rate), INE= Inequality as control variable,  $\mu_t$ = error term, t = the period,  $\beta_0$  = Constant and  $\beta_1$ ,  $\beta_2$ ,  $\beta_3$ ,  $\beta_4$ ,  $\beta_5$ ,  $\beta_6$  = Estimated parameters.

The granger causality model is described as follows:

$$POV_{t} = \beta_{0} + \sum_{i=1}^{p} lnEXDT_{t-1} + \sum_{i=2}^{p} \beta_{2} DTS_{t-2} + \sum_{i=3}^{p} \beta_{3} POV_{t-3} + \mu_{t}$$
 (4)

$$lnEXDT_{t} = \beta_{0} + \sum_{i=1}^{p} POV_{t-1} + \sum_{i=2}^{p} \beta_{2} DTS_{t-2} + \sum_{i=3}^{p} \beta_{3} lnEXDT_{t-3} + \mu_{t}$$
 (5)

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$$DTS_{t} = \beta_{0} + \sum_{i=1}^{p} POV_{t-1} + \sum_{i=2}^{p} \beta_{2} \ln EXDT_{t-2} + \sum_{i=3}^{p} \beta_{3} DTS_{t-3} + \mu_{t}$$
 (6)

#### Presentation and Discussion of the Results

The time series' stationarity is checked using unit root tests. The Augmented Dicker-Fuller (ADF) test was utilized in the investigation to ascertain the presence of unit root.

Table 1:Result of ADF Tests for Stationarity.

Variable	@ Level	@ Difference	Order	of
			integration	
POV	-0.348914(0.5524)	-4.907452(0.0000)	I(1)	
LNEXDT	0.809806(0.8828)	-4.281121( 0.0001)	I(1)	
DTS	-1.777537( 0.3854)	-5.493157( 0.0001)	I(1)	
EXR	4.473939(1.0000)	-3.288387(0.0017)	I(1)	
INE	-0.675719( 0.8371)	-6.987588( 0.0000)	I(1)	
INT	-4.036970( 0.0171)	-2.852989(0.0639)	I(0)	

Source: Author's Computation from Eviews'9.0

The above result displayed in Table 1 showed that there was a mixed order of integration; only interest rate was integrated of order zero, (1(0)) while POV, LNEXDT, DTS, EXR and INE were integrated of order one, (1(1)).

## **ARDL Cointegration Test**

Considering that the variables have mixed order of integration, (1(0) and (1(1)), the ARDL is considered to be appropriate model for the cointegration test. The F- test was used for the test for cointegration.

**Table 2: Summary of F-Bound Test** 

	Valu	e	K	Sig.	Lower I(0)	Bound	Upper I(1)	Bound
F-statistics3.850531	5	5 9	%	2.	623.79			

Source: Author's employing E-views 9.0

The ARDL bound test has its F-statistic value to be 3.850531. At the 5% significance level, this result is greater than both the lower and upper bound at 5 percent level of significance. As a result, cointegration between the variables was determined, rejecting the absence of a long-term link between the variables, which is the null hypothesis. This implies that there is long run relationship between the variables.

### **ARDL Short-run and Long-run Results**

Since there is a long run relationship among the variables, hence the ARDL model was used to estimate the model for this study,

Table 3 (a) Short Run Estimates of ARDL

Variable	Coefficient	Std. Error	t-statistics	Prob.
POV(-1)	0.071627	0.193015	0.371097	0.7176
LNEXDT	10.98399	3.445664	3.187771	0.0086
DTS	-0.007115	0.013018	-0.546557	0.5956
DTS(-1)	-0.051028	0.017932	-2.845626	0.0159
DTS(-2)	-0.008543	0.013992	-0.610566	0.5539
DTS(-3)	0.024199	0.012410	1.949883	0.0771
DTS(-4)	-0.021751	0.008987	-2.420410	0.0340
EXR	-0.032470	0.038076	-0.852770	0.4120
EXR(-1)	0.077007	0.056390	1.365620	0.1993
EXR(-2)	-0.115968	0.051877	-2.235432	0.0471
EXR(-3)	-0.169595	0.067736	-2.503745	0.0293
EXR(-4)	0.169522	0.049143	3.449576	0.0054
INE	-3.034699	2.880773	-1.053432	0.3147
INE(-1)	5.579527	3.086630	1.807643	0.0981
INE(-2)	-0.003450	2.255364	-0.001530	0.9988
INE(-3)	-1.355933	1.914972	-0.708069	0.4936
INE(-4)	-3.000096	1.465510	-2.047135	0.0653
INT	0.568646	0.296799	1.915929	0.0817
INT(-1)	0.258853	0.320685	0.807188	0.4367
INT(-2)	1.018302	0.346706	2.937079	0.0135
INT(-3)	0.639969	0.360395	1.775741	0.1034
INT(-4)	0.316219	0.358603	0.881808	0.3967
CointEq(-1)	-0.928373	0.193015	-4.809847	0.0005

Source: Author's Computation using E-views 9.0

The result of ARDL short run presented above shows that external debt has a positive and statistically significant impact on poverty, implying that external debt increases poverty because it was not properly channeled into productive investment.

Debt Sustainability (DTS) in the current period and that of DTS (-2) in the second year shows a negative sign and as such reduces poverty but its effect is not statistically significant and as such not sustainable but the DTS (-1) which is previous year and DTS (-4) which for four years ago are associated with poverty reduction and are statistically significant which implies that it is sustainable. The DTS (-3) which is three years ago is positive, thereby increases poverty and it is statistically insignificant which shows that the debt is not sustainable in the past three years.

The current year exchange rate (EXR) has a negative with an insignificant impact on poverty reduction and as such, a change in exchange rate does not impact poverty. The EXR (-1) i.e. exchange rate from one year ago is positive but insignificant. The EXR (-2) for past two year period and EXR (-3) of three years have negative coefficient but statistically significant at 5 percent level. This implies that a depreciation of EXR in these years brings about reduction in

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poverty while the Exchange rate of past four year period EXR (-4) has a positive and significant impact on poverty and as such, a depreciation of the EXR brings about an increase in poverty.

The current value of inequality, which is INE and its past periods INE (-2), INE (-3) and INE (-4) are negative and statistically insignificant but INE (-1) is positive but statistically insignificant and this because it INE keeps on widening.

The interest rate at current level and at lagged INT (-1) INT (-2) INT (-3) and at INT (-4) are positive and only lag 2 interest is statistically significant while others are statistically insignificant.

The error correction coefficient is expected to be negative, fractional and significance. It is correctly signed, fractional and significance. This means that the system is stable. The coefficient shows that the previous year disequilibrium that is corrected in the current year is 92.84%. This shows high speed of adjustment level to equilibrium after a shock.

Table 3 (b) Long run Estimates of ARDL.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LNEXDT	11.831443	4.293393	4.293393	0.0187
DTS	-0.069194	0.020302	0.020302	0.0058
EXR	-0.077020	0.028214	0.028214	0.0196
INE	-1.954659	0.892271	0.892271	0.0509
INT	3.018173	0.419983	0.419983	0.0000
С	-180.638664	102.306842	102.306842	0.1052

R-squared 0.978726 F-statistic 23.00280 Prob (F-statistic) 0.000003 Durbin-Watson stat 2.673073

As can be seen in table 3 (b),in the long run, the relationship between external debt and interest on poverty is positive and statistically significant. Debt sustainability with negative value indicates that it reduces poverty and the p- value of 0.0058 which is statistically significant, indicates that it is sustainable. Interest rate is positive with the value 3.018173 and shows that it has a substantial impact on poverty reduction. Exchange rate is negative and has a statistically significant relationship with poverty reduction. Inequality shows statistically insignificant negative relationship towards poverty reduction.

The R<sup>2</sup> of the estimates is 0.97. This implies that about 97% of the variations in Poverty are explained by the explanatory variables of the model. This is a clear evidence of robustness of the model. Thus, it concludes that the sample regression model has good fit in relation to the population model. The overall significance of the regression was tested using F-test statistic, F\* value of 23.00280 with it probability of 0.000003 indicates that the estimated regression plane is statistically significant and could be considered as valid and robust.

## **Pairwise Granger Causality Test**

Table 4 summarizes the Granger causality test results for the relationship between the foreign debt of Nigeria and poverty reduction.

Table 4. Pairwise Granger Causality Test

Null Hypotheses	Obs.	F-	Prob.	Decision	Type of
		Statistics			causality
LNEXDT does not Granger Cause	36	0.83735	0.4424	Accept	No causality
POV		2.43245	0.1044		
POV does not Granger Cause					
LNEXDT					
DTS does not Granger Cause POV	36	0.08297	0.9206	Accept	No causality
POV does not Granger Cause DTS		1.05670	0.3598		
DTS does not Granger Cause	36	2.40368	0.1070	Accept	No causality
LNEXDT		0.14968	0.8616		
LNEXDT does not Granger Cause					
DTS					

## Source: Author's Computation using E-views 9.0

The P-values are greater than 0.05, as shown by the no causality in table 4 above and as a result, there is no causality relationship between poverty rate and external debt sustainability. This implies that neither poverty rate nor external debt sustainability can be used to predict one another.

#### **Discussion of Findings**

The study looked at Nigeria's external debt sustainability and efforts to reduce poverty. In light of the study's findings that there was a mixed order of integration, the ARDL bounds test was employed to determine whether there was a long-term relationship between external debt sustainability and poverty reduction in Nigeria. The findings supported the findings of Ashraf et al (2020). The results of the ARDL bounds test, which were conducted in conjunction with Ashraf et al.'s work (2020), indicated that there was a long-term relationship between external debt and the reduction of poverty in Nigeria.

The study also showed that external debt had a major positive influence on reducing poverty both in the short run and long run. This finding collaborated with the work of Nanfa et al (2023) though with the use ECM model, demonstrated that the reduction of poverty in Nigeria was positively and significantly impacted by external debt. The study also revealed that, while debt sustainability was detrimental in the short run, it was negative and statistically significant in the long run and in DTS (-1) and DTS (-4), which shows that it is sustainable.

The results also showed that although lag (-2) and lag (-3) exchange rate in the short run exchange rate in the long run are negative, but had a big effect on poverty. While in the short run, it is negative and insignificant, EXR (1) is positive but insignificant and EXR(-4) is positive and statistical significant and as such, agreed with Paul (2017) that although exchange rates had a short-term negative and negligible impact with reducing poverty, they were still relevant.

Additionally, the study demonstrated that interest rates had a positive and negligible relationship with poverty in the short run except for lag (-2) which helps to reduce poverty significantly, but have a positive and significant impact on poverty reduction in the long term. In contrast, inequality had a negative and insignificant relationship with poverty both the in short and long terms.

The P-values for granger causality are greater than 0.05 and as a result, heterogeneous causality existed across the observation. It also meant that variables do not necessarily increase or cause the other to increase.

#### CONCLUSION AND RECOMMENDATIONS

The study revealed that external debt had major long- and short-run influences on Nigeria's efforts to reduce poverty. Actually, this study's results offered strong proof that, over the long run, every variable—aside from inequality, which was not statistically significant—was relevant. Again, external debt that was supposed to be a significant tool for poverty reduction had no impact on poverty reduction maybe because of wrong channeling or non-utilization of the allocated funds. The causality test result showed that there is heterogeneity in relationships between the variables and the study recommends that government should ensure the proper management and use of fund to avoid the increment of more debt to prevent the economy from further decline. Since external debt, debt sustainability and poverty do not granger each other, there is the need for government to channel external debt/borrowing to productive investment like education, infrastructure, and health sectors etc. in order to create job opportunities that would aid in poverty reduction.

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