



External Debt Indices And The Nigerian Real Sector: 1991 – 2021

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ABSTRACTS

The study investigated the effect of external debt on the Nigerian real sector from 1991 to 2021. The specific objectives of the study were to determine the effect of external debt stock on Nigerian agricultural sector; to ascertain the effect of external debt stock on Nigerian manufacturing sector; and to investigate the effect of external debt stock on Nigerian construction sector. The study was anchored on debt overhang hypothesis, the liquidity constraint hypothesis and Solow Growth model. In this study, external debt stock, external debt servicing, inflation rate and exchange rate were employed as the independent variables while agricultural sector output, manufacturing sector output and construction sector output were employed as the dependent variable. Data were sourced on these variables from the Central Bank of Nigeria Statistical Bulletin, 2021. Descriptive statistics, Augmented Dickey Fuller unit root test, Johansen Cointegration Test and Error Correction Model (ECM) were employed in analyzing the data. The result of the descriptive statistics indicated that all the variables are normally distributed. Augmented Dickey Fuller unit root test result indicates that all the variables were differenced once before they assume stationarity. The Error Correction Model (ECM) indicates that external debt stock had significant effect on Nigerian agricultural sector. The study also found that external debt stock had significant effect on Nigerian manufacturing sector. The study further found that external debt stock had significant effect on Nigerian construction sector. The study concludes that external debt burden has significant effect on real sector of the Nigeria economy and recommends amongst others that government should direct the borrowed funds to the diversification of the productive base of the economy. This will improve long-term economic growth, expand the revenue base and strengthen the capacity to repay outstanding debts when due.

Keywords: External Debt, Real Sector

INTRODUCTION

The importance of external borrowing to the real sector of the economy cannot be overemphasized. No government is an island on its own; it would require borrowings so as to perform efficiently and effectively. Debt or borrowings can be viewed as an essential fiscal policy tool accessible to governments to support a country's development. Debt is used to cause the settlement of expenditures, which will ultimately raise productivity and promote the economy's growth (Ayaji & Edewusi, 2020). When the revenue obtained by the government is inadequate to cover its expected expenditures, public debt, which includes both internal (domestic) and external obligations, is considered (Rahman, 2012). The aggregate of borrowings acquired by a country's government organizations is referred to as public debt. Public debt is one of several methods for financing government expenditures; while governments can instruct the

Central Bank to produce and release funds to them in order to avoid the interest payments associated with government debts, this method will undoubtedly control interest costs but will not eliminate the debt (Idenyi, Igberi & Anoke, 2016). Hyperinflation is the end effect of such behaviour.

The necessity to finance expanding government expenditure has been recognized as the cause of Nigeria's fast growth in debt stock (Charles, 2012). As such, debt accumulation can be as a result of bridging the gap between revenue and expenditure. Bacha (1990) utilized the three-gap model to portray why debt can be accumulated in any economy. Such avenues include savings-investment gap, foreign exchange gap, and the fiscal-constraint gap. The fiscal-constraint gap is associated with the idea of Charles (2012), where the accumulation of debt is to augment the revenue of the government for expenditure programmes. The savings-investment gap argument for debt accumulation is linked to developing countries where there is inadequacy of investment capital to finance investment ideas. As such, borrowing is carried out to fill such gap. Meanwhile, the foreign exchange gap is based on the premise that "export earnings are usually insufficient to generate enough foreign exchange to finance imports making overseas borrowing the indispensable means of gaining access to the technology that is vital for the expansion of the export sector that ultimately leads to rapid economic growth" (Tiruneh, 2004).

Debt, whether private or public, is central for the running of a free enterprise economy. For instance, the private sector needs credit to spur productive investment and growth over time. Whether at the private or public sphere, debt can have useful influence when it comes to levelling consumption and financing huge investments (Burriel, Checherita-Westphal, Jacquinot, Schön, & Stähler, 2020). Before the 2009 *Global Financial Crisis*, borrowings have been regarded to be safe in some progressive nations (Coeuré, 2016). It has been argued that public borrowing plays a significant role towards the effectiveness of the financial system and in the monetary policy transmission mechanism (Buriel, *et al.*, 2020). This argument is based on the condition that such debt must carry low credit risk, thereby providing relatively safe and liquid asset which facilitates the refinancing operations. This study focused on external debt.

External debt is a major source of public receipts. The accumulation of external debt should not signify slow economic growth. It is a country's inability to meet its debt obligation compounded by the lack of information on the nature, structure and magnitude of external debt (Were, 2001). Most countries across the world borrow funds to meet their financing needs and close the budget deficit. This constitutes debt, which can either be internal or external. External debt plays both an optimistic and destructive part in forming economic growth, especially of the developing nations. However, it is useful if it is utilized for investment-oriented purposes. For example sectors like the power sector, educational sector among others. External debt may be an economic stimulant but when its accumulation gets to a very substantial level, a reasonable proportion of government expenditure and foreign exchange earnings will be used to service and repay the debt with heavy opportunity costs even for future generations. Thus, external debt is a major source of finance majorly used in supplementing domestic sources of funds in a bid to support the development process as well as other needs of a country. It must however be pointed out that excessive external debt may breed harmful effects to the sustainable economic growth and poverty reduction which developing nations seek (Festus & Saibu, 2019).

The real sector of an economy is that aspect where the flow of goods and services complements the monetary sector. The real sector (non-financial and nongovernment sector) produces goods and services, which are sold in exchange for a share of total wages and government revenues. It reflects the productive aspect of an economy. In Nigeria, the real sector is categorized into the agricultural sector, industrial sector, building and construction sector, wholesale and retail (Trade) sector, service sector. Based on the foregoing, the study investigated the effect of external debt on the Nigerian real sector from 1990 to 2021.

Statement of the Problem

Nigeria is blessed with human and natural resources having the largest economy in Africa. It is ranked as the 21st largest economy in the world regarding nominal Gross Domestic Product (GDP) and 22th most significant in terms of Purchasing Power Parity (PPP). Nigeria is one of the eleventh largest oil producers on the continent with oil reserve estimated to be 2.28 million barrels per day (362×103 m³/d) and natural gas reserves with over 100 trillion cubic feet (2, 800 km³). Furthermore, Nigeria is also ranked sixth worldwide and first in Africa in farm output such as cocoa, groundnuts, natural rubber, and palm oil.

Despite these indices of greatness, Nigeria finds it difficult to find its fit among the commit of nations. The country is characterized by poverty, insecurity, high unemployment and ritual killing. According to Okoye, Modebe, Erin and Evbuomwan (2020), poverty among Nigerian people has been noted to be devastating to the extent that Nigeria is ranked 12th among the poorest nations in the world presently, the 55th in the world. Authors affirm that most Nigerians live on less than 1 Dollar per day. The Nigeria economic predicament has been attributed to overdependence on oil sector, and since oil price has crashed in the world market, the consequence has made the country not to meet its statutory obligations.

A closer look at the historical trend of external debt service showed that the \$4.55 billion paid in February 2020 to service external debt represents the biggest single tranche of payment recorded in Nigerian debt history. In terms of GDP, the country's debt to GDP ratio remains relative sustainable for now at c.18% based on latest DMO debt data, however, the cost of servicing the debt may further put Nigeria in difficult financial strain. In 2019, debt servicing gulped over 50% of the country's total revenue (Debt Management Office, 2019). Apparently, the huge debt overhang did not translate into meaningful economic growth as the nation was considered a developing economy with a per capita GDP of less than \$5. Despite the accumulated debt and debt relief that was granted around 2005 and 2006, basic infrastructure remains in poor state while poverty remained an average of 65% of the citizen which questions the need for external debt and subsequent benefit for the growth of the Nigerian economy. Also, the current Buhari administration have borrowed more than what have been borrowed from 1999 to 2015 with no meaningful economic and infrastructural development to show for it.

The debt overhang models gave the impression that large debt stocks lower growth by partly reducing investment with a resultant negative effect on poverty. Invariably, debt overhang relief should trigger growth in the real sector; have stimulating effect on investment, development affects per capital income positively which is prerequisite for poverty reduction (Ndubuisi, 2017). Could this be said to be real in the Nigeria context or situation? Has this relief suffered from macroeconomic instability, policies that distort economic incentives or sizable adverse shocks? Based on the foregoing, the study investigated the effect of external debt on the Nigerian real sector from 1990 to 2021.

Research Questions

The following research questions guided this study:

1. To what extent does external debt stock affect the Nigerian agricultural sector?
2. How does external debt stock affect the Nigerian manufacturing sector?
3. To what degree does external debt stock affect the Nigerian construction sector?

Hypotheses

The following hypotheses guided this study:

1. External debt stock has no significant effect on Nigerian agricultural sector.
2. External debt stock has no significant effect on Nigerian manufacturing sector.
3. External debt stock has no significant effect on Nigerian construction sector.

REVIEW OF RELATED LITERATURE

CONCEPTUAL REVIEW

External Debt

External debt is one of methods through which countries finance their deficits and carry out economic projects that are capable of increasing peoples' standard of living and promote sustainable economic development. It is an important resource needed to support sustainable economic growth (Audu, 2004). Todaro and Smith (2011) defined external debt as the total private and public foreign debt owed by a country. To Ajie, Akekere and Ewubare (2014), external debt refers to unpaid portion of external resources acquired for developmental purposes and balance of payments support, which could not be repaid when they fell due. External debt refers to the portion of a country's debt that was borrowed from foreign lenders including commercial banks, governments or international financial institutions (Arnone, Bandiera & Presbitero, 2005; Ajayi & Khan, 2000). These loans, including interest, must usually be paid in the currency in which the loan was made. In order to earn the needed currency, the borrowing country may sell and export goods to the lender's country (Obadan, 2004). External debt is widely believed to

enhance economic growth and development (Osinubi & Olaleru, 2006). That is the basic reason why the debt is usually borrowed in the first place. Both developed and developing nations seek for external debt to boost their economic performance (Kletzer & Wright, 2009).

External debt can come from multilateral or bilateral sources. Multilateral debt is that portion of a country's external debt burden owed to international financial institutions (IFIs) such as the International Monetary Fund (IMF) and the World Bank (Abdulkarim & Saidatulakmal, 2021). For most of the world's poorest countries, multilateral debt looms larger than other debts because of the IFIs' status as "preferred creditors," as providers of core development and balance-of-payment loans. Multilateral debt is the debt owed by developing countries to the World Bank and International Monetary Fund (IMF) and other multilateral institutions, regional development banks and inter-governmental agencies (George-Anokwuru & Inimino, 2020).

Bilateral debt is government-to-government debt which is negotiated bilaterally between the debtor country and the official creditor (George-Anokwuru & Inimino, 2020). This debt can be either concessional debt, also known as Official Development Assistance (ODA), or non-concessional debt, simply known as "non-ODA" debt. Non-ODA debt often arises through loans between a government agency or state-owned enterprise (SOE) on the debtor side and, on the creditor side, a commercial partner that benefits from a full or partial guarantee from their specific export credit agency (ECA). Once the guarantee is called, the guaranteed portion of the debt (typically 80%) becomes a claim of the ECA and therefore government-to-government debt. Bilateral debts are debts emanating from bilateral creditors. A sovereign entity lending to another sovereign is considered to be a bilateral creditor (Mhlaba, Phiri & Nsiah, 2019).

Real Sector

The real sector of the economy concerns the production, purchase and flow of goods and services within an economy. The real sector, is one of the major components of the Nigerian economy. The sector is made up of the manufacturing and service industries. These include housing, agriculture, manufacturing industry, mining infrastructures and services. This sector is one of the sectors that is capable, if vibrant, of fast-tracking economic growth and development coupled with high level of massive employment creation. The real sector is one potential area for economic growth and development that cannot be ignored. The sector, apart from the economic viability is a major employer of labour. With dwindling GDP and high rate of unemployment, it will be foolhardy to downplay such an important sector. The issues of real sector development in Nigeria remain intricate and reflect a mix of both domestic and international characteristics. The real sector comprises agriculture, industry, building and construction, wholesale and retail and the services sectors, while from the international front, developments in the international oil market and the oil and gas sector are influenced by global financial activities. Thus, the policy environment must be adequately focused towards enhancing the capacity of the private sector to drive real sector activities and hence, achieve desirable levels of growth. There is no gainsaying the fact that the complex interactions of agents and economic activities pose the challenge of clearly understanding the adjustment mechanisms required to attain optimal levels of output. Although not exhaustive, econometric models are helpful tools that could be used in the determination of quantitative signposts to assist policy makers in formulating and implementing sound policies. Formulation and implementation of sound economic policies had made differences between developed, emerging and developing economies, and econometric models have played a part in these differences.

Structurally, Nigeria's economy can be classified into three major sectors – primary, secondary and tertiary. The primary sector consists of agriculture and natural resources; the secondary sector is mainly industry, which is made up of processing and manufacturing, as well as building and construction; while services and wholesale & retail trade make up the tertiary sector. The real sector is also classified into oil and non-oil sector. While the oil sector is made up of the crude petroleum and gas production, the non-oil sector is made up of agriculture, industry, wholesale and retail and services. The agricultural sector is expected to play its traditional roles of meeting the food needs of the teeming population, providing the required raw material needs of the industrial sector and providing the envisaged surplus for exports and thereby generating foreign exchange to improve the balance of payments position. The industrial sector

consists of manufacturing and mining (including crude petroleum, gas and solid minerals). The manufacturing sector in Nigeria consists of large, medium, small and micro scale enterprises.

Theoretical Framework

This study is anchored on debt overhangs hypothesis. The theory of debt overhang was first postulated by Stewart C. Myers in 1977. Debt overhang is the condition of an organization (for example, a business, government, or family) that has existing debt so great that it cannot easily borrow more money, even when that new borrowing is actually a good investment that would more than pay for itself. This problem emerges, for example, if a company has a new investment project with positive net present value (NPV), but cannot capture the investment opportunity due to an existing debt position, i.e., the face value of the existing debt is bigger than the expected payoff. Hence, the equity holders will be reluctant to invest in such a project because most of the benefits will be reaped by the debt holders. In addition, debt holders will not finance the firm if the company cannot convince the debt holders that the project will not fail. The debt overhang theory is based on the premise that if debt will exceed the country's repayment ability with some probability in the future, expected debt service is likely to be an increasing function of the country's output level. Thus some of the returns from investing in the domestic economy are effectively 'taxed' away by existing foreign creditors and investment by domestic and new foreign investors is discouraged.

Under such circumstances, the debtor country shares only partially in any increase in output and exports because a fraction of that increase will be used to service the external debt. The theory implies that debt reduction will lead to increased investment and repayment capacity and, as a result, the portion of the debt outstanding becomes more likely to be repaid. When this effect is strong, the debtor is said to be on the 'wrong side' of the debt Laffer curve. In this case, the debt Laffer curve refers to the relationship between the amount of debt repayment and the size of debt. However, the idea of debt Laffer curve also implies that there is a limit at which debt accumulation stimulates growth. In reference to debt Laffer curve, Lensink and White (1999) argue that there is a threshold at which more debt is detrimental to growth. The scope of debt overhang is much wider in that the effects of debt do not only affect investment in physical capital but any activity that involves incurring costs up-front for the sake of increased output in the future. Such activities include investment in human capital (in terms of education and health) and in technology acquisition whose effects on growth may be even stronger over time.

Empirical Review

Ugwu and Nzewi (2016) carried out an evaluation of the effect of external debt on economic growth indices in Nigeria from 1981 to 2013. Ex-post facto research design was adopted for the study. Data on gross domestic product, external debt, capital expenditure, and exchange rate were obtained from Central Bank of Nigeria Statistical Bulletin 2013. Ordinary Least Square Method of regression was used in which external debt was regressed on gross domestic product, capital expenditure, and exchange rate. Diagnostic test was done using Augmented Dickey Fuller (ADF) unit root test, co integration and error correction method. Findings show that there is a positive relationship between external debt on one side and gross domestic product (GDP), exchange rate and capital expenditure. The implications of the findings are that small external debt accumulation stimulates the economy while huge debt has negative impact. External debts were misappropriated while debt servicing and repayment stifles infrastructural development.

George-Anokwuru and Inimino (2020) carried out a study on external debt and economic growth in Nigeria from 1980 to 2017. Secondary data on real gross domestic product, external debt, external debt service and exchange rate were sourced from CBN statistical bulletin. The Augmented Dickey-Fuller unit root test and Autoregressive Distributed Lag techniques were used as the main analytical tools. The result of the unit root test revealed that the variables were stationary at order zero and one, which satisfied the requirement to employ the ARDL Bounds testing approach. The ARDL Bounds test revealed the existence of long run relationship among the variables. Furthermore, the result revealed that external debt and external debt service have negative and significant relationship with economic growth in Nigeria both in the long run and short run.

Ehikioya, Omankhanlen, Osuma and Inua (2020) examined the dynamic relations between external debt and economic growth in 43 African countries over the period 2001 to 2018. The study used data from World Development Indicators (WDI) as published by the World Bank and the World Economic Outlook database as provided by the International Monetary Finance (IMF). Johansen Cointegration test and system Generalised Method of Moments (sysGMM) were employed in analyzing the data. The result reveals evidence to support a long-run equilibrium relationship between external debt and economic growth in Africa. The result demonstrates that beyond a specific capacity, the short-run converges to equilibrium in the long-run and external debt would start to have a deteriorating impact on economic growth in Africa. The findings of this study reinforce the need for policymakers to ensure proper application of external debt on economic activities that would lead to sustained long-term economic performance.

Senadza, Fiagbe and Quartey (2018) investigated the effect of external debt on economic growth in Sub-Saharan Africa. The study used annual data for 39 SSA countries from 1990 to 2013 and employs the System Generalised Methods of Moments (GMM) estimation technique. The study found that external debt negatively affects economic growth in Sub-Saharan Africa. Categorization of countries based on per capita income however does not affect the external debt-growth nexus, neither does there exist a non-linear relationship between external debt and economic growth. The finding of a negative relationship between external debt and growth does not necessarily imply that Sub-Saharan Africa countries should cut back on foreign borrowing in order to boost growth. Rather, given the huge savings gaps in some of the countries, what governments in Sub-Saharan Africa must do is to ensure that the foreign loans are invested in projects that would eventually generate enough returns to amortize the debt.

Musibau, Mahmood, Ismail, Shamsuddin and Rashid (2018) carried out a study to determine whether external debt cause economic growth in ECOWAS member countries. This study employed panel data from 1980 to 2015 to investigate causal effect between external debt and economic growth among ECOWAS member countries using Debt Overhang Theory. The result shows the existence of long and short run causality between external debt and economic growth economic integrated member countries. The study concluded the availability of this foreign capital flows (External debt) will stimulate investments if it is judiciously used productively.

Abdulkarim and Saidatulakmal (2021) investigated the impact of government debt on economic growth in Nigeria using annual data from 1980 to 2018 and the Autoregressive Distributed Lag technique. The empirical results showed that external debt constituted an impediment to long-term growth while its short-term effect was growth-enhancing. Domestic debt had a significant positive impact on long-term growth while its short-term effect was negative. In the long term and short term, debt service payments led to growth retardation confirming debt overhang effect. The findings suggested that the government should direct the borrowed funds to the diversification of the productive base of the economy.

Okoye, Modebe, Erin and Evbuomwan (2020) investigated the effect of external debt on economic growth in Nigeria from 1981 to 2015. Specifically, the study examines whether external borrowings and its major determinants like exchange rate, gross fixed capital formation and inflation rate have supported the growth of the Nigerian economy. The parameters of the model were estimated using the ordinary least squares method. The robustness of the result was enhanced using the generalized least squares technique. The result shows evidence of significant positive correlation between economic growth and the explanatory variables namely external debt, exchange rate and inflation rate. A negative correlation was however observed between economic growth and gross fixed capital formation.

Empirical evidence showed mixed empirical findings on the relationship between external debt and the real sector. The differences in empirical findings especially indicate a huge knowledge gap. This might be as a result of the differences period covered and the differences in methodology adopted in analyzing the data. This study will improve on the previous ones by considering the effect of external debt on the Nigerian real sector by extending number of years covered.

METHODOLOGY

The study adopted ex post facto research design. The data used in this study was time series and taken from the year 1991 to 2021, so there were a total thirty (31) years data which were obtained to conduct the study. Data were sourced from the Central Bank of Nigeria Statistical Bulletin. Data on external debt stock, external debt servicing, inflation rate, exchange rate, Agricultural Sector Output, Manufacturing Sector Output and Construction Sector Out were collected for empirical analysis.

The model used in this study investigated the impact of external debt on the Nigerian real sector. This is in line with the model used by Festus and Saibu (2019) and Odubuasi, Uzoka and Anichebe (2018).

The linear regression model is stated in a functional form as;

$$ASO = F(EXD, EXDS, INF, EXR)$$

$$MSO = F(EXD, EXDS, INF, EXR)$$

$$CSO = F(EXD, EXDS, INF, EXR)$$

Where

ASO = Agricultural Sector Output

MSO = Manufacturing Sector Output

CSO = Construction Sector Output

EXD = External debt stock

EXDS = External Debt Service Payment

INF = Inflation Rate

EXR = Exchange rate

This equation can be restated in an econometric form as:

$$ASO = \beta_0 + \beta_1 EXD + \beta_2 EXDS + \beta_3 INF + \beta_4 EXR + \mu \quad - \quad - \quad - \quad (1)$$

$$MSO = \beta_0 + \beta_1 EXD + \beta_2 EXDS + \beta_3 INF + \beta_4 EXR + \mu \quad - \quad - \quad - \quad (2)$$

$$CSO = \beta_0 + \beta_1 EXD + \beta_2 EXDS + \beta_3 INF + \beta_4 EXR + \mu \quad - \quad - \quad - \quad (3)$$

Where

β_0 = Autonomous or intercept

β_1 = Coefficient of parameter EXD

β_2 = Coefficient of parameter EXDS

β_3 = Coefficient of parameter INF

β_4 = Coefficient of parameter EXR

μ = Stochastic variable or error term

The above equation can also be restated in its logged form as;

$$LASO = \beta_0 + \beta_1 LEXD + \beta_2 LEXDS + \beta_3 LINF + \beta_4 LEXR + \mu \quad - \quad - \quad (4)$$

$$LMSO = \beta_0 + \beta_1 LEXD + \beta_2 LEXDS + \beta_3 LINF + \beta_4 LEXR + \mu \quad - \quad - \quad (4)$$

$$LCSO = \beta_0 + \beta_1 LEXD + \beta_2 LEXDS + \beta_3 LINF + \beta_4 LEXR + \mu \quad - \quad - \quad (6)$$

Where

LASO = Log of Agricultural Sector Output

LMSO = Log of Manufacturing Sector Output

LCSO = Log of Construction Sector Output

LEXD = Log of External debt stock

LEXDS = Log of External Debt Service Payment

LINF = Log of Inflation Rate

LEXR = Log of Exchange rate

$\beta_0, \beta_1, \beta_2, \beta_3, \beta_4$ = Parameters

μ = Error term

The statistical tools to be used in this study are presented below.

Descriptive Statistics: Descriptive statistics used to measure the mean, media, maximum and minimum values, standard deviation, skewness, kurtosis, Jarque-Bera and probability. The essence is to normality or otherwise of the data used in the analysis.

Unit Root Tests: One of the important types of data used in most empirical works is time-series data. These empirical works that are based on time-series data always assume that the underlying time series is

stationary. A stationary time series is the one whose mean, variances, and auto-covariance are constant over time. However, it is widely known that most economic time series are non-stationary and the regression of a non-stationary time series on another non-stationary time series may lead to spurious regression. A spurious regression is one with high R-squared and significant t-ratios even when there is no theoretically meaningful relationship between the variables of interest. To avoid the problem of spurious regression, there is a need for unit root test (that is, to test whether a variable is stationary or not).

Cointegration Test: After checking for unit root the test of co integration can be performed. Co-integration test tells about whether there exists long term relationship between the variables. The prerequisite of applying this test is to first check for unit root so that it is decided whether the series is stationary or not. For testing the existence of co-integration between the variables a method developed by Johansen and Juselius (1990) is used..

Error Correction Mechanism: If a stable long-run relationship is confirmed from the Johansen co-integration test, then we shall estimate the short-run dynamic coefficients through error correction model. The sign of the ECM(-1) must be negative and significant to ensure convergence of the dynamics to the long-run equilibrium. The value of the coefficient, which signifies the speed of convergence to the equilibrium process, usually ranges from -1 to 0. While -1 signifies perfect and instantaneous convergence, 0 means no convergence after a shock in the process.

RESULTS

Descriptive Statistics

The descriptive statistics account for the values of mean, minimum, maximum, standard deviation, skewedness, Kurtosis, Jarque-Bera test alongside its p-value. The results of the descriptive statistics are presented Tables 1 below.

Table 1: Descriptive Statistics

	ASO	CSO	MSO	EXD	EXDS	EXR	INF
Mean	10058.36	1348.404	2842.565	2524.888	631.7596	111.1666	18.78966
Median	10222.47	981.4500	2900.150	1026.900	251.7900	130.2900	12.50000
Maximum	18348.18	2680.220	4667.760	12750.61	3265.473	195.5500	72.81000
Minimum	3590.840	459.9700	2079.320	328.4500	19.40026	9.910000	5.380000
Std. Dev.	5344.532	844.2143	609.7058	2983.860	833.4175	61.39676	17.03369
Skewness	0.114973	0.498743	1.142429	1.950116	1.747795	-0.619741	2.017926
Kurtosis	1.479741	1.584296	4.535264	6.442924	5.242655	1.818465	5.907974
Jarque-Bera	2.856576	3.624029	9.156276	32.70419	20.84212	3.543246	29.89950
Probability	0.239719	0.163325	0.110274	0.361713	0.139611	0.170057	0.341049
Sum	291692.4	39103.73	82434.38	73221.74	18321.03	3223.830	544.9000
Sum Sq. Dev.	8.00E+08	19955538	10408752	2.49E+08	19448374	105547.8	8124.104
Observations	30	30	30	30	30	30	30

Source: Researcher’s Computations from E-view Version 9.0

Table 1 above shows the descriptive characteristics of the individual variables. Table above shows that the mean series for the variables are 10058.36 for agricultural sector output, 1348.404 for construction sector output, 2842.565 for manufacturing sector output, 2524.888 for external debt, 631.7596 for external debt servicing, 111.1666 for exchange rate and 18.78966 for inflation rate. External debt and external debt servicing recorded standard deviation values that are higher than their respective mean indicating high volatility since the mean score is less than the standard deviation. While agricultural sector output, manufacturing sector output, construction sector output, exchange rate and inflation recorded standard deviation values that are lower than their respective mean indicating low volatility since the mean score is greater than the standard deviation.

The study also revealed the minimum and maximum values of the individual variables. Agricultural sector output, manufacturing sector output, construction sector output, gross domestic product, external debt, external debt servicing, exchange rate and inflation recorded maximum value of 18348.18, 2680.220, 4667.760, 12750.61, 3265.473, 195.5500 and 72.81000; and minimum values of 3590.840,

459.9700, 2079.320, 328.4500, 19.40026, 9.910000 and 5.380000 respectively. Jarque-Bera statistics shows that agricultural sector output, manufacturing sector output, construction sector output, external debt, external debt servicing, exchange rate and inflation rate have the value of 2.856576, 3.624029, 9.156276, 32.70419, 20.84212, 3.543246, and 29.89950 respectively and their respective probability values are 0.239719, 0.163325, 0.110274, 0.361713, 0.139611, 0.170057 and 0.341049 which are statistically significant indicating that they are normally distributed.

Unit Root Test

The summary of Augmented Dickey-Fuller (ADF) tests for each of the countries were presented in the tables below.

Table 2: Augmented Dickey-Fuller (ADF) Criteria

AT LEVELS							
Variables	ADF Statistics	Critical Values			Order of Integration	P - Value	Remark
		1%	5%	10%			
ASO	-2.316020	-3.670170	-2.963972	-2.621007	1(0)	0.1737	Non-stationary
CSO	-2.816457	-3.626784	-2.945842	-2.611531	1(0)	0.1321	Non-stationary
MSO	-3.198480	-3.621023	-2.943427	-2.610263	1(0)	0.1381	Non-stationary
EXD	0.908844	-3.646342	-2.954021	-2.615817	1(0)	0.9944	Non-stationary
EXDS	8.402199	-3.639407	-2.951125	-2.614300	1(0)	1.0000	Non-stationary
EXR	-0.981612	-3.639407	-2.951125	-2.614300	1(0)	0.7486	Non-stationary
INF	-2.643942	-3.699871	-2.976263	-2.627420	1(0)	0.1010	Non-stationary
AT FIRST DIFFERENCE							
Variables	ADF Statistics	Critical Values			Order of Integration	P - Value	Remark
		1%	5%	10%			
ASO	-4.146308	-3.646342	-2.954021	-2.615817	1(1)	0.0009	Stationary
CSO	-4.482048	-3.615588	-2.941145	-2.609066	1(1)	0.0010	Stationary
MSO	-7.808418	-3.626784	-2.945842	-2.611531	1(1)	0.0000	Stationary
EXD	-5.675864	-3.646342	-2.954021	-2.615817	1(1)	0.0003	Stationary
EXDS	-4.541857	-3.661661	-2.960411	-2.619160	1(1)	0.0010	Stationary
EXR	-5.654742	-3.646342	-2.954021	-2.615817	1(1)	0.0000	Stationary
INF	-4.460650	-3.711457	-2.981038	-2.629906	1(1)	0.0002	Stationary

Source: Researcher's Computation from E-View Version 9.0

Since the decision rule is to reject stationarity if ADF statistics is less than 5% critical value, and accept stationarity when ADF statistics is greater than 5% criteria value, the table above reveals that agricultural sector output, manufacturing sector output, construction sector output, external debt, external debt servicing, inflation rate and exchange rate were differenced once before they assume stationarity. This implies that all the variables are stationary at first difference.

Co Integration Test

Co integration test reveals whether there is a long run equilibrium relationship that exists between the variables to be used for estimation. For this study, the Johansen's System Co Integration Test was used. The full result for this test is attached as appendix. However, the key components of the results for each of the countries are shown in the below table.

Table 3: Johansen's System Co Integration Test for External Debt Stock and Nigerian Agricultural Sector

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.680214	99.79911	69.81889	0.0000
At most 1 *	0.590334	62.17566	47.85613	0.0013
At most 2 *	0.454245	32.72607	29.79707	0.0223
At most 3	0.303335	12.74177	15.49471	0.1246
At most 4	0.024362	0.813891	3.841466	0.3670

Trace test indicates 3 cointegrating eqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.680214	37.62345	33.87687	0.0170
At most 1 *	0.590334	29.44960	27.58434	0.0285
At most 2	0.454245	19.98430	21.13162	0.0717
At most 3	0.303335	11.92787	14.26460	0.1134
At most 4	0.024362	0.813891	3.841466	0.3670

Max-eigenvalue test indicates 2 cointegrating eqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

Source: Researcher's Computations from E-View Version 9.0

Table 3 above showed that Trace Statistic and Maximum Eigenvalue have 3 and 2 cointegrating equations respectively. This shows that long term relationship exists between the variables used in model one. That is, the linear combination of these variables cancels out the stochastic trend in the series. This will prevent the generation of spurious regression results. Hence, the implication of this result is a long run relationship between dependent and the explanatory variables used in the model.

Table 4: Johansen's System Co Integration Test for External Debt Stock and Nigerian Manufacturing Sector

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.969355	426.4511	239.2354	0.0000
At most 1 *	0.892858	297.4950	197.3709	0.0000
At most 2 *	0.777900	214.8518	159.5297	0.0000
At most 3 *	0.738649	159.1805	125.6154	0.0001
At most 4 *	0.669111	109.5306	95.75366	0.0040
At most 5	0.543720	68.60957	69.81889	0.0622
At most 6	0.350339	39.57756	47.85613	0.2380
At most 7	0.309455	23.61927	29.79707	0.2170
At most 8	0.156988	9.919141	15.49471	0.2870
At most 9	0.092726	3.600498	3.841466	0.0578

Trace test indicates 5 cointegrating eqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.969355	128.9560	64.50472	0.0000
At most 1 *	0.892858	82.64323	58.43354	0.0001
At most 2 *	0.777900	55.67128	52.36261	0.0221
At most 3 *	0.738649	49.64992	46.23142	0.0208
At most 4 *	0.669111	40.92101	40.07757	0.0401
At most 5	0.543720	29.03201	33.87687	0.1699
At most 6	0.350339	15.95829	27.58434	0.6694
At most 7	0.309455	13.70013	21.13162	0.3901
At most 8	0.156988	6.318643	14.26460	0.5727
At most 9	0.092726	3.600498	3.841466	0.0578

Max-eigenvalue test indicates 5 cointegrating eqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

Source: Researcher's Computations from E-view 9.

Table 4 indicates that trace have only 5 cointegrating variables in the model while Maximum Eigenvalue indicated 5 cointegrating equation. Hence, the trace statistics and Eigenvalue statistics reveal that there is a long run relationship between the variables in model Two. That is, the linear combination of these variables cancels out the stochastic trend in the series. This prevents the generation of spurious regression results. Hence, the implication of this result is a long run relationship between dependent and the explanatory variables used in the model.

Table 5: Johansen's System Co Integration Test for External Debt Stock and Nigerian Construction Sector

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.994519	656.0563	239.2354	0.0000
At most 1 *	0.977175	463.4204	197.3709	0.0001
At most 2 *	0.936353	323.5640	159.5297	0.0000
At most 3 *	0.843435	221.6508	125.6154	0.0000
At most 4 *	0.807684	153.0422	95.75366	0.0000
At most 5 *	0.638704	92.04341	69.81889	0.0003
At most 6 *	0.423797	54.37526	47.85613	0.0108
At most 7 *	0.358516	33.97735	29.79707	0.0156
At most 8 *	0.272692	17.55043	15.49471	0.0242
At most 9 *	0.144382	5.769458	3.841466	0.0163

Trace test indicates 5 cointegrating eqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.994519	192.6359	64.50472	0.0001
At most 1 *	0.977175	139.8564	58.43354	0.0000
At most 2 *	0.936353	101.9131	52.36261	0.0000
At most 3 *	0.843435	68.60856	46.23142	0.0001
At most 4 *	0.807684	60.99883	40.07757	0.0001
At most 5 *	0.638704	37.66815	33.87687	0.0168
At most 6	0.423797	20.39791	27.58434	0.3143
At most 7	0.358516	16.42692	21.13162	0.2009
At most 8	0.272692	11.78097	14.26460	0.1191
At most 9 *	0.144382	5.769458	3.841466	0.0163

Max-eigenvalue test indicates 3 cointegrating eqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

Source: Researcher's Computations from E-view 9.0.

Table 5 indicates that trace have only 5 cointegrating variables in the model while Maximum Eigenvalue indicated 3 cointegrating equation. Hence, the trace statistics and Eigenvalue statistics reveal that there is a long run relationship between the variables in the model three. The implication of this result is a long run relationship between dependent and the explanatory variables used in the model.

Error Correction Model (ECM)

In this section, the Error Correction Model (ECM) results for each of the countries were presented and interpreted. Using the estimated result of the fitted regression line in tables below, the analyses was done based on the coefficient of the independent variables, the statistical significance of the individual variables (t-statistics), coefficient of determination (R^2)/Adjusted R^2 , F-statistics, Durbin-Watson (DW) statistics and error correction mechanism.

Table 6: ECM for External Debt Stock and Nigerian Agricultural Sector

Dependent Variable: LASO

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	9.921806	0.176663	56.16236	0.0000
LEXD(-1)	-0.146686	0.033710	-4.351446	0.0001
LEXDS(-1)	-0.347532	0.033766	-10.29247	0.0000
LEXR(-1)	0.001840	0.048584	0.037877	0.9700
LINF(-1)	-0.090498	0.037641	-2.404268	0.0226
ECM (-1)	-0.368271	0.132652	-2.112975	0.0057
R-squared	0.539570	Mean dependent var		10.41788
Adjusted R-squared	0.531513	S.D. dependent var		0.546199
S.E. of regression	0.142941	Akaike info criterion		0.921208
Sum squared resid	0.612963	Schwarz criterion		0.699016
Log likelihood	21.12114	Hannan-Quinn criter.		0.844507
F-statistic	116.6103	Durbin-Watson stat		1.592089
Prob(F-statistic)	0.000000			

Source: Researcher's Computations from E-View Version 9.0 .

The result in table 6 showed that external debt has coefficient value of -0.146686 with a t-statistics value of -4.351446 and a probability value of 0.0001 which is highly significant. This indicates that a unit increase in external debt brought about 0.146686 decrease in agricultural sector output all thing being equal. External debt servicing has coefficient value of -0.347532 with a t-statistics value of -10.29247 and a probability value of 0.0000 which is highly significant. This implies that a unit increase in external debt servicing brought about 0.347532 decreases in agricultural sector output within the period under review.

The coefficient of determination (R^2) value of 0.539570 with adjusted R^2 value of 0.531513 indicates that the explanatory power of the variables is relatively average. This implies that 54% of the variations in agricultural sector output in Nigeria was accounted by the variations in external debt stock, external debt servicing, inflation rate and exchange rate. The F-statistic value of 116.6103 with f-probability value of 0.000000 indicates that external debt variables used in this study has significant effect on agricultural sector output in Nigeria all thing being equal. The Durbin Watson Statistic value of 1.592089 which can be approximated to 2 indicates that there is no autocorrelation in the model. Hence, the model can be used for realistic forecasts. The coefficient of ECM is negative which is theory consistent indicating the speed of convergence to equilibrium at 36.8% of the past years deviation from equilibrium. The adjustment is essential for maintaining a long-run equilibrium to reduce disequilibrium overtime.

Table 7 ECM for External Debt Stock and Nigerian Manufacturing Sector

Dependent Variable: LMSO

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.901394	0.385845	2.336154	0.0266
LEXR	0.044212	0.021122	2.093170	0.0452
LINF	0.134347	0.070922	1.894285	0.0682
LEXDS	-0.004349	0.026352	-0.165041	0.8701
LEXD	-0.050693	0.018075	-2.804644	0.0089
ECM(-1)	-0.489467	0.191553	-2.555258	0.0166
R-squared	0.644778	Mean dependent var		2.514606
Adjusted R-squared	0.627640	S.D. dependent var		0.389170
S.E. of regression	0.104686	Akaike info criterion		-1.459145
Sum squared resid	0.317817	Schwarz criterion		-1.032590
Log likelihood	38.45332	Hannan-Quinn criter.		-1.306101
F-statistic	55.12774	Durbin-Watson stat		1.815339
Prob(F-statistic)	0.000000			

Source: Researcher's Computations from E-View Version 9.0

Table 7 indicates that external debt has coefficient value of -0.050693 with a t-statistics value of -2.804644 and a probability value of 0.0089 which is significant. This indicates that a unit increase in external debt brought about 0.050693 decrease in manufacturing sector output in Nigeria all thing being equal. External debt servicing has coefficient value of -0.004349 with a t-statistics value of -0.165041 and a probability value of 0.8701 which is highly significant. This implies that a unit increase in external debt servicing brought about 0.004349 decreases in manufacturing sector output within the period under review though it is statistically insignificant.

Table 7 further shows coefficient of determination (R^2) value of 0.644778 with adjusted R^2 value of 0.627640 indicates that the explanatory power of the variables is relatively high. This implies that 62.8% of the variations in manufacturing sector output in Nigeria are accounted by the variations in external debt stock, external debt servicing, inflation rate and exchange rate. The F-statistic value of 55.12774 with f-probability value of 0.000000 indicates that external debt variables used in this study has significant effect on manufacturing sector output in Nigeria all thing being equal. The Durbin Watson Statistic value of 1.815339 which can be approximated to 2 indicates that there is no autocorrelation in the model. Hence, the model can be used for realistic forecasts.

The ECM estimate in table 7 above have a negative error correction term value of -0.489467 and it was also found to be statistically significant at 5% level. This suggests that the previous years would be corrected in the following year at an adjustment rate of 48.9%. Hence, there is convergence of the study variables (external debt stock, external debt servicing, inflation rate and exchange rate) to long run relationship equilibrium relationship. On this premise, we conclude that the coefficients are significantly differently from zero signposting that external debt stock on the overall has high statistical significant effect on manufacturing sector output in Nigeria on the short run.

Table 8 ECM for External Debt Stock and Nigerian Construction Sector

Dependent Variable: LCSO

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	4.964204	0.374487	13.25603	0.0000
LEXR	0.071582	0.020091	3.562850	0.0014
LINF	-0.320004	0.073452	-4.356663	0.0002
LEXDS	0.021283	0.027181	0.782987	0.4404
LEXD	-0.089354	0.018462	-4.839816	0.0000
ECM(-1)	-0.469432	0.121871	-2.321238	0.0271
R-squared	0.764784	Mean dependent var		3.824044
Adjusted R-squared	0.714704	S.D. dependent var		0.224308
S.E. of regression	0.096556	Akaike info criterion		-1.600192
Sum squared resid	0.251722	Schwarz criterion		-1.126154
Log likelihood	41.40365	Hannan-Quinn criter.		-1.431533
F-statistic	17.26804	Durbin-Watson stat		1.909154
Prob(F-statistic)	0.000000			

Source: Researcher's Computations from E-View Version 9.0

The result in table 8 showed that external debt has coefficient value of -0.089354 with a t-statistics value of -4.839816 and a probability value of 0.0000 which is highly significant. This indicates that a unit increase in external debt brought about 0.110707 decrease in construction sector output in Nigeria all thing being equal. External debt servicing has coefficient value of 0.021283 with a t-statistics value of 0.782987 and a probability value of 0.4404 which is highly insignificant. This implies that a unit increase in external debt servicing brought about 0.021283 increases in construction sector output within the period under review though it is statistically insignificant.

The coefficient of determination (R^2) value of 0.764784 with adjusted R^2 value of 0.714704 indicates that the explanatory power of the variables is relatively high. This implies that 71.5% of the variations in construction sector output in Nigeria are accounted by the variations in external debt stock, external debt

servicing, inflation rate and exchange rate. The F-statistic value of 17.26804 with f-probability value of 0.000000 indicates that external debt variables used in this study has significant effect on construction sector output in Nigeria all thing being equal. The Durbin Watson Statistic value of 1.909154 which can be approximated to 2 indicates that there is no autocorrelation in the model. Hence, the model can be used for realistic forecasts.

The ECM estimate in Table 8 above reported a negative error correction term value of -0.469432 and it was also found to be statistically significant at 5% level. This suggests that the previous years would be corrected in the following year at an adjustment rate of 46.94%. Hence, there is convergence of the study variables (external debt stock, external debt servicing, inflation rate and exchange rate) to long run relationship equilibrium relationship. On this premise, we conclude that the coefficients are significantly differently from zero signposting that external debt stock on the overall has high statistical significant effect on construction sector output in Nigeria on the short run.

Test of Hypotheses

In this section, the hypotheses were tested for empirical significance. The test was done with the f-statistics value and probability value in the ECM results. Accept the null hypothesis (H_0) if p-value is greater than 0.05 (i.e $p > 0.05$). On the other hand, reject null hypothesis if p-value is less than 0.005 (ie $P < 0.05$).

Hypothesis One

H_{01} : External debt stock has no significant effect on Nigerian agricultural sector.

Based on the f-statistics value of 116.6103 and the probability value of 0.000000 in Table 6 which is statistically significant, we reject the null hypothesis and accept the alternative hypothesis. This implies that external debt stock had significant effect on Nigerian agricultural sector.

Hypothesis Two

H_{02} : External debt stock has no significant effect on Nigerian manufacturing sector.

Based on the f-Statistics value of 55.12774 and the probability value of 0.000000 in Table 7 which is statistically significant, we reject the null hypothesis and accept the alternative hypothesis. This implies that external debt stock had significant effect on Nigerian manufacturing sector.

Hypothesis Three

H_{03} : External debt stock has no significant effect on Nigerian construction sector.

Based on the f-Statistics value of 17.26804 and the probability value of 0.000000 in Table 8 which is statistically significant, we reject the null hypothesis and accept the alternative hypothesis. This implies that external debt stock had significant effect on Nigerian construction sector.

DISCUSSION OF FINDINGS

The study investigated the effect of external debt burden on real sector of the Nigerian economy from 1991 to 2021. The generated were subjected to empirical analyses and the following were discovered. The study found that external debt stock had significant effect on Nigerian agricultural sector. This implies that external borrowing has significant positive influence on agricultural sector of Nigeria. This agrees with the findings of Ehikioya, Omankhanlen, Osuma and Inua (2020) that a long-run equilibrium relationship between external debt and economic growth in Africa.

The study also found that external debt stock had significant effect on Nigerian manufacturing sector. This indicates that external debt was instrumental to the growth in the manufacturing sector. This agrees with the findings of Njoroge (2020) that a positive long-run relationship exists between public debt and real GDP growth.

The study further found that external debt stock had significant effect on Nigerian construction sector. This implies that external debt exert significant positive effect on the Nigerian construction sector. This agrees with the findings of Khatundi (2020) that external debt was significant in explaining economic growth.

CONCLUSION

The study concludes that external debt burden has significant effect on real sector of the Nigeria economy. The findings of this study reinforce the need for policymakers to ensure proper application of external debt on the real sector of the economy that would lead to sustained long-term economic performance. The findings suggested that the government should direct the borrowed funds to the diversification of the productive base of the economy. This will improve long-term economic growth, expand the revenue base and strengthen the capacity to repay outstanding debts when due.

The study recommends that government should direct the borrowed funds to the diversification of the productive base of the economy. This will improve long-term economic growth, expand the revenue base and strengthen the capacity to repay outstanding debts when due. Fiscal improvements that encourage domestic resource mobilization, efficient debt management strategies and reliance on domestic debt rather than external debt for increased deficit financing to engender greater growth are the main contribution of the study. The government should also maintain sustainable level of external debt in order to achieve desirable level of growth in the real sector. The external debt obtained by the government should be allocated strictly to capital projects such as infrastructure development to spur growth in the real sector.

REFERENCES

- Abdulkarim, Y., & Saidatulakmal, M. (2021). The impact of government debt on economic growth in Nigeria. *Cogent Economics and Finance*, 9, 1 – 19.
- Ajayi, S. I. & Khan, M.S. (2000). *External Debt and Capital Flight in Sub-Saharan Africa*. IMF: International Monetary Fund Publication.
- Arnone, M., Bandiera, L., & Presbitero, A. (2005). *External debt sustainability: Theory and empirical evidence*. Retrieved from <http://www3.unicatt.it/dipartimenti/DISES/allegati/ArnoneBandieraPresbitero.pdf>
- Audu, I. (2004). *The Impact of External Debt on Economic Growth and Public Investment: the Case of Nigeria*. Dakar, Senegal: African Institute for Economic Development and Planning (IEDP).
- Ayaji, I.E. & Edewusi, D.G. (2020). Effect of public debt on economic growth of Nigeria: An empirical investigation. *International Journal of Business and Management Review*, 8(1), 18 – 38.
- Bacha, E. L. (1990). A Three-gap model of foreign transfers and the GDP growth in developing countries. *Journal of Development Economics*, 32, 279 – 296.
- Burriel, P., Checherita-Westphal, C., Jacquinot, P., Schön, M., & Stähler, N. (2010): Economic consequences of high public debt: Evidence from three large scale DSGE models. European Central Bank, Working Paper Series No. 2450.
- Charles, O. (2012). Domestic debt and the growth of Nigerian economy. *Research Journal of Finance and Accounting*, 3(5), 45 – 56.
- Coeuré, B. (2016). Sovereign debt in the euro area: Too safe or too risky? Keynote address by Benoît Coeuré, Member of the Executive Board of the European Central Bank, at Harvard University's Minda de Gunzburg Center for European Studies in Cambridge, MA.
- Ehikioya, B.I., Omankhanlen, A.E., Osuma, G.O., & Inua, O.I. (2020). Dynamic relations between public external debt and economic growth in African countries: A curse or blessing? *Journal of Open Innovation: Technology, Market, and Complexity*, 6(88), 1 – 16
- George-Anokwuru, C.C., & Inimino, E.E. (2020). External debt and economic growth in Nigeria. *International Journal of Research and Innovation in Social Science*, IV(IV), 254 – 265.
- Idenyi, O.S., Igberi, C.O. & Anoke, C.I. (2016). Public debt and public expenditure in Nigeria: A causality analysis. *Research Journal of Finance and Accounting*, 7(10), 27 – 38.
- Khatundi, V. (2020). The effect of public debt on economic growth in Kenya. *M.Sc. Thesis*, School of Business and Public Management at KCA University.
- Kletzer, K., & Wright, B. (2009). *Sovereign Debt as Intertemporal Barter*. Mimeograph, University of California, Santa Cruz.
- Mhlaba, N., Phiri, A., & Nsiah, C. (2019). Is public debt harmful towards economic growth? New evidence from South Africa. *Cogent Economics and Finance*, 7(1), 1603 653.

- Musibau, H.O., Mahmood, S., Ismail, S., Shamsuddin, Z., & Rashid, N. (2018). Does External Debt Cause Economic Growth? An Experience from ECOWAS Member Countries. *International Journal of Academic Research in Business and Social Sciences*, 8(11), 1256 – 1264.
- Ndubuisi, N. (2017). Analysis of the impact of external debt on economic growth in an emerging economy: Evidence from Nigeria. *African Research Review*, 11(4), 156 -173.
- Njoroge, L.W.N. (2020). Impact of Kenya's public debt on economic stability. *Doctor of Philosophy Dissertation*, Walden University.
- Obadan, M.I. (2004). External Sector Policy. *CBN Bullion*, 28(1), 30 - 40.
- Odubuasi, A.C., Uzoka, P.U., & Anichebe, A.S. (2018). External debt and economic growth in Nigeria. *Journal of Accounting and Financial Management*, 4(6), 98-108.
- Okoye, L.U., Modebe, N.J., Erin, O.A., & Egbuomwan, G.O. (2020). Effect of external debt on economic growth: Evidence from Nigeria. Sustainable Economic Growth, Education Excellence, and Innovation Management through Vision 2020, 4046 – 4058.
- Osinubi, T.S. & Olaleru, O.E. (2006). Budget deficits, external debt and economic growth in Nigeria. *Applied Econometrics and International Development*, 6(3), 27 - 32.
- Rahman, N.H.A. (2012). How federal government's debt affect the level of economic growth? *International Journal of Trade, Economics and Finance*, 3(4), 323 – 326.
- Senadza, B., Fiagbe, A.K., & Quartey, P. (2018). The effect of external debt on economic growth in Sub-Saharan Africa. *International Journal of Business and Economic Sciences Applied Research, Eastern Macedonia and Thrace Institute of Technology, Kavala*, 11(1), 61 – 69.
- Tiruneh, M. W. (2004). An empirical investigation into the determinants of external indebtedness. PRAGUE Economic Papers, 3, University of Munich, Munich, Germany.
- Todaro, M., & Smith, S., (2011). *Economic development*. Ed.11, USA, Addison-Wesley Publishers. Retrieved from https://www.elibrary.kiu.ac.ug:8080/xmlui/bitstream/handle/1/850/Economic_Development.pdf.on 22/06/2021
- Ugwu, J.I., & Nzewi, U.C. (2016). An evaluation of the effect of external debt on economic growth indices in Nigeria. A paper presented in 2016 International Conference of Faculty of Management Sciences, Nnamdi Azikiwe University, Awka; at the University Auditorium from 8th-10th November.