THE IMPACT OF EXTERNAL DEBT ON STIMULATING ECONOMIC GROWTH IN NIGERIA: MEDIATING ON THE ROLE OF PUBLIC SECTOR FINANCIAL MANAGEMENT

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Abstract
This study examined the impact of external debt in stimulating economic growth in Nigeria: mediating on the role of public sector financial management.
Secondary data was explored using ex post facto. The variables employed involves Gross Domestic Product (GDP) as endogenous variable while Debt to GDP Ratio (DGR), Foreign Debt to Exports Ratio (FDER), Inflation Ratio (INFR), Interest Service Ratio (ISR) and Exchange Ratio (EXR) as exogenous variables and were obtained from World Bank International Debt Statistic and Central Bank of Nigeria Statistical Bulletin for the period of 1989-2019. Diagnostic tests were conducted using Auto Regressive Distributed Lag

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(ARDL), Augmented Dick Fuller (ADF) Unit Root Test, and Co-Integration model.

The result revealed the presence of co-integration among the variables with clear indication that external debt has a significant and positive relationship with economic growth with strong emphasis on public sector financial management as mediating factor. It was concluded that Nigeria debt crisis was attributed to both exogenous and endogenous factors due to dwindling economy.

The study recommends that government should develop home-grown policies to enhance the country's competitive advantage in the global market. Government should exit from all forms of commercial debts that expose the country to another regime of debt overkill.

1. *Introduction*

Generally, the need for external borrowing arose when the availability of public funds made it impossible to take over a nation's development project, because capital accumulation improves productivity, which in turn improves economic growth. There is sufficient evidence in the available literature to demonstrate that foreign borrowing improves the growth and development of a nation. Soludo (2003) was of the view that countries borrow for two main purposes, the first is of macroeconomic reason that is to enhance more investment and human capital development, secondly is to reduce country financial constraint through budget by financing fiscal and balance of payment deficits. In addition, Ezeabasili, Isu and Mojekwu (2011) argue that countries, particularly underdeveloped countries, borrow to increase capital formation and investment because of their low level of domestic savings.

Chenery (1996) eventually highlighted his own reasons why countries borrow up to two main reasons that are to bridge the gap between "saving and investing" and "the exchange rate gap". Chenery (1996) stressed further that countries borrow to supplement insufficient savings and investment in that country. The dual-gap analysis justifies the need to resort to external borrowing as an effort to bridge the gap between the savings and investment of the nation. For a progressive development of

any nation to occur, there must be a reasonable level of investment that is a function of domestic saving and the level of domestic saving is not sufficient to ensure such a progressive development [Elbadawi *et al.*, 2011]. The second reason for borrowing in developing countries is also to bridge the currency gap (imports-exports). For many developing countries like Nigeria, the constant balance of payment deficit has hindered capital inflow which will bring about growth and development. Since the foreign exchange earnings required to finance this investment is insufficient, external borrowing may be the only available option of gaining access to the resources needed to achieve rapid economic growth. [Efuntade *et al.*, 2020]

The external debt is an evil that every country needs to survive. External debt is the part of a country's debt which is obtained from foreign lenders, including commercial banks, governments, or international financial institution such as International Monetary Fund and World Bank, in turn will encourage the fund to be used in public sector for the needed infrastructure which can enhance the progressive development of the country with effective economic growth and also to improve the fiscal output of the country [Arnone *et al.*, 2005]

According Amoateng and Amoaka (2016), the myriad of increase in external debt is a common challenge among developing nations across the world as their economy is growing where domestic savings are low compare to their public expenditure which is on the high side due to their high population which thrown their budget into deficit and capital imports are necessary to augment domestic resources. External source of income become their alternative source of revenue mobilization in other meet up with their statutory obligation and commercial activities [Albert *et al.*, 2005]. The original cause for the external borrowing was the excess borrowing by the public sector to finance their existing debt which their current expenditure could not take care off. This happened due to the continuous increase in population and growth rate which lead to adverse effect on human capital development which create a viable option for the public sector to finance their capital project through external borrowing as a result of many countries experiencing a large fiscal deficit [Bamidele, & Joseph, 2013]. The high level of economic challenges is stretching the country to depend on external debt which has become widely accepted across the world

The study has employed the framework of Musgrave and Solow theory of growth and external debt sustainability theory which were developed to address the effort of government to invest more on infrastructural facilities in the country which will attract greater height of economic development in all ramification considering the

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corporate world and the general course of value addition; it recommended that the utmost significant components of every country is the bilateral relationship between one country and others, also it's connection which collectively improves cross boarding business success.

Therefore, this study offers a valuable contribution and knowledge on how external debt impact economic growth of a country through public sector financial management as a mediating factor. The current study adds to the increasing scope of recent research studies on the subject by providing indispensable information to academician and government leading to fruitful outcome for the country's fiscal output. The literature review in different area help to reveal the study a relationship between external debt and economic growth, external debt and public sector financial management, financial management and economic growth, and the Musgrave and Solow Foreign Debt Theory, that previous research has ignored.

2. *Literature Review*
2.1. **Related Conceptual Review**
2.1.1. *External Debt*

Eduardo (2009) defined external debt 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, corporations or citizens of this country. The debt comprises loans granted by private commercial banks, foreign governments or international 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 level of debt that allows a debtor country to meet its current and future debt service obligations in full, without any further debt relief or rescheduling, avoiding accumulation of arrears, also allowing an acceptable level of economic growth. [Campbell, 2009]

Debt Servicing

Eaton (2013) found that debt service was a contractually fixed charge on real income and domestic savings. As debt goes up or interest rates go up, debt service charges go up. Debt service is paid only with export gains, reduced imports or other external borrowings. Eaton (2013) concluded that debt servicing was a contractually fixed charge on actual income and domestic savings.

Debt Sustainability

Ezeabasili (2006) defined debt sustainability as the ability to keep a constant debt GDP ratio over a period of time. Sustainability is challenged when the debt-to-GDP ratio reached an excessive value. Elmendorf and Mankiw (2009) thought that a number of factors 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. [Ezeabasili, 2006]

2.1.2. *Economic Growth*

Schumpeter, Todaro and Smith (2013) define economic growth as gradual and steady change in the long run which comes about by gradual increase in the rate of savings and population. Ajayi and Olugboyega (2012) perceived economic growth as the increment over time of a country real output of commodities and serves. 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. [Hameed *et al.*, 2008]

2.1.3. *The Impact of External Debt on Economic Growth*

Kasidi and Said (2013) pointed out that external debt has been seized as one of the economic troubles faced by developing countries, especially in Africa as in Nigeria, because these are countries characterized by inadequate internal capital formation due to a savage circle of low productivity, low income and low savings. The guarantee of an outside loan is unavoidable for any public spending when the economy is facing financial crises. Manghyereh and Hashemite (2013) expressed the government's use of borrowing to fill the gap created by spending and revenue gaps. Generally speaking, developing countries will adopt external borrowing to cover part of the government's proposed spending in a given fiscal year. The debt alternative is becoming the likely option that governments can provide citizens with social infrastructure and overhead if they cannot compromise macroeconomic

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stability by printing more currency notes and if the governmental taxes are limited [Matitti, 2013].

Several studies have analysed the influence of external debt on economic growth and their result revealed that external debt has a positive impact on economic growth. [Elbadawi *et al.*, 2011; Elmendorf *et al*., 2009; Ajayi *et al*., 2012; Ezeabasili, 2006; Ezeabasili *et al.*, 2011; Hameed *et al*., 2008; Freedman *et al.*, 2015; Kasidi *et al*., 2013; Manghyereh *et al*., 2013; Matiti, 2013; Ogege *et al.*, 2010] It has also been proven that annual export growth rate has a positive relationship with economic growth. [Banker & Mashruwala, 2014] However, contrary studies are imposing no relationship between external debt servicing and economic growth. [Efuntade *et al.*, 2020; Omoruyi *et al*., 2011; Fatile *et al*., 2009; Sanusi *et al.*, 2012; Siddique *et al.*, 2015]

There is also a researcher who opts for a neutral position regarding the relationship between external debt and economic growth due to the high level of debt financing that leads to over-indebtedness. [Matte, 2013; Momodu, 2012; Ogege & Ekpudu, 2010] A recent study on foreign debt servicing has had long-term and short-term negative impacts on economic growth in Nigeria. Increase in capital spending, the increase rate of exports, and external debt stock had a positive impact on economic growth while external debt servicing and interest rates were inversely related to the development of the economic system

2.1.4. *Influence of Public Sector Financial Management on Economic Growth*

There are comprehensive studies that link the influence of public sector financial management on economic growth, thereby increasing economic growth in the country. The economic situation in each country depends on the effective and efficient use of available resources to achieve government development goals. [Okoye, & Ani, 2004] There exists a consensus in the literature that an equal and efficient public sector financial management is vital to any successful development process aimed at achieving high employment, sustainable economic growth, cost stability, long viability of the remainder of payments and external balance. Futile and Adejuwon (2012) provide an explanation of the problems, lessons and future directions of the public sector. According to them, the public service has always been the tool made available to Nigerian governments for the implementation of development goals and targets and also considered crucial for economic growth. The paper reviews the nature of Nigeria's current public sector, lessons learned

from international and African perspectives, and the future directions of Nigerian public sector reform. Salawu (2013) argued that the reform is in the interest of the conservative international financial institutions that were merely interested in globalizing the neo-liberal economic orthodoxy for the interest of powerful global capital and not in promoting autonomous development, which is what Africa needs for economic progress. It is therefore concluded that an effective reform of the public sector in Africa should take into account the behavioural model, the social context, as well as the cultural milieu of the people for whom the reform is intended.

2.1.5. *Influence of Public Sector Financial Management on External Debt*

However, for Siddique, Selvanathan, and Selvanathan (2015), it is noteworthy, that external debt is a devil, which every country across the world lives with, and if it is properly used for productive investment of highest priorities, than it would have a positive and significant impact on economic growth. However, the external debt could be described as a mosquito proboscis for sucking blood from its victims, its burden dramatically limiting developing countries, its huge external debt throwing the economy into a series of "serious" economic problems and its obligation continues to be an obstacle to economic development and development. Therefore, if foreign debt is well managed in the public sector, it will reduce the debt service surplus and have an enormous impact on the management of public finances. [Omoruyi, 2006]

External debt is a key driver of economic growth and government productivity, as it has significant benefits and high potential to motivate gross domestic product. [Bamidele *et al.*, 2013] It was analysed that the efficient and effective use of public funds generated by external debt will have a positive impact on the fiscal management of the public sector. Financial management of the public sector has also been argued to be positively linked to external debt [Amone *et al.*, 2005] through public account-ability, transparency and prudence. Therefore, public sector financial management being an integral part of government finance is considered as an important tool through which government controls their public spending in return for the public service and is beneficial as it points out toward an improvement in a long-term growth of the economy. [Elbadawi *et al.,* 2011]

2.2. **Related Theoretical Review**

Several theories have been promulgated by researchers with the aim of explaining the question surrounding external debt and its relationship with economic growth.

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Some of these theories which are related to this study will be described in this section, and they are: Musgrave's theory, the theory of over-indebtedness, Solow's growth model and external debt.

2.2.1. *Musgrave Theory of Public Expenditure*

Musgrave theory of public expenditure was proposed by Musgrave in (1969), it focused on the development of infrastructure, such as health, education, the transportation system and other social facilities. It was built in the evolving functions of the public sector during the development phase and therefore relies on structural factors to account for government growth. [Blinder, 2008] According to Musgrave (1969), economies in the early development phase were confronted with a high demand for public capital formation to install basic infrastructure, etc. At a later stage of development, private capital formation institutions are becoming more advanced, which makes it possible to reduce the share of public expenditure. [Musgrave, 1969] In particular, Musgrave's theory related public sector financial management in terms of mobilizing resources towards public spending to short- and long-term economic progress.

2.2.2. *Debt Overhang Theory*

The concept of the theory of over-indebtedness was worked out by Krugman (1988). The theory of over-indebtedness is based on the premise that if the debt exceeds the country's ability to repay with some likelihood in the future, the expected debt service is likely to be an increasing function of the country's level of production. Over-indebtedness occurs in a situation where the debtor country benefits very little from the yield of any additional investment due to debt service obligations. When foreign obligations cannot be fully met existing resources and actual debt payments are determined by some negotiation process between the debtor country and its creditors, the amount of payments can become linked to the economic performance of the debtor country, with the consequence that at least part of the return to any increase in production would in fact be devoted to debt servicing. [Yucel, 2009; Tamasehke, 1994]

2.2.3. *Solow Growth Model and External Debt*

Solow's growth model relies on a closed economic framework that utilizes labour and capital as a means of production. The effect of external debt on growth in this

context can be explained by the effect of domestic saving, which in turn is used as an investment in a closed model. The overall effect of external debt on Solow's growth pattern can be analysed by examining the individual effect of the theory of over-indebtedness and over-indebtedness on Solow's growth theory. Under the assumption of over-indebtedness, the government is trying to promote the taxation rate on accumulated debt in the private sector as a means of transferring resources to the public sector. This will discourage private sector investment and also reduce government infrastructure spending because the resources are being used to service the debt instead of being used wisely. [Derek, 2013]

2.3. **Related Empirical Review**

There are comprehensive studies available which have been carried out on the effect of external debt on the economic growth. Kasidi and Said (2013) looked at external debt and its effect on economic growth in Tanzania using time series 1990-2010. The study showed that external debt has an important impact on economic growth, whereas total external debt stock has a positive effect on economic growth. A similar study of Antique and Malik (2012) examined the impact of domestic and external debt on the economic growth of Pakistan separately over a period of 1980-2010 using an ordinary Least Square approach (OLS) to co-integration. As a result, there is a positive relationship between domestic debt and economic growth, and foreign debt and economic growth. The results of Amooteng and Amoako (1996) examined the relationship between external debt and economic growth in 35 African nations. Granger's causation test was carried out. The outcome revealed a positive and unidirectional causal link between economic growth and debt servicing.

 Manghyereh *et al.* (2013) examined the result of external debt on the economic development of Nigeria using gross domestic product as the endogenous variable measuring economic development as a function of ratio of external debt to export, inflation and exchange rate proxy as the exogenous variable. Data were collected over the 1970-2010 period. The data analysis was carried out using the ordinary lesser square econometric technique. The outcome showed that external debt has made a positive contribution to the Nigerian economy.

However, a contrary study by Hameed *et al.* (2011) examined how external debt affects growth, particularly if debt affects growth through factor accumulation or overall factor productivity growth. It also tested for the presence of non-linearity in the effect of debt on the different source of growth. The study covered 61 developing

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countries over the period of 1996-1998. The result showed that the negative impact of high debt on growth has a strong negative effect on budget capital accumulation and on total factor productivity growth. A similar research was carried out by Schumpeter *et al.* (2013) and had a similar result. Ogege and Ekpudu (2010) examined the impact of debt burden on the Nigerian economy using 1970-2007 time series. The Least Ordinary Square (ODM) was used to test the relationship between debt burden and Nigerian economic growth. The result showed a negative relationship between the stock of internal and external debt and gross domestic product, meaning that an increase in the stock of debt will cause a reduction in the growth rate of the Nigerian economy.

Momodu *et al*. (2012) reported on the relationship between debt servicing and economic growth in Nigeria. The study showed a relationship between Gross Domestic Product (GDP) and Gross Fixed Capital Formation of Current Prices (GFCF) using the Ordinary Least Square multiple regression method. The study revealed that the payment of debt to Nigerian creditors has an insignificant impact on GDP and GFCF. Moreover, Ezeabasili, Isu and Mojekwu (2011) investigated the relationship between external debt and economic growth in Nigeria between 1975 and 2006, while error correction was used to analyse the data. The result revealed that foreign debt is negatively linked to economic growth in Nigeria.

In similar work, Bamidele and Joseph (2013) examined the impact of external debt management on economic growth in Nigeria using GDP as an endogenous variable while the exogenous variables measuring economic growth were foreign direct investment, the foreign debt, external reserves, inflation and rough exchange rates. Annual time series for 1980 to 2010 were used. OLS, Augmented Dickey Fuller (ADF) unit root tests and the Granger causality test were used in analysis. Results have revealed mixed results: there is a positive relationship between FDI and economic growth, whereas there is a negative relationship between external debt and economic growth.

Generally, as narrated through reviewed literature, majority of the available empirical evidence were centred on external debt and its impact on economic development, there is no comprehensive study available that strengthens the nexus between external debt and economic growth while taking public financial management as a mediating factor. From this perspective, the researcher is interested in undertaking a study that was based on the intention to examine the externally mediated debt on the financial management of the public sector and its impact on
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economic growth in Nigeria. This study will contribute to the research of the field in the aspects that need to be developed and considered for analysis and to lead to the revelation of the real impact of the Musgrave theory.

3. *Research Method*

This study explores the co-integrating relationship between Economic Growth being proxy for gross domestic product (GDP) as endogenous variable while Debt to GDP Ratio (DGR), Foreign Debt to Exports Ratio (FDER), Inflation Ratio (INFR), Interest Service Ratio (ISR) and Exchange Ratio (EXR) being proxies for External Debt as exogenous variables. The data has been collected from World Bank International Debt Statistic and Central Bank of Nigeria Statistical Bulletin for the period of 1989-2019. The co-integrating approach is used for information investigation to more likely understand the relationship between external debt and economic growth.

3.1. **Model Specification**

The following mathematical model was developed to analysed the relationship between external debt and economic growth in Nigeria using Debt to GDP Ratio (DGR), Foreign Debt to Exports Ratio (FDER), Inflation Ratio (INFR), Interest Service Ratio (ISR) and Exchange Ratio (EXR) as the exogenous variables and regressed against Gross Domestic Product (GDP) as endogenous variable used as proxy for Economic Growth.

This study employed the model specified below.

$$GDP_{it} = f(DGR_{lt}, DER_{lt}, INFR_{ltI} ISR_{lt}, EXR_{lt}) \qquad 3.1$$
$$Y_{lt} = \alpha_{it} + \beta_1 DGR_{lt} + \beta_2 DER_{lt} + \beta_3 INFR_{lt} + \beta_3 ISR_{lt} + \beta_3 EXR_{lt+} \varepsilon_{it} \qquad 3.2$$
$$GDP_{lt} = \alpha_{it} + \beta_1 DGR_{lt} + \beta_2 DER_{lt} + \beta_3 INFR_{lt} + \beta_3 ISR_{lt} + \beta_3 EXR_{lt+} \varepsilon_{it} \qquad 3.3$$

where Y represents Economic Growth measured by Gross Domestic Product (GDP); α = the constant term; DGR = Debt to GDP Ratio; FDER = Foreign Debt to Export Ratio; INFR = Inflation Ratio, ISR = Interest Service Ratio; EXR = Exchange Ratio; β = the coefficient of the function; e = error term.

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3.2. *Apriori* Expectation

Theoretically, there is an expectation that the debt-to-GDP ratio, the external debt-to-export ratio, the inflation ratio, the interest rate ratio and the foreign exchange ratio would have a positive relationship with gross domestic product, while the interest rate would have a negative relationship with real GDP in Nigeria.

4. *Results and Discussion*

This section of the study focused on the presentation of the estimated results and consequently, discusses the results in line with the objectives of the study.

4.1. **Unit Root Test**

This test is employed to investigate the presence of a unit root in the variables under study through the application of the Augmented Dickey-Fuller (ADF) unit root test with or without trend and intercept. The results are illustrated in the table 1 below.

Table 1. ADF Unit Root Test on External Debt variables and Gross Domestic Product Trend and Intercept

	Level		First Difference			
Variables	**ADF Statistic**	**5% Critical Value**	**ADF Statistic**	**5% Critical Value**	**Remarks**	
GDP	0.558959	2.951125	5.500945	2.954021	Stationary	I(1)
DGR	0.646149	2.951125	5.860625	2.954021 **	Stationary	I(1)
FDER	0.896063	2.954021	9.754072	2.954021 **	Stationary	I(1)
INFR	-1.044285	-2.951125	-7.075043	-2.954021 *	Stationary	I(1)
ISR	-2.287258	-2.951125	-5.745783	-2.954021 *	Stationary	I(1)
EXR	-0.762918	-2.954021	-3.172998	-2.954021	Stationary	I(0)

Source: Researcher's computation from E-view 9 (2020) ** denote 5%

Table 1 above illustrates the results of the ADF stationarity test between actual GDP and its determinants. Based on the results, the estimate showed that all variables, including LGDP, LDGR, FDER, INFR and LSR except EXR, were not stationary at the level; however, all variables were stationary after the initial difference. This was revealed through ADF statistics and critical values of various

exogenous variables. Consequently, the achievement of the integration of the same order among the series implies that the variables possessed long-term properties. This also means their variance, average and covariance are constant overtime. Therefore, they should be used in the investigation as they are not appropriate for the unit root at this level.

4.2. **Auto Regressive Distributed Lag (ARDL) Bounds Co-integration Tests**

The ARDL Bounds test is the estimation procedure that mirrors the analysis of the long-term relationship and short-term dynamic interactions between the underlying variables. This model was developed by Pesaran & Shin (1999) to look at the long-term relationship and short-term dynamic interactions among various variables. The model requires that not all series are integrated in the same order to be well applied to this search. As such, it can be applied even when variables are integrated in order one, order zero or partially integrated. The ARDL model is quite effective even when the data size is so small and finite. According to Harris & Sollis (2003), the technique ensures unbiased estimation results of the long run model. The model of ARDL is expressed as:

$$\Delta y_t = \beta_0 + \Sigma\, \beta_i \Delta y_{t-i} + \Sigma \gamma_j \Delta x_{1t-j} + \Sigma \delta_k \Delta x_{2t-k} + \theta_0 y_{t-1} + \theta_1 x_{1t-1} + \theta_2\, x_{2t-1} + e_t$$

Meanwhile, results ARDL are shown down below, in table 2.

Table 2 below reflects the results of the ARDL bounds cointegration test between external debt variables and economic growth. The results depict that personal income tax (LDGR) at lag zero has a positive and insignificant influence on real gross domestic (LGDP) while foreign debt to export ratio (LFDER) lagged has negative and significant influence on gross domestic product (LGDP). These results are proven by the coefficients and p-values of the variables under consideration. From the results, the coefficients of LDGR and LFDER are 0.011191 and -0.093344 while their respective p-values include 0.6387 and 0.0008. Similar results revealed that LINFR and LISR lagged have a positive and insignificant impact on real GDP, while exchange rate LEXR and interest saving rate (LISR) at lag zero have a negative and insignificant impact on gross domestic product (LGDP).

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Table 2. ARDL Bounds Cointegration Test between External Debt variables
and Economic Growth
Exogenous Variable: LGDP

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
LGDP(-1)	0.924425	0.163236	5.663115	0.0000
LGDP(-2)	-0.361459	0.191788	-1.884680	0.0716
LDGR	0.011191	0.023532	0.475576	0.6387
LFDER	-0.093344	0.024216	-3.854594	0.0008
LINFR	0.116189	0.080564	1.442187	0.1622
LISR	-0.031286	0.033654	-0.929625	0.3618
LEXR	0.073871	0.081560	0.905729	0.3741
C	1.921115	0.806131	2.383131	0.0254
R-squared	0.984597	Mean dependent var		6.076082
Adjusted R-squared	0.979462	S.D. dependent var		0.417888
S.E. of regression	0.059888	Akaike info criterion		-2.565689
Sum squared resid	0.086077	Schwarz criterion		-2.157550
Log likelihood	51.33387	Hannan-Quinn criter.		-2.428363
F-statistic	191.7616	Durbin-Watson stat		1.897275
Prob(F-statistic)	0.000000			

Source: Researcher's computation from E-view 9 (2020)

These are evidenced by the coefficients and p-values of the variables under investigation. From the results, the coefficients of LDGR, LFDER, LINFR and ISR are 0.116189, -0.031286, 0.073871, and -0.004133 with the associated p-values being 0.1622, 0.3618, 03741 and 0.2957 respectively. These results are in accordance with the findings of Elbadawi *et al*. (2011); Elmendorf *et al*. (2009); Ajayi *et al*. (2012); Ezeabasili (2006); Ezeabasili *et al*. (2011); Hameed *et al*. (2008); Freedman *et al*. (2015); Kasidi *et al* (2013); Manghyereh *et al*. (2003); Matiti (2013) & Ogege *et al*. (2010) who examined external debt and economic growth in various countries and found that external debt has a positive influence on economic growth. However, the results negate the finding of Ogar & Oka (2016) who carried a similar study and found that external debt does not have significant influence on economic growth in the country.

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**Table 3. ARDL Short-run and Long-run Coefficients Tests between External Debt
and Economic Growth**

Short Run Coefficients				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
D(LGDP(-1))	0.361459	0.191788	1.884680	0.0716
D(LDGR)	0.011191	0.023532	0.475576	0.6387
D(LFDER)	-0.093344	0.024216	-3.854594	0.0008
D(LINFR)	0.116189	0.080564	1.442187	0.1622
D(LISR)	-0.031286	0.033654	-0.929625	0.3618
D(LEXR)	0.073871	0.081560	0.905729	0.3741
ECT	-0.437033	0.169571	-2.577288	0.0165
Cointeq = LGDP - (0.0256*LDGR -0.2136*LDFER + 0.2659*LINFR -0.0716 *LDFER + 0.1690*LISR -0.0095*EXR + 4.3958)				
Long Run Coefficients				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
LDGR	0.025607	0.057734	0.443542	0.6613
LFDER	-0.213586	0.099590	-2.144653	0.0423
LINFR	0.265858	0.229461	1.158623	0.2580
LISR	-0.071587	0.074212	-0.964634	0.3443
LEXR	0.169029	0.146852	1.151018	0.2611
C	4.395811	0.261244	16.826472	0.0000

Source: Researcher's computation from E-view 9 (2020)

Furthermore, the F statistic is 191.7616, while the Prob statistic (F statistic) is 0.000000, implying that the joint influence of the explanation is statistically significant. More so, the results suggest a multiple coefficient determination, R^2 of is 0.984597, which implies that 98.5% of the changes in gross domestic product (LGDP) are accounted for by the explanatory variables, including LDGR, LFDER,

LINFR, LISR, and EXR whereas the remaining 1.5% is assigned to other variables excluded from the poser. The results also showed Durbin Watson (DW) statistically at 1.897275. The lower limit for DW (dL) is 1.271 and the upper limit is 1.651. Therefore, given that the DW statistic of 1.897275 is above the upper bound value of 1.651, the study concluded that the serial correlation is not present in the model. To confirm this claim, Breusch-Godfrey performed a serial LM correlation assay. Based on the results, the observed R-square value given is 0.006781 and the chi-square prob is 0.9966. As a result, the Prob.Chi-Square value exceeds the critical value by 5%, the study accepts the initial statement and concludes that there is no serial correlation in the study model.

Table 3 above presents the results of the tests of the long-term and short-term ARDL coefficients between the variables of external debt and economic growth. Results indicate that there is one (1) equation of co-integration between variables. Since at least one co-integration equation is found amongst the variables, it implies that there is a long-term relationship between the variables indicating LGDP, LDGR, LFDER, LINFR, LISR, and EXR. This is demonstrated by the p-values from the variables. From the results, the p-values of LGDP, LDGR, LFDER, LINFR, LISR, and EXR are 0.66113, 0.0423, 0.2580, 0.3443, 0.2611 and 0.3849 respectively at the 5% level of significance. Furthermore, the results showed short-term linkages between the variables. This is indicated by the FDER p-value of 0.0008, which is smaller than 5% of the critical value.

The result of the FDER indicates that the *apriori* expectation is met and that the stability requirement for conducting such an investigation is met. The result showed that the desired signs for each of the equations are met in each of the estimations. The FDER is therefore significant, fractional and negative, which is the necessary condition for acceptance of such estimation results. From the estimation results, the coefficient of FDER is -0.213586 while the p-value is 0.0423, which implies that the speed of adjustment from short-run disequilibrium towards long-run relationship annually is 42%.

4.4. **Policy Implications of the Results**

This study examined the impact of foreign debt on economic growth in Nigeria between 1989 and 2019. The results of the short- and long-term ARDL-coefficients test revealed the impact of endogenous variables on short- and long-term exogenous variables. Similarly, the effects of the ARDL bounds co-integration test

indicated that Debt to GDP ratio (LDGR), Foreign debt to export (LFDER), and Exchange Ratio (EXR) have a positive and significant relationship with GDP in Nigeria while Inflation Ratio, (INFR), Interest Saving Ratio (ISR) has a negative and significant relationship with GDP in Nigeria.

As a result, an average estimated 1% increase in debt to GDP or a single increase in debt to GDP will increase Nigeria's GDP by 0.011191 units, whereas an increase of 1% in export debt will lead to an increase of 0.0%. Furthermore, the results show that the inflation rate (LINFR) and the interest saving rate (LISR) have a negative and significant impact on Nigeria's real GDP. Thus, it is estimated on average that the 1% decrease of LINFR and LISR will increase GDP by 0.116189 and 0.073871 units respectively. The results also showed that the exchange rate (LEXR) and the interest rate (INR) have an adverse and insignificant impact on the real gross domestic product (GDP-LR) of the economy. As a result, the study estimated that 1% increases in LEXR and INR will decrease Nigeria's GDP by 0.031286 and 0.004133 units respectively.

5. *Conclusion*

This study examined the external debt and its impact on Nigerian economic growth over the 1989-2019 period. Auto Regressive Distributed Lag (ARDL) bounds co-integration test and its associated ARDL short run and long run coefficients test were employed in the analysis. The variables employed in the examination include gross domestic product (LGDP), Debt to GDP Ratio (DGR), Foreign Debt to Exports Ratio (FDER), Inflation Ratio (INFR), Interest Service Ratio (ISR) and Exchange Ratio (EXR). Stationarity test was carried out through the application of the Augmented Dickey-Fuller (ADF) unit root test. The results revealed that all the variables except EXR were non-stationary at level; however, all the variables became stationary after first differencing at 5% level of significance.

On the basis of the study, it was concluded that Nigeria's debt crisis can be attributed to external and endogenous factors, in particular due to the nature of the economy, economic policies, total dependence on oil revenues and falling foreign exchange revenues. As a result, external debt has become a major alternative to fill the financial shortfall in order to address internal financial challenges and stimulate the economy.

5.1. **Recommendations**

The study arrived to the following recommendations, which were considered necessary for the efficient and effective use of external debts in Nigeria.

- The government must develop local policies to enhance the country's competitive advantage in the international marketplace in an era of globalisation. Moreover, conscious efforts must be made to obtain the total outflow of all forms of commercial debt which exposes the country to another regime of over-indebtedness. Nigeria also needs to explore and expand more export products beyond crude oil.

- The Debt Management Office (DMO) should make sure that loans are used for their intended purpose. The government could do this by ensuring that it is properly managed financially.

- The loans contracted should be invested in profitable businesses, therefore bringing forth a sensible amount for debt repayment. External funding should only be used for priority projects like mineral resources, education and agriculture projects.

- Foreign borrowing by private and public organizations should be adequately monitored by the government debt agency – Debt Management Office (DMO) and all the external loans contracted should be described to the agency so that an up to date record of the volume of debt can be preserved. Transparency and accountability have a strong place in modern debt management practices.

- The composition of foreign debt should be subject to regular monitoring in order to prevent problems related to the bundling of debt servicing obligations.

- Adequate safeguard measures should be put in place to deal with the sudden or unexpected shortage of revenue from exports or planned expenditure on imports.

- Nigeria's main vulnerability is the unlimited load of higher interest payments. The use of a superior method in negotiating fixed interest payments and various depreciation regimes is necessary. Nigeria should request a multi-year rollover rather than an annual rollover.

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