JASSH 5 (6), 866–884 (2019) ISSN (O) 2795-9481

# Effects of External Debt on Poverty Reduction in Nigeria (2000-2017)

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DOI: 10.15520/jassh56439

## ABSTARCT

The study examined the effects of external debt on poverty reduction in Nigeria within the temporal scope from 2000 to 2017. Dependent variable which is poverty was proxied by public expenditure on social goods and services (PECS); independent variable was proxied by external debt stock (EDS), debt service payment (DSP) and domestic debt (DMD) while inflation (INF) and exchange rate (EXR) were used for control variable. Secondary data were sourced from CBN Statistical Bulletins and CBN Annual reports of various editions. The study employed various preliminary tests such as Augmented Dickey Fuller Test, Breusch Pagan Godfrey and Breusch Godfrey Serial Correlation LM test while Auto Regressive Distributed Lag was used as the main estimation technique. Following a dual-gap theory as the theoretical underpinning of this study, it was found that, there is significant relationship between external debt and poverty in Nigeria. It was further revealed that, there exists long run relationship among the variables of interest. However, it was found that, in the short run, external debt, domestic debt, exchange rate and inflation reduces poverty as they all had negative signs but in the long run, debt service payment, inflation and exchange rate were found to have negative effect on poverty, which indicates a reduction in poverty. It was therefore concluded that, external debt in the long run, has insignificant positive effect on poverty in Nigeria. It was therefore recommended that, external debt should be utilized efficiently for the purpose it was requested for and at same time in achieving poverty reduction, which is believed it is necessary for the growth of the country, chunk of these funds should be directed towards provision of public social goods and services which invariably in the long run, will helps in reducing the level of poverty and as well enhances the standard of living of the citizens.

**Keywords:** External debt, poverty, debt service payment, ARDL

## INTRODUCTION

In the extant literature, there has been consensus on the need for external debt mostly in developing countries of the world (Momodu, 2012; Hameed, Ashraf & Chandhary, 2008). This consensus is based on the lack of adequate capital or funds to influence the level of economic and as well influence the socio economic development of a nation which can be solved using external funds. This is mostly explained under savings and investment gap propounded by Harold (1939) and Domar (1957). This theory explained the need for capital from outside of the country to close the existing gap between savings and investment which is prevalent among the poor countries, so as to meet up the needs of people and at the same time, engender economic growth.

However, despite acknowledging its importance, there have been agitations against it because of its negative effect on the economy, mostly when it is used against the purpose for which it was borrowed. It is important know that, one of the conditions of accessing these funds rest on the developmental needs and ability of the borrowing country to repay the loan as at when due. Unfortunately, most of the time, these funds were not serviced nor the principal repaid as schedule, thereby causing debt overhang and liquidity constraints for these countries (Claessens, Deytagiachie, Kanbur & Wickham 1996)

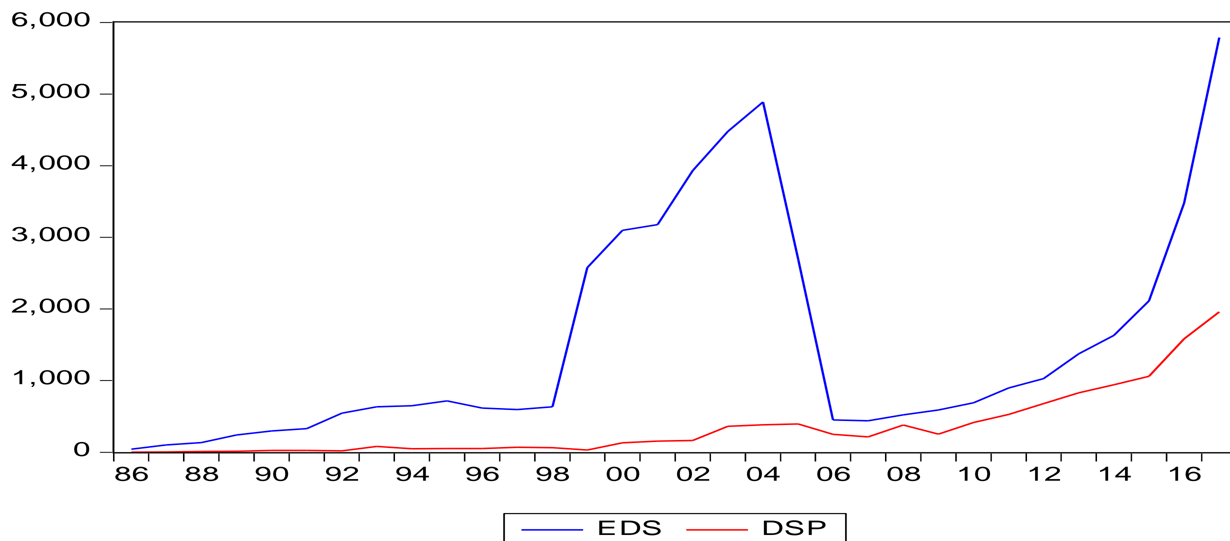
Debt overhang is explained by Chenery and Strout (1996) as a situation that arise due to inability of the debtor countries to service their loan. It happened in such a way that, the accumulated external debt stock of a nation becomes bigger than her capacity to pay in the future. This evidences that economy of the debtor country is in bad shape, thereby affecting the supposed sectors, such as, education, health, agriculture, oil and gas, industry, trade and services that should have benefited from the debt. In addition, the consequences of debt overhang also leads to liquidity constraints hypothesis which explains that, increase in external debt stock without serving it as at when due, will increase the external debt servicing which in the long run, leaves the country with limited avenue for further borrowing from the external sources and at the same time, limit its ability to carry out any investment project that can engender growth (Elbadawi, Ndulu and Ndungu, 1999). The consequence of these two hypotheses is that, it put pressure on domestic borrowing and at the same time, deprives the people from their right to good life.

In Nigeria, the quest for rapid economic growth influences the need for external debt. According to Falegan (1978) as cited by Akinwunmi and Adekoya (2018), external debt or foreign borrowing becomes an official policy in Nigeria when the promulgation of the government promisory notes ordinance in 1960 was formalized. It was further strengthened when External Loans Act was enacted in 1962, sanctioning the contracting of external loans for the development programmes and transfers to the regional government. Furthermore, the needs for external loans became so paramount after the Second World War

purposely for reconstruction and rehabilitation of the war ravaged economy

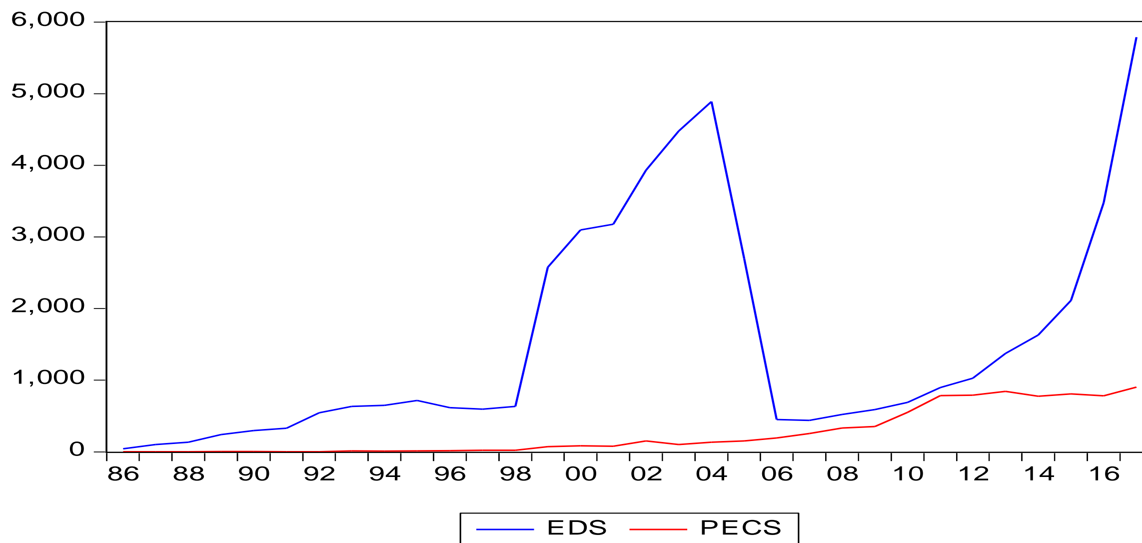
As a consequence, there has been an increase in the level of external debt stock in Nigeria. A cursory look at the below graph shows that, external debt stock moves in an upward trend when it was at meager of N41.45 billion in 1986 to N633billion in 1998. This increase continues to the high level of N4890 billion in 2004. However, between 2005 and 2006, it fell to N451 billion. This year was a very significant and celebrated year for Nigerians when the chunks of her external debt were forgiven. Unfortunately, after this year, the debt resumes its increase. In 2008, it goes up to N523 billion and it continues to move in an upward trend till 2017 when it was N5788 billion, which is the highest in the history of Nigeria (CBN, 2017). With this, it is expected that, services of this loans would go parri-pasu with the development; unfortunately, the manner of loan repayment has been sluggish and not encouraging ( )

Figure 1




External debt is expected to be channeled to developmental projects which can bring about rapid increase in economic growth and enhances the standard of living of people, unfortunately, comparing the volume of external debt received so far and the amount of money channeled to public goods and services, there exist a wide gap, as such, the poverty level and standard of living of Nigerian were affected. Figure 2 below revealed stock of external debt and the dwindling public expenditure to socio goods and services.

Figure 2




It is expected that, when more of this funds are channeled to public goods and services, it directly influences the lives of citizen thereby combating the poverty level in the country. But this is not so, because, as the external debt increases, the poverty level also increases. This is supported by the CBN annual report (2017) which reported that, incidence of poverty was 61.2% which evidences high poverty rate among Nigerian Citizens.

Therefore, this study examined the effect of external debt on poverty in Nigeria. The study digresses from the common trends of effect of external debt on economic growth which is replete in the literature. This actually created a gap for this study. Hence, the study also investigated the dynamics relationship between external debt and poverty in Nigeria.

## LITERATURE REVIEW

External debt has been conceptualized by many scholars. According to Siddique, Selvanathan and Selvanathan (2015), external debt was said to be an important source of funds mainly used to support domestic resources for development and other needs of the country. This assertion explains that external debt performs a role of support to the resources available at the country level. It is necessary because of the inadequate sources of funds domestically. It also explains that these funds were used and directed towards developmental needs of the country.

It was further argued that external debt is the total amount of what a country owes, and it is a type of borrowing from foreign countries, mostly from international banks, sovereign states and international financial agencies with the purpose of enhancing the developmental needs of a country (Amone, Bandiera & Presbiteno, 2005; Akinwunmi &

Adekoya, 2018). Hence there is consensus among scholars that, this sources of funds must be invested in any income generating projects and productive activities as these would enable the debtors country to make repayment as at when due. On the other hand, if the government did not used these funds as expected it would resort to debt burden for countries and consequently, affect the country growth and its development (Chenery & Strout, 1996; Maghyereh & Hashemite, 2003, Siddique, et al. 2015)

From the point of Nwannebuike, Ike and Onuka (2016) external debts are all the forms of external claims against government by foreign investors and international community's which may be interest bearing in nature or grants without interest. From this definition, any form of borrowing from either external, or foreign private investors, international financial agencies or foreign government constitute external debt to the borrowing country. Importantly, this debt is said to attract interest, which means it is not free perse, however, there are some of these funds also that are interest free which does not require the borrowing countries to pay interest but they are entitle to return the funds as agreed. Apart from this, external debt is said to be attached to a particular project (Arnone, et al. 2005). The implication of this is that, external debt is always attached to a particular project which the county must have proven to the lenders as important and that it will affect the lives of people positively.

External debt is not bad as being viewed by manyasit performs several roles in most developing countries of the world (Were, 2001). This is agreed to by Nwanne buike et al. (2015) that external debts stimulate economic growth when it is channeled appropriately to the productive sectors. It also helps in combating the incidence of poverty when the funds are also directed to social goods and services that can cushion the effect of poverty on citizens. It is also argued that, external debt helps in capital formation as entails inflows of capital investment in a country. From Gill and Pinto as cited by Anyanwu and Erhjiakpor (2015), external debt is said to be better than taxation in following ways, first, it allows a more equitable manner in which ountry can exploit investment opportunity with long gestation period, secondly, it allows a more efficient manner of conducting counter-cyclical policies or meeting emergency spending needs.

However, debt becomes a problem when it is not duly service duly service by the borrowing country, most especially, when it is used for non developmental needs of the economy (Were, 2001). From the Chenery and Strout (1996) accumulation of debt and non servicing of those debts become a burden to the borrowing country. This is explained under debt overhang theory because, these debt would absorbed a good proportion of the country's income and it would deprived the country the opportunity cost of having sustained growth and development. Not only that, accumulation of debt is said to constitute problem to poor country as the level of poverty in such country would be high.

Anyanwu and Erhjiakpor (2015) identified some factors which have been attributed to

ineffective of external debt, mostly in developing economies. Apart from non utilization of the funds properly by the borrowed countries, the following factors such as macroeconomic policy of the country, accumulation of debt stock, deterioration in the terms and condition of debts, rapid increase in debt serving as a result of increase in debt stock, problem of debt overhang among others

**Concept of Poverty**

Poverty is defined as a complex phenomenon that can be refers to inadequacy of resources and deprivation of choices that would limit individual from enjoying decent life conditions (United Nations Human Development Report, 1998). It was also defined as a situation that arise as a result of lack of income or jobs which would have enable individuals to attends to their human and economic needs at the right time (Ajala & Olanipekin, 2018). From the point of view of World Bank Global Monitoring Report (2015), poverty was described as a measure of deprivation of the basic needs that a person, household, or communities requires to have a basic standard of living, they further expatiate on deprivation to mean, lack of resources, such as income assets and lack of capacities such as skills knowledge and technology.

Asghar and Sajjad (2015) defined poverty as a mark of unstable conditions with lack of social and economical capital. From this assertion, poverty could be said to be relative in nature. It can be relative in term of lack of income, or lack of basic needs such as food, shelter, and it can also be relative in terms of deprivation from participation and relative in term of unstable conditions. However, Olowa (2010) as cited by Ajala and Olanipekun (2018) identified two factors that cause poverty and they are physical and non-physical factors. The physical factors comprises lack of income, lack of food and inequality, on the second hand, non physical factors are identified, deprivation and denial from participation.

From the above, it could be deduced that, poverty is a multidimensional and complex in nature to define as it is influence by many factors, and it can be studied on different perspectives. Therefore, poverty could be conceived as absolute or relative which is explained as lack of income or failure to attain capabilities. More so, it can be chronic or temporary and as well it can be closely associated with inequity or often correlated with vulnerability and social exclusion.

Therefore, poverty is measured in several ways. According to Makoka and Kalpan (2005), it can be measured using a particular threshold called incidence of poverty which actually explains the volume of population or percentage of the population of a country that are poor and living below a certain amount of money e.g $ 3 per day. It can also be explained as the proportion of the population whose consumption is below the poverty line. Another measurement of poverty can also be inform of poverty gap index or depth of poverty index which is the average over all people of the proportion gaps between poor people’s living standard and the poverty line. Human poverty index can also be used in measuring poverty. This is non-income measure of poverty which is majorly used by United Nations

Development programme (UNDP) in its human development index reports. This actually measures the deprivation in the three basi areas such as long and healthy life, knowledge and decent standard of living.

Summarily, poverty has been viewed from different perspectives and there are many factors identified that causes poverty among people. Also there are different measurements to measure the level of poverty in a country and it depends on the country specific and whether the country is developed, transition and developing countries.

### Theoretical Framework

Dual gap theory of development by Harold (1939) and Domar (1957) was chosen as the theoretical underpinning of this study. The two gap hypotheses are explained under the savings gap, which is the gap between savings and investment which could hamper the growth of the economy. Therefore they propounded that, to close this gap, there is need for external financing either inform of external borrowing, foreign aid etc to close the gap so as to achieve the necessary economic growth and development. Using Nigeria as a case study, there are evidences that, the country lack enough savings that can influence the level of investment. Apart from that, the amount of domestic resources has 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 on 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 have to be directed at those activities that will reduce poverty drastically. Among the scholars who have adopted this theory are Chenery and Strout, (1996), Hassan, Domeher, Blay, Yakubu and Musah (2016), Akinwunmi and Adekoya (2018) among others.

## EMPIRICAL REVIEW

Ayadi and Ayadi (2008) comparatively examined the impact of external debt on economic growth of Nigeria and South Africa spanning from 1980 to 2007. The annual growth rate was used as dependent variable; on the other hand, grossinvestment, exports, foreign debt stock, debt service, real GDP (RGDP), and debt stock were used as independent variables. All data were sourced from economic intelligent unit and country data annual series while estimation was done using OLS and GLS. It was found that, external debt and debt service exert negative effect on economic growth in both countries. However, in the application of these loans, south Africa was found to have applied it better than Nigeria From Boboye and Ojo (2012), they examined the effect of external debt on economic growth and development in Nigeria. The study made used of national income as the dependent variable while debt service payment, external reserves, interest rate as the independent variable. The data used for the study were all gathered from CBN Statistical Bulletin and analyzed using ordinary least square. It was revealed that, the entire explanatory variable had positive and significant effect on economic growth and development in Nigeria. However, the study does not made used

of the external debt as a variable in the study, therefore, the study would have been on effect of debt service payment rather than external debt

In the same vein, Oyedele, Emerah and Ogege (2013) empirically researched on the effect of external debt, debt serving and poverty reduction in Nigeria using data spanning from 1980 to 2010. The study made used of variables such as poverty reduction which was proxied by ratio of public expenditure on social goods and services to GDP, debt income ratio, debt service ratio, degree of openness, growth of agriculture valued added, per capital income, ratio of investment to GDP and inflation rate. Data were sourced from Central Bank of Nigeria (CBN) among others and analyzed using ordinary least square method. It was found that, there is an existence of long run relationship between poverty reduction and the explanatory variables. However, ratio of external Debt – Income Ratio, Debt-Service Ratio, inflation and degree of openness had negative effect on poverty reduction while agricultural value added, per capital income and investment income ratio had positive effect on poverty reduction, this implies that, external debt reduces poverty in Nigeria.

From Tanzania, Kasidi and Said (2013) investigated the effect of external debt on economic growth using annual time series data from 1990 to 2010. The model was specified using gross domestic product as dependent variable while external debt and debt servicing were used as the independent variable. Secondary data were sourced from Bank of Tanzania and analyzed using ordinary least square technique. It was found that, no long run relationship was found between economic growth and the explanatory variable. However, external debt was found to have positive effect on economic growth while debt servicing had a inverse relationship with economic growth

Likewise from South Africa, Shayanewako (2013) accessed the impact of external debt on economic growth of South Africa spanning from 1980 to 2011. In analyzing, real gross domestic product was used as the dependent variable while gross fixed capital, trade openness, foreign direct investment, foreign debt and foreign debt service. Data sourced were analyzed using vector auto regression. It was found that, foreign debt service had a negative effect on economic growth of South Africa both in the short and long run while causality runs from debt service to GDP

Saungweme and Mufandaedza (2013) analyzed the impact of external debt on economic growth of Zimbabwe covering a temporal scope between 1980 and 2011. The model specification was done in such a way that, poverty index was used as dependent variable while national income per capital, ratio of external debt to GDP, ratio of external debt service to export and gross domestic product were used as independent variable. Data were sourced from IMF data based and reserve bank of Zimbabwe and estimated using ordinary least square. It was found that, external debt service exert a negative effect on poverty.

In Nigeria, Saheed, Sani and Idakwoji (2014) investigated the effect of public external debt on exchange rate in Nigeria from 1981 to 2012. The variables used are

external debt, debt service payment, foreign reserve and exchange rate. The data were sourced from Central Bank of Nigeria (2012), Debt Management Office (2014), International Monetary Fund and World Bank International Financial statistics while ordinary least square were used as estimation technique. It was found that, all the explanatory variables are statistically significant in explaining exchange rate in Nigeria as they were all exhibit positive effect on exchange rate

Siddique, Selvanathan and Selvanathan (2015) examined the effect of external debt on economic growth of 40 most poor indebted countries from 1970 to 2007. Dependent variable was proxied by GDP while external debt, capital formation, openness and population were used as independent variable. Secondary data were sourced from World Development Index and World Bank Database. The study was analyzed using ARDL panel regression and cointegration test. It was found that, capital formation has a positive impact on GDP in the short run as well as in the long-run; debt has a negative influence in the short run as well as in the long-run; and population increase has a positive influence on the economic growth

Ijirshar and Godoo (2016) investigated the relationship between external debt and economic growth in Nigeria within a temporal scope from 1981 to 2014. Model specification was done using real gross domestic product growth as dependent variable and annual growth rate of export, ratio of debt to RGDP, growth in fixed capital, size of external debt stock relative to GDP, inflation and interest rate as independent variable. Data used was secondary and it was sourced from CBN Statistical Bulletin of various editions and the model estimation was done using granger causality test, johansen co-integration test and regression method. Findings revealed that, significant relationship exist between external debt and economic growth, however, while external debt exert positive effect on economic growth, external debt service had a negative effect on economic growth in the long and short run.

Naheem and Sherbaz (2016) investigated the relationship between indebtedness and poverty in Pakistan from 1973 to 2013. Poverty head count was used as dependent variable while external debt, debt service, unemployment, trade openness, per capital income and public health expenditure. Data on these variables were from Handbook of Statistics on Pakistani economy and estimation was done using co-integrated test and its coefficients. It was found that, there is existence of long run relationship between indebtedness and poverty. It further revealed that, there is positive effect of indebtedness on poverty which however, implies that, external debt and its repayment increases the level of poverty in Pakistan.

Akinwunmi and Adekoya (2018) analyzed the relationship between external debt and economic growth in Nigeria between a period from 1985 and 2015. Dependent variable was proxied by gross domestic product while external debt stock, debt serving payment, capital investment, export were used as independent variable and exchange rate as control variable. Data for the study were sourced from CBN Statistical

bulletin of various editions and analyzed using ordinary least square method. Findings revealed long run relationship among the variables, however, when debt service payment, export and capital investment exert positive effect on economic growth, external debt and exchange rate had a negative effect on economic growth in the long run

## METHODOLOGY

In investigating the relationship between external debt and poverty reduction in Nigeria, the study obtained secondary data from CBN Statistical Bulletins and CBN Annual Reports of various editions. By proxy, poverty reduction was proxy by public expenditure on social amenities. This variable was used in line with Oyedele, Emerah and Ogege (2013), it explains that public expenditure on socio goods and services would directly helps in reducing poverty. However, independent variable was proxied by external debt stock, internal debt stock, external debt servicing, while inflation and exchange rate were used as control variable. For the estimation technique, the study employed Breusch Pagan Godfrey AND Breusch Godfrey Serial Correlation LM Test as the preliminary test for serial correlation and heteroskcedacity while Auto Regressive Distributed Lag was used as the main estimation method.

### Model Specification

The study adopted the model of Oyedele, Emerah and Ogege (2013). The functional model was stated as

POV = *f* (DYR, DSR, DOP, GAVA, GNPPC, INF, INVYR)

Where POV = poverty, it is represented by public expenditure on social goods and services, DYR= debt income ratio, DSR= debt service ratio, DOP= degree of openness, GAVA= growth of agricultural value added, GNPPC = per capital income,INF= inflation, INVYR= investment less income ratio. However, this model is adapted by excluding DOP, DYR,, GAVA, GNPPC and INVYR but with inclusion of DMD and two control variables such as inflation and exchange rate. The new model is therefore stated in a functional form as

PECS = *f* (EDS, DSP, DMD, EXR, INF)---------------------------------------------------1

The model is therefore stated in a linearity form as

$PECS_t = \beta o + \beta_1 EDS_t + \beta_2 DSP_t + \beta_3 DMD_t + \beta_4 EXR_t + \beta_5 INF_t + U_t$------------------------2

The study employed Auto regressive distributed lag as the estimation technique, therefore, the model specified as

$$_{\Delta}InPECS_t = \beta_0 + \sum^{n} \beta_1 \, _{\Delta}InPECS_{t-1} + \sum^{n} \beta_2 \, _{\Delta}InEDS_{t-1} + \sum^{n} \beta_3 \, _{\Delta}InDSP_{t-1} + \sum^{n} \beta_4 \, _{\Delta}InDMD_{t-1}$$

$$\quad_{i=1} \quad\quad\quad\quad \quad_{i=0} \quad\quad\quad\quad \quad_{i=0} \quad\quad\quad\quad \quad_{i=0}$$

$$+\sum_{i=0}^{n}\beta_{5\Delta}InEXR+\sum_{i=0}^{n}\beta_{6\,\Delta}InINF_{t-1}+\alpha_7 InPECS_{t-1}+\alpha_8 InEDS_{t-1}+\alpha_9 InDSP_{t-1}$$

$$+\alpha_{10}InDMD_{t-1}+\alpha_{11}InEXR+\alpha_{12}InINF_{t-1}+\mu_t$$

The above model is explain as follows, $\beta o$= Constant Term, PECS = Public expenditure on social goods and services, EDS= External debt Stock, DSP= Debt service payment, DMD= Domestic debt, EXR= Exchange rate, INF=Inflation, $\beta_1$--------------$\beta_6$parameters to be estimated in a long run while $\alpha_7$…………..$\alpha_{12}$short run parameters to be estimated, U= stochastic error term

## ANALYSIS AND INTERPRETATION OF DATA

**Preliminary test**

The first move was to test the stationarity of the variables employed in the study. This is necessary so as to be certain that, variables used for the analysis were all stationary so as to avoid spurious and nonsense results. To achieve this, the standard augmented dickey fuller test was used. The null hypothesis of this test stated that, series were not stationary while the alternate was that, the series were stationary using 5% level of significance. The test results are presented below. It was revealed that at level 1(0), all the variables were not stationary. However, testing at first difference, it was found that, all the variables were integrated at first difference I(1). Hence, the null hypotheses of non stationarity of variables were rejected while the alternate is accepted that variables were stationary at first difference I(1)

**Table 1: Augmented Dickey Fuller Test**

| Variables | Critical | 1st Difference | 2nd Difference | Integration |
|---|---|---|---|---|
| | Test | -1.6673 | -7.4454 | |
| PECS | Prob | 0.4370 | 0.000 | I(1) |
| | Test | -1.7266 | -3.9900 | |
| EDS | Prob | 0.4082 | 0.004 | I(1) |
| | Test | -2.7920 | -9.2037 | |
| DSP | Prob | 0.071 | 0.0000 | I(1) |
| | Test | -2.1118 | -4.1687 | |
| DMD | Prob | 0.2416 | 0.002 | I(1) |
| | Test | -2.4351 | -5.5716 | |
| EXR | Prob | 0.1408 | 0.0001 | I(1) |
| | Test | -2.6877 | -6.7234 | |
| INF | Prob | 0.0875 | 0.000 | I(1) |

**Source: Author's Computation from Eviews'9.0**

As it has been found that, variables were integrated of the same order, that is, at I(1), hence, the long run relationship among the variables were conducted following Pesaran, Shin and Smith(2001). Hence, ARDL bound test was used to test if the variables move together in a long run. The result is presented in Table 2 below. The result shows that F-statistics of 10.398 is greater than the lower bound of 2.62 and upper bound of 3.79 at 5% level of significant. This evidences that, there is long run relationship between external debt and poverty reduction and that variables move together in a long run.

**Table 2: Auto Regressive Distributed Lag Bound Test for Long run relationship**

| Test Statistic | Value | K |
|---|---|---|
| F-statistic | 10.39857 | 5 |
| Critical Value Bounds | | |
| Significance | I0 Bound | I1 Bound |
| 10% | 2.26 | 3.35 |
| 5% | 2.62 | 3.79 |
| 2.50% | 2.96 | 4.18 |
| 1% | 3.41 | 4.68 |

**Source: Author's Computation from Eviews'9.0**

In order to estimate the model for this study, auto regressive distributed lag was used, as a result, an optimum order lag criteria become necessary. Therefore, VAR lag order criteria were done and the result is presented in Table 3 below. It was revealed that, the model would be suitable to be estimated using lag 1 according to the Aikaike Information Criteria. Therefore, the ARDL model was estimated using lag 1

**Table 3: The Optimum Lag Order Criteria Selection**

| Lag | LogL | LR | FPE | AIC | SC | HQ |
|---|---|---|---|---|---|---|
| 0 | -160.073 | NA | 0.003796 | 11.45334 | 11.73623* | 11.54194* |
| 1 | -118.449 | 63.15509* | 0.002730* | 11.06541* | 13.04563 | 11.68559 |
| 2 | -87.7153 | 33.91253 | 0.005586 | 11.42864 | 15.10619 | 12.5804 |

**Source: Author’s Computation from Eviews’9.0**

The estimation of ARDL was done using lag 1. The result is presented in Table 4 below. It was found that, public expenditure on social goods and services had a significant negative innovation on itself. More so, the study found that, DSP of 0.6316 and EXR of 1.2404 had positive significant effects on PECS while INF of 0.0116 had an insignificant positive effect on PECS. It was also found that, EDS of -0.3201 and DMD of -0.5175 had insignificant negative effects on PECS. The implication of this is that, a unit increase in DSP, EXR and INF will bring about increase in poverty while a unit increase in EDS and DMD will bring about reduction in poverty. On the coefficient of determination, that is $R^2$, it was revealed that, about 0.7965, that is 79.65% variation PECS is explained by the joint effect of EDS, DSP, DMD, EXR, and INF. This is supported by adjusted $R^2$ of 71.19% which indicate that a good fit based on the number of variables in the model. The F-statistics of 3.036 and p-value of 0.012 revealed that, external debt have significant effect on poverty in Nigeria. The result of the Durbin Watson of 1.79 is close to benchmark of 2 which indicates that variables were free from serial correlation problem. This was supported by Breusch pagan Godfrey and Breusch Godfrey Serial correlation LM test, which revealed that, series are from free from serial correlation and heteroskcedacity problem.

**Table 4: Auto Regressive Distributed Lag Estimates**

**Dependent Variable is DLPECS**

| Variable | Coefficient | Std. Error | t-Statistic | Prob.* |
|---|---|---|---|---|
| DLPECS(-1) | -0.339398 | 0.154359 | -2.198759 | 0.0387 |
| DLEDS | -0.320126 | 0.278276 | -1.150389 | 0.2623 |
| DLDSP | 0.631635 | 0.223 | 2.832437 | 0.0097 |
| DLDMD | -0.517574 | 0.709852 | -0.729129 | 0.4736 |
| DLEXR | 1.240464 | 0.500054 | 2.480657 | 0.0212 |
| INF | 0.011695 | 0.00571 | 2.048157 | 0.0527 |
| C | 0.01708 | 0.19277 | 0.088605 | 0.9302 |
| $R2= 0.7965$ | Adj-R2=0.7119 | F-STAT=3.036 | P-V=0.012 | D.W=1.79 |

| | F-STAT | Prob | Obs-squared | Prob- chi-sq |
|---|---|---|---|---|
| BPG | 2.2048 | 0.0795 | 10.954 | 0.00898 |
| BGS | 0.005 | 0.9439 | 0.0069 | 0.9337 |

**Source: Author's Computation from Eviews'9.0**

Furthermore, the second stage of ARDL modeling for univariate cointegration test is to estimate the long run coefficients of the model specified. The results is presented in Table 5 below and it revealed that, in the long run, EDS of 0.0527 would insignificantly increases the level of poverty, DMD of 0.8605 would significantly increases the level of poverty, However, DSP 0f -0.1787 and INF of -0.0041 would significantly reduces poverty while EXR of -0.2456 would insignificant reduces poverty. This implies that, in the long run, only DSP, INF and EXR will bring about reduction in poverty.

**Table 5: Estimated long run coefficients using the ARDL Approach**

**Dependent Variable is PECS**

| Long Run Coefficients | | | | |
|---|---|---|---|---|
| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
| DLEDS | 0.052572 | 0.061762 | 0.8512 | 0.409 |
| DLDSP | -0.17837 | 0.104671 | -1.704106 | 0.1104 |
| DLDMD | 0.860591 | 0.127942 | 6.726395 | 0.0000 |
| DLEXR | -0.245691 | 0.125758 | -1.953676 | 0.0710 |
| DINF | -0.004147 | 0.001346 | -3.080288 | 0.0081 |
| C | 0.09563 | 0.032132 | 2.976146 | 0.0100 |
| $R^2= 0.7965$ | Adj-$R^2$=0.7119 | F-STAT=3.036 | P-V=0.012 | D.W=1.79 |

After the discovery of long run relationship between external debt and poverty, there is also a need to estimate the short run relationship among the variables. This is achieved using error correction model. From the results, the ECM value of -1.42 is rightly signed and significant at 5% level of significance. The implication of this is that, about 142% of the short run discrepancies are corrected annually, and incorporated into the long run equilibrium. Meaning that, the present value of poverty will adjust to changes in EDS, DMD, EXR and INF in a short run as they are all rightly signed. However, in the short run, DSP was found to affect the poverty level in the economy.

**Error correction Model (ECM) Estimates**

**Co-Integration for Short and Long Run Form**

| Cointegrating Form | | | | |
|---|---|---|---|---|
| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
| D(DLEDS) | -0.113624 | 0.041796 | -2.71853 | 0.0166 |
| D(DLEDS(-1)) | -0.104339 | 0.057543 | -1.813234 | 0.0913 |
| D(DLDSP) | 0.021237 | 0.112137 | 0.189388 | 0.8525 |
| D(DLDMD) | 0.218442 | 0.210213 | 1.039145 | 0.3164 |
| D(DLDMD(-1)) | -0.701454 | 0.155551 | -4.509477 | 0.0005 |
| D(DLEXR) | -0.201668 | 0.122025 | -1.652678 | 0.1206 |
| D(DINF) | -0.00592 | 0.002522 | -2.347255 | 0.0341 |
| CointEq(-1) | -1.42752 | 0.206767 | -6.904002 | 0 |

**Source: Author's Computation from Eviews'9.0**

## DISCUSSION OF FINDINGS

The study empirically examined the effect of external debt on poverty in Nigeria from 2000 to 2017 using auto regressive distributed lag technique. It was found that, there is significant relationship between external debt and poverty in Nigeria. The result of the study further revealed that, long run relationship exist between external debt, debt service payment, domestic debt, exchange rate, inflation and poverty (proxied by public expenditure on social goods and services). Testing the co-integration forms, it was found that, in the long run, external debt and domestic debt positively affect poverty, an indication which shows that, external debt and domestic debt increases the level of poverty in the long run. However, in short run, all variables, that is, EDS, DMD,EXR, INF except DSP had negative effect on poverty, an indication which shows that, in the short run, external debt, domestic debt, exchange rate and inflation help in reducing poverty level in the country.

The findings of this study unraveled the effect of external debt on poverty reduction

in the Nigeria, and the result emanated from the study actually in line with most of the empirical findings of the existing studies on external debt. It shows that, accumulation of external debt is necessary for the growth of Nigeria economy and when there is growth, it go a long way to affect the standard of living of people positively. However, it has shown that, mostly external debt in most developing economies are not always utilized efficiently and serviced as expected, hence, resulting to debt overhang and liquidity constraints in most of the developing economies thereby leaving the economy to suffer impoverishly, in such a way that, citizens bear the burden of external debt through non provision of necessary social goods and services that can affect the lives of citizens positively and reduce the level of poverty among people.

Unfortunately, the external debts including domestic debts were found to reduce poverty just in a short run, but this does not occur in the long run. While debt service payment at the short run affect poverty level but in the long run, service payment bring about economy prosperity and reduces the poverty level in the economy. This stands was also supported by the findings of Naheem and Sherbaz (2013) from Pakistan as the study found that, external debt increases the level of poverty, though debt service payment was found to have positive effect on poverty, this only supported the study in the short run but the findings negate it in the long run. It was also negate the findings of Oyedele et al (2013) as the study found that EDS and DSP had negative effect on poverty. Although, the study did not say if it is in long run or short run however, in the short run, the findings of this study supported their submission as external debt was found to have negative effect on poverty in the short run. Saungweme and Mufandaedza (2013) also found that, in the short run debt service payment adversely aggravate the level of poverty in Zimbabwe which was in support of the findings of this study.

## CONCLUSION AND RECOMMENDATIONS

Having examined the effects of external debt on poverty in Nigeria, the study therefore concluded that, there is significant relationship between external debt and poverty. However, external debt was found to reduce poverty in the short run but in the long run, its effect was disastrous in reducing poverty in Nigeria. Based on this conclusion, the study therefore recommends that, external debt should be utilized based on the purpose at which it was requested, majorly towards developmental projects that can enhance the level of growth and development. Furthermore, in achieving poverty reduction, which is believed it is necessary for the growth of the country; chunk of these funds is recommended to be directed towards provision of public social goods and services such as schools, hospitals, market, water and sewage to mention but a few, which invariably in the long run, will bring about reduction in the level of poverty and enhances the standard of living of the citizens.

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