



Domestic Debt and Economic Growth in Nigeria: Decades of Unending Dilemma

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Abstract

This study examines the empirical relationship between domestic debt and the performance of the Nigerian economy using annual time series data obtained from various editions of the Central Bank of Nigeria's Statistical Bulletin, the Debt Management Office, and the World Development Indicators (WDI). Gross Domestic Product (GDP) is used as a proxy for economic growth and serves as the dependent variable, while domestic debt, debt servicing, interest rate, exchange rate, capital (proxied by gross capital formation), and labor (proxied by the labor force participation rate) are the independent variables. The study employs unit root tests for co-integration and the Autoregressive Distributed Lag (ARDL) technique as its estimation methods. The findings reveal that domestic debt has a significant positive impact on economic growth; however, the growth-enhancing effect of domestic debt is substantially diminished by debt servicing obligations. The policy implication of this result is that the government should ensure domestic debt management strategies align with the optimal debt threshold that maximizes growth. In addition, the government is encouraged to implement fiscal reforms aimed at improving domestic debt management and accelerating economic growth, especially in light of recent trends indicating that excessive debt servicing poses a threat to economic expansion.

Keywords: Domestic debt, Growth, Nigeria, Debt Overhang, Crowding out, GDP, Tax

Introduction

Theoretical and empirical studies on the relationship between financial development and economic growth have occupied a central position in macroeconomic literature, especially in the context of developing economies like Nigeria. One area that has received significant attention is the relationship between domestic debt and economic growth, as it is believed to play a pivotal role in the development process. Unfortunately, in Nigeria, domestic debt has assumed a critical role in the economy due to its rapidly increasing and often unsustainable profile. According to Iweala (2011), if left unchecked, this trend could lead to adverse economic consequences. She noted that while government borrowing through domestic debt instruments is a necessary strategy to finance development projects, it must be carefully managed. At a time when unemployment is high and global economic recovery remains uncertain, domestic debt becomes a crucial subject of investigation.

Gupta (2002) defined domestic debt as debt issued by the federal government and denominated in local currency. While state and local governments can also issue debt instruments, the primary instruments currently in use include Nigerian treasury bills, treasury bonds, and federal government development bonds. Alison et al. (2013) identified three key purposes for which governments incur domestic debt: to finance budget deficits, to implement monetary policy, and to develop instruments that deepen the financial market. While domestic debt can positively impact growth by stimulating aggregate demand and output in the short run, its long-run effects may turn negative due to the crowding out of capital and output (Elmendorf et al., 1998).

Although domestic debt can help reduce macroeconomic risks, its absorption of financial resources raises concerns such as limited credit availability for the private sector and weak financial development. Therefore, effective debt management is essential to ensure debt accumulation does not become counterproductive. As of the fourth quarter of 2023, Nigeria's domestic debt surged to ₦59.12 trillion, accounting for 61% of the total public debt (DMO, 2023). This alarming increase has led to the crowding out of private sector investment. Despite government efforts to manage and minimize the debt burden, the growing domestic debt profile continues to hinder economic growth. Contributing factors include persistent budget deficits, low output growth, escalating public expenditure, and high inflation rates.

Government intervention in resource allocation through the provision of public goods and services arises from market failure. To fulfill this role, the government often incurs substantial expenditures. Like many developing countries, Nigeria faces rising public expenditures without a commensurate increase in revenues, necessitating government borrowing. When conventional revenue sources, such as taxes and non-tax revenues, are inadequate, borrowing becomes essential to finance fiscal deficits, stimulate domestic investment, and foster economic growth.

Oshadami (2006) defined domestic debt as debt instruments issued by the federal government and denominated in local currency. Similarly, Adafu and Abula (2010) noted that sub-national governments can also issue debt instruments. Currently, Nigeria's domestic debt instruments include treasury bills, federal government development stocks, and treasury bonds. Among these, treasury bills and development stocks are marketable and negotiable, while treasury bonds and advances are non-marketable and held exclusively by the Central Bank of Nigeria (CBN).

Like other developing nations, Nigeria is characterized by low domestic capital formation, a result of limited productive resources, low income, and inadequate savings. The country's rising fiscal deficits have significantly contributed to the growing stock of domestic debt. This alarming increase has drawn widespread public concern regarding the sustainability of current fiscal policies. These concerns are further compounded by the short maturity period of many debt instruments and the fact that the CBN remains the dominant holder of federal domestic debt. Other sources of domestic debt include commercial banks, merchant banks, the broader banking system, and the non-bank public (CBN, 2023). These sources are crucial for achieving fiscal sustainability.

Economic development in low-income countries can only be achieved by closing the domestic resource gap (Adom, 2016). Therefore, it is imperative for the federal government to engage in domestic borrowing—provided the funds are directed toward productive ventures that ensure timely servicing and eventual repayment. In this sense, borrowing serves as a useful injection into the economy. However, excessive borrowing can crowd out private investment, reduce output and wages, and increase vulnerability among citizens. At present, the Nigerian economy faces numerous security challenges, while the government appears unable to effectively manage its rising domestic debt. As the debt level climbs to unprecedented heights, Nigeria's international credibility is increasingly at risk.

The economic implications of Nigeria's growing debt profile are both urgent and widely debated in public discourse. Many developing countries face similar challenges, which significantly impede their economic progress. It is also widely acknowledged that an economy heavily reliant on borrowing is unlikely to achieve long-term prosperity (Ogbe, 1992). While borrowing may serve as a temporary measure to stimulate growth, once a nation's debt burden exceeds a sustainable threshold, it becomes increasingly difficult to service, ultimately turning counterproductive. This situation often results in the crowding out of private investment and stunted economic growth. Government inaction on necessary fiscal adjustments has contributed to rising domestic debt, especially during periods of declining revenues. As a result, the burden of debt servicing diverts limited resources away from socio-economic development and poverty alleviation, placing an undue strain on the most vulnerable populations.

The rationale for government borrowing is grounded in neoclassical growth theory, which argues that capital-scarce countries must borrow to raise their capital stock and achieve a higher steady-state output per capita (Madow & Brigitte, 2019). The global economic crisis has further justified borrowing by developing countries, as they grapple with increased expenditure needs and declining capital inflows (Ogbonna, Ibenta & Atscenan, 2019). Based on these theoretical insights, this study aims to examine the impact of domestic debt on Nigeria's economic growth over the specified study period.

2.0 Literature review

2.1 Conceptual Issues

2.1.1 Concept of Domestic Debt Service

Domestic debt refers to the portion of a country's total debt that is borrowed from within its own borders, typically denominated in the local currency and sourced from domestic lenders such as commercial banks, pension funds, insurance companies, and individuals (through instruments like government bonds or treasury bills). Well-managed domestic debt has several advantages. It avoids foreign exchange risk, supports the development of the local capital market, and provides a relatively stable source of funding for the government. However, excessive or poorly managed domestic debt can have adverse effects on the economy. High levels of domestic borrowing may crowd out private sector access to credit, increase interest payments, and, if monetized (i.e., financed by central bank money creation), potentially lead to inflation.

2.1.2 Concept of Economic Growth

Economic growth refers to a sustained increase in a country's physical output over a long period (Adams, 2004). It is commonly measured by the rise in Gross Domestic Product (GDP), which represents the total monetary or market value of all finished goods and services produced within a country's borders during a specific period (Dairu, 2017). A nation is said to experience economic growth when the real output of goods and services increases at a rate faster than the growth of its population (Adams, 2004).

According to Kylon and Krusan (2001), economic growth is the process through which a nation's economy or wealth expands over time. One of its key multiplier effects is the creation of wealth and development opportunities. Katuma (2001) describes it as an increase in the production of economic goods and services from one period to another. David and Moore (2015) explain that economic growth results from the effective utilization of the four main factors of production: land, labour, capital, and entrepreneurship. Gupta and Gamaliel (2002) further define it as an increase in national output, income, and expenditure over time.

The benefits of economic growth include an improved standard of living, higher real incomes, and the government's enhanced capacity to invest in public infrastructure such as healthcare, education, and transportation. Thus, economic growth is not only a key indicator of a country's economic performance but also a critical pathway toward national development and social welfare.

2.2 Theoretical Frameworks

2.2.1 Neo-Classical Growth Theory

The Neo-Classical Growth Theory dates back to 1956 when Robert Solow proposed a formal model which posited that the key driver of economic growth is labour productivity (i.e., output per worker). In this model, technological change was considered crucial—more so than capital accumulation. The model assumes that output (Y) is produced through the utilisation of technology (A), physical capital (K), labour (L), and foreign capital (F). It is mathematically represented as: $Y = f(A, K, L, F)$, where Y denotes aggregate output, A reflects the current state of technology, K represents the stock of manufactured capital, L is the labour force, and F accounts for foreign capital (Say, 1954).

Although K, A, and L are the primary factors of production highlighted in the model, all variables contribute to output. The exponents in the production function signify their relative contribution to output, which increases as a result of technological advancements, organisational improvements, and enhanced practices. Consequently, increased government expenditure may be justified when directed towards education and health services, as these are seen as vital investments in human capital.

Within this framework, the Neo-Classical Growth Theory supports the notion that public debt, when used to finance education, health, and development, can be productive and positively influence economic growth by enhancing labour productivity, capital formation, and technological progress (Eze, Nweke & Atuma, 2019).

2.2.2 The Harrod-Domar Growth Model

The Harrod-Domar Growth Model, independently developed by Harrod in 1939 and Domar in 1946, establishes a fundamental link between national savings and economic growth. According to the model, an economy's growth rate is determined by the level of national savings and the productivity of capital investment. Therefore, an increase in both the savings rate and the marginal efficiency of capital investment results in higher rates of economic growth. It asserts that economic growth depends on policies that enhance investment through higher savings and more effective utilisation of investments via technological innovation (Harrod, 1939; Domar, 1946).

Though originally intended to explain economic growth, this model is often applied to understand the role of debt in developing economies. In such contexts, labour is typically abundant, but capital is scarce, leading to sluggish economic advancement. Low per capita income inhibits high savings rates, thus limiting capital stock accumulation through investment. In this regard, external borrowing serves as a crucial source of capital for bridging the savings-investment gap and fostering economic growth (Eaton, 1993).

2.2.3 Classical Theory of Public Debt

Classical economists viewed public debt as detrimental to economic performance, particularly when public borrowing undermines fiscal discipline and restricts the private sector's access to credit. Advocates of the *laissez-faire* approach, classical theorists believed that the state's role should be minimal, limited to maintaining law and order, providing defence, and investing in essential public works. They assumed the existence of full employment, perfect competition, and unrestricted factor mobility. Therefore, they argued that government interference in economic activities was unnecessary, and any disruption in the economy would self-correct naturally.

Under this minimal role of government, public resources could be conserved for developmental purposes. In their view, the state should avoid accumulating public debt and should ensure that public expenditure is neither wasteful nor unproductive.

Adam Smith (1776) argued that public debt arose from growing government expenditure and the ease with which merchants could lend to the state. He contended that the anticipation of loan availability during times of need discouraged budget surpluses in times of peace. Consequently, debt was often incurred during wartime to finance extraordinary expenditure. Smith rejected the notion that public debt represented additional capital in the economy, viewing it instead as a transfer of funds from the private to the public sector, especially problematic when spent on non-productive uses like wars.

Similarly, Jean-Baptiste Say (1803), in his well-known *Law of Markets*, asserted that “supply creates its own demand” and that the economy is inherently self-regulating. He discouraged public debt, drawing a clear distinction between individual and governmental borrowing. While the former typically funds productive ventures, government borrowing often supports consumption and unproductive expenditure. Say argued that public borrowing is not only unproductive because capital is consumed and lost, but also because it imposes an ongoing burden on the nation in the form of interest payments.

David Ricardo (1913) went further, describing public debt as one of the most damaging financial tools ever devised. He modified Smith and Say's arguments by emphasising that the critical issue lies in the transfer of interest rather than the initial capital loss. According to Ricardo, when annual government expenditure of, say, twenty million is funded by loans, that amount is withdrawn from the nation's productive capital. The annual interest (financed through taxes) merely redistributes income from taxpayers to creditors. He maintained that the debt itself does not impair a nation's capacity to raise taxes, and thus there is limited benefit in retiring debt if doing so only shifts the tax burden. Moreover, he warned that persistent interest obligations might encourage capital flight.

2.3 Empirical Literature

There exists a plethora of literature and ongoing debate on the concept of domestic or public debt. While the discourse was historically dominated by political scientists and scholars in the humanities, recent years have witnessed growing interest from economists. This shift has enriched the conversation with insights on the economic costs and the potentially detrimental effects of public debt on economic growth. This section reviews relevant empirical studies in this domain.

Adofu and Abula (2010), using the Ordinary Least Squares (OLS) regression technique and annual data from 1986 to 2005, investigated the empirical relationship between domestic debt and economic growth in Nigeria. Their findings revealed that domestic debt had a negative impact on economic growth. The study recommended prudent management of internally generated revenue and a minimisation of borrowing.

Supporting this perspective, Paiko (2012) examined the consequences of public debt for economic growth in the Philippines over the period 1975–2019, using the Autoregressive Distributed Lag (ARDL) technique. The results indicated that external public debt exerted a negative and significant effect on both growth and investment, affirming the existence of a debt overhang effect. However, the study found no evidence supporting the crowding-out hypothesis, as debt servicing exhibited a significant relationship with investment and economic growth. It was further revealed that domestic debt had a negative influence on investment but a positive effect on economic growth. Consequently, the study recommended that developing countries should pursue policies aimed at reducing debt burdens and ensuring sustainability.

Similarly, Babu, Symon, Aguilar and Mose (2015) analysed the effect of domestic debt on economic growth in East African countries between 1990 and 2010. They adopted an augmented Solow-Swan growth model and utilised the Hausman specification test to select a panel fixed-effects model, correcting for heteroscedasticity. The results

demonstrated that domestic debt had a significant and positive effect on economic growth in East African countries.

In a related study, Precious (2015) examined the effects of both external and domestic public debt on economic growth in Swaziland over the period 1988–2013, employing unit root tests and the OLS method. The variables considered included real GDP growth rate, domestic and external debt, government expenditure, and inflation rate. The study found that external debt had an insignificant influence on economic growth. Based on these findings, the study recommended that the government of Swaziland should ensure sustainable borrowing practices and channel borrowed funds into productive economic activities.

Furthermore, Mousa and Shawawreh (2017) investigated the impact of debt on the economic growth of Jordan. The study focused on assessing the effects of external debt, domestic debt, debt service, and overall public debt on GDP, using secondary time series data spanning 2000 to 2015. Employing the least squares regression method, the study concluded that total public debt, particularly external debt, negatively impacted economic growth. It was recommended that countries should rely more on internal resources than on external borrowing.

Alenjundro and Ileana (2017) explored the impact of government debt on GDP in 16 Latin American countries, including Bolivia, Argentina, Chile, Brazil, Costa Rica, Colombia, Dominican Republic, Mexico, Honduras, Panama, Nicaragua, Peru, Paraguay, Venezuela, and Uruguay, over the period 1960–2015. They applied the two-stage least squares (2SLS) technique in their analysis, using variables such as the initial GDP level, government debt-to-GDP ratio, and population growth rate. The results showed that debt had a positive effect on GDP growth up to a threshold (between 64% and 71% debt-to-GDP ratio), beyond which the effect tapered off and approached zero. Within these limits, additional debt appeared to stimulate growth.

Finally, Panagiotis (2018) examined the relationship between public debt and various determinants of economic growth—including private and government consumption, investment, trade openness, and population growth—in Greece. Using unit root and ARDL models, the study found mixed orders of integration among the variables. The ARDL results revealed that trade openness positively influenced economic growth in the long run. The study also explored the structural breaks in the relationship between public debt and growth, concluding that the effect of debt on growth depended on the timing and context of debt accumulation. Notably, for debt accumulated before the year 2000, the impact on growth diminished rapidly and eventually turned negative.

3.0 Methodology

This study adopted an ex post facto research design. The rationale for employing this design lies in the fact that the researcher had no control over the independent variables, and inferences about the relationships among the variables were drawn retrospectively, without any direct manipulation or contemporaneous interaction between the regressand and the regressors (Ndiyo, 2005).

The study relied entirely on secondary data. Time series data spanning the period 1981 to 2023 were obtained from reputable sources including the Central Bank of Nigeria (CBN)—notably its Statistical Bulletins and Annual Reports and Statements of Accounts—as well as from the National Bureau of Statistics (NBS) and the World Development Indicators (WDI) published by the World Bank. The key variables employed in the study include Real Gross Domestic Product (RGDP) – proxy for economic growth, Exchange Rate (EXCHR), Gross Fixed Capital Formation (GFCF), Interest Rate (INTR), Labour Force Participation Rate (LFP), Domestic Debt Service (DD)

To estimate the model and determine the nature of the relationships among the variables, a multiple regression analysis was conducted. Prior to model estimation, the data were subjected to a series of diagnostic tests. These included the Augmented Dickey-Fuller (ADF) and Phillips-Perron (PP) unit root tests to assess the stationarity of the data.

Subsequently, the Autoregressive Distributed Lag (ARDL) technique was employed for the analysis. The ARDL approach was chosen because of its flexibility in handling variables that are integrated at different orders (i.e., I(0) and I(1)), and its suitability for small sample sizes. The model was used to empirically explore the relationship between domestic debt service and economic growth, within the broader context of macroeconomic dynamics over the specified period.

3.1 Model Specification:

The model for this study is specified as follows:

3.1.1 Domestic Debt and Economic Growth equation:

The functional form of the model for domestic debt and economic growth equation for this study is given as: $RGDP = f(DD, GFCF, EXR, INTR, LFP, \dots)$ (1)

The econometric form of the model is given as:

$$RGDP_t = a_0 + a_1 DD_t + a_2 GFCF_t + a_3 EXR_t + a_4 INTR_t + a_5 LFP_t + U_t, \dots \quad (2)$$

Linearizing it we will have:

$$\log RGDP_t = \log a_0 + a_1 \log DD_t + a_2 \log GFCF_t + a_3 \log EXR_t + a_4 \log INTR_t + a_5 \log LFP_t + U_t \dots \quad (3)$$

RGDP_t – Real Gross Domestic Product growth in time t

DD_t – Domestic Debt in time t

GFCF_t – Gross fixed Capital Formation in time t

EXR_t – Exchange Rate in time t

INTR_t – interest rate in time t

LFPT – labour force participation rate in time t

U_t – Error term

a priori expectation shows that $a_1 < 0$, $a_2 > 0$, $a_3 < 0$, $a_4 < 0$, and $a_5 > 0$.

Table 1: Data Description and Sources

S/N	Variables	Description of Data	Expected Source
1	RGDP	Real GDP is the inflation adjusted total economic output of a nation's goods and services in a given period of time. Also known as "constant price GDP" inflation corrected GDP. Real GDP is derived by isolating and removing inflation from the equation by placing value at base-year prices, making GDP a more accurate reflection of a nation's economic output. GDP serves as a dependent variable in the model and a proxy for economic growth.	CBN Statistical Bulletin (2023)
2	DD	Refers to a country's borrowing from domestic financial institutions, and or available debt instruments. It is measured by debt-to-GDP ratio which compares a country's sovereign debt to its total economic output for the year. To get the debt-to-GDP ratio, divide a nation's debt by its GDP. This ratio indicates how strong a country's economy is and the likelihood of paying off her debts. It is used to compare countries or determine whether a country might be headed for economic turmoil. It serves as an explanatory variable in the model	CBN Statistical Bulletin (2023)
3	EXR	This is the rate at which a country's currency is exchanged for another country's currency. It is measured by the value of one currency in relative to another measured by Naira to Dollar. It serves as explanatory variables for the models.	CBN Statistical Bulletin (2023)

4	GFCF	This is a country's net capital accumulation in an accounting period, usually one year. It serves as explanatory variables for the models.	CBN Statistical Bulletin (2023)
5	LFP	Labour force participation rate is the proportion of the working age population that is either working or actively looking for work. This rate is an important labour market measure because it represents the relative amount of labour resources available for the production of goods and services.	CBN Statistical Bulletin (2023)
6	INTR	Interest rate is the percentage of a sum paid on the loan for investment. In the case of	World Bank Indicator (2023)

TREND ANALYSIS

The growth performance trend of gross domestic product and domestic debt is reported in Figure 1. Clearly, the trend of domestic debt growth has been generally upward.

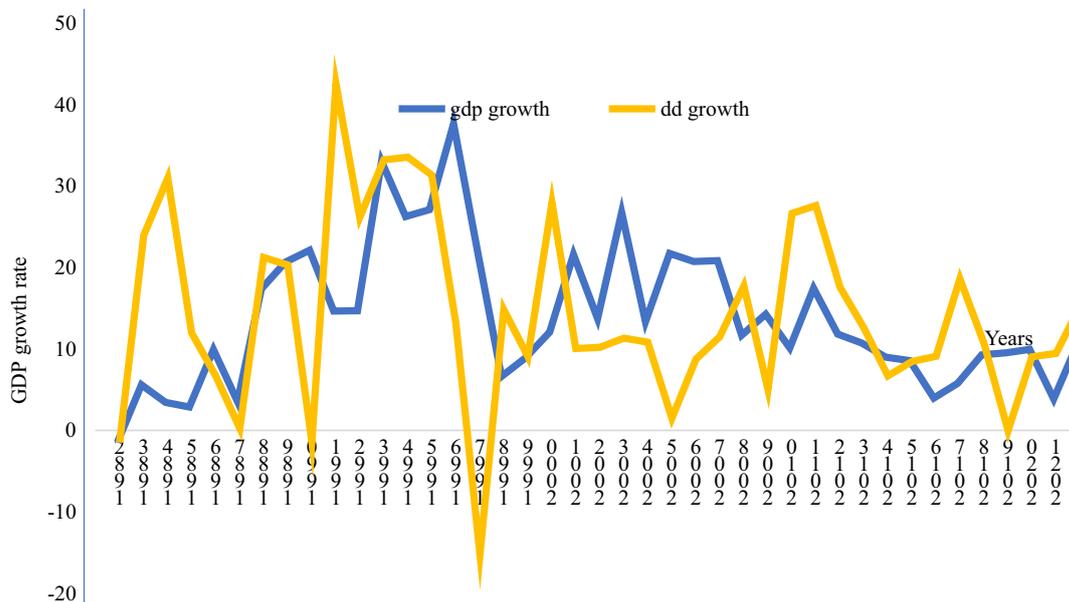


Figure 1: Trend analysis of GDP growth and domestic debt in Nigeria (1982-2023).

Source: Author's research, 2023

The trend analysis of domestic debt growth and Gross Domestic Product (GDP) is illustrated in Figure 1. From the figure, it is evident that domestic debt experienced a sharp increase, rising from 25% in 1982 to 32% in 1983, before sharply declining to



approximately 2% in 1986 and further down to 0.04% in 1989. Interestingly, during this period, the growth trajectory of GDP was generally upward—rising from 4% in 1983 to 11% in 1985. A further progressive increase in GDP growth occurred between 1986 and 1989, with the growth rate climbing from 5% to nearly 24%.

The trend in GDP continued to exhibit an upward swing up until 1996, eventually stabilising at 39%, even as domestic debt growth generally declined and stabilised at around -14% in 1997. This divergence in the trends of domestic debt and GDP suggests the presence of a potential inflection point in the debt-growth relationship—one that requires empirical analysis to confirm or explain.

Post-1990s, domestic debt growth resumed an upward trend, peaking at 29% in 2000, before declining steadily to 12% in 2004 and dipping further to 2% in 2005. From 2006 onwards, domestic debt growth exhibited another sharp rise, reaching 28% and 29% in successive years, but declined once more to 8% in 2014. Notable fluctuations were observed again in 2017 and 2019, with domestic debt growing by 20% and slightly above 1%, respectively.

During this same period, GDP growth generally outperformed domestic debt growth, particularly between 2001 and 2007, when GDP growth outpaced debt growth. For instance, GDP recorded a minimum growth rate of 14% in 2004 and a peak of 28% in 2003. Though the growth rate declined thereafter, it remained relatively stable.

Overall, the observed trend suggests that GDP growth in Nigeria may have adjusted fairly to the shifting patterns of domestic debt growth. The interplay between domestic debt and GDP over time underscores the importance of evaluating the threshold effects, possible lag structures, and the non-linear dynamics between these variables through empirical estimation techniques.

4.0 Data Presentation, Analysis and Discussion of Findings

4.1 Descriptive statistics and matrix of correlations

Table 2: Descriptive statistics

	RGDP	DD	EXR	INTR	GFCF	LFP
Mean	205.8707	4024.802	110.9262	17.19452	21.40810	59.92381
Median	3.325000	1091.485	115.2550	17.38000	22.31750	60.24500
Maximum	8505.311	21653.78	385.6100	29.80000	33.04000	75.60000
Minimum	-13.00000	11.19000	0.610000	7.750000	9.897000	53.31000
Std. Dev.	1311.874	5810.476	110.7434	4.640599	5.636323	3.608884
Skewness	6.246833	1.566824	0.929147	0.310012	-0.085045	2.650979
Kurtosis	40.02343	4.407751	3.050014	3.477816	2.688217	12.60071
Jarque-Bera	2671.946	20.65265	6.047571	1.072292	0.220744	210.4976
Probability	0.000000	0.000033	0.048617	0.584999	0.895501	0.000000
Sum	8646.571	169041.7	4658.900	722.1700	899.1400	2516.800
Sum Sq. Dev.	70561568	1.38E+09	502828.3	882.9414	1302.493	533.9858
Observations	42	42	42	42	42	42

Source: Authors Research, 2024

4.1 Descriptive Statistics

The descriptive statistics of the variables used in the study are presented in Table 2. These statistics provide an overview of key trends in Nigeria's macroeconomic indicators over the review period. The data reveal considerable variations across all variables, with particularly high levels recorded for Real Gross Domestic Product (RGDP), Domestic Debt Service (DD), Exchange Rate (EXR), Labour Force Participation Rate (LFP), and Gross Fixed Capital Formation (GFCF).

For Real Gross Domestic Product (RGDP), the mean value stood at ₦205.87 billion, the median at ₦3.33 billion, and the maximum value at ₦8,505.31 billion. This indicates a positively skewed distribution, suggesting a rapid increase in RGDP in the latter part of the study period. The standard deviation of ₦1,311.87 billion reflects substantial volatility in Nigeria's economic output over the years. In terms of Domestic Debt Service (DD), the data show a mean of ₦4,024.80 billion, a median of ₦1,091.49 billion, and a maximum of ₦21,653.78 billion, with a standard deviation of ₦5,810.48 billion. This reflects a significant rise in debt servicing obligations over time, with high dispersion indicating inconsistent government borrowing and repayment patterns. The

Exchange Rate (EXR) has a mean of ₦110.93 per USD, a median of ₦115.26, and a maximum of ₦385.61, demonstrating notable depreciation of the naira over the years under review. The widening gap between minimum and maximum values confirms persistent currency instability.

For Labour Force Participation Rate (LFP), the mean is 59.92%, with a median of 60.25%, a maximum of 75.60%, and a standard deviation of 3.61. These figures suggest a relatively stable but modest participation in the labour force, with limited fluctuation over time. Gross Fixed Capital Formation (GFCF) reflects an average of 21.41% of GDP, with a median of 22.32% and a maximum of 33.04%, indicating a fair level of investment activity across the review period.

In contrast, the Interest Rate (INTR) demonstrated comparatively low levels, with a mean of 17.19%, a median of 17.38%, and a maximum of 29.80%, suggesting limited but steady influence on investment decisions and overall economic growth.

Overall, the descriptive statistics indicate that while real GDP, domestic debt servicing, and labour force participation exhibited significant volatility, other indicators such as exchange rate and interest rate showed less erratic behaviour. These fluctuations underscore the dynamic nature of Nigeria's macroeconomic environment and the need for robust policy interventions to ensure sustainable economic development.

Skewness and Kurtosis Analysis:

The skewness results indicate that two variables are positively skewed, suggesting right-tailed distributions. The kurtosis results show that real gross domestic product (RGDP), Domestic debt service (DD), exchange rate (EXR), interest rate (INTR) and labour force participation rate (LFP) are leptokurtic (kurtosis > 3), indicating peaked distributions. Conversely, Gross fixed capital formation (GFCF) is platykurtic (kurtosis < 3), reflecting flatter distributions.

Normality and Variability:

The Jarque-Bera test confirms that all variables are normally distributed over the analysis period. The standard deviation values highlight the extent of variation in the data, with most variables showing significant deviations from their true values. Exceptions include interest rate and gross fixed capital formation (GFCF), which have relatively small deviations of 1.072292 and 0.220744, respectively.

Table 3: Correlation Matrix

	RGDP	DD	EXR	INTR	GFCF	LFP
RGDP	1					
DD	-0.22	1				
EXR	-0.61	0.50	1			
INTR	-0.29	0.19	0.25	1		
GFCF	0.18	0.01	-0.28	0.06	1	
LFP	0.16	-0.30	-0.25	0.05	0.63	1

Source: Author's Research, 2024

The correlation matrix of the variables is as shown in Table 3 above. The correlation matrix is a statistical tool that measures the relationship between multiple variables. It provides a table of correlation coefficients which describe the strength and direction of the linear relationships between each pair of variables. From the table above therefore, RGDP has a positive correlation coefficient with GFCF and LFP. This therefore indicates that the variables tend to move in the same direction. Meanwhile, DD, EXR and INTR have a weak negative correlation (-0.22, -0.61, -0.29) indicating that as RGDP increases, DD, EXR, and INTR tends to decrease. Also, there exist positive correlation coefficient between DD and EXR, INTR and DD, GFCF and DD while there is a weak negative correlation between GFCF and EXR, LFP and DD, LFP and EXR.

4.2 Unit Root Test

The Augmented Dickey Fuller and the Philip-Perron unit root tests were conducted to examine the stationarity condition of the variables. As indicated in Table 4 below, RGDP, GFCF, LFP, and DD were stationary at level in ADF, and PP, while EXR and INTR were stationary after first differencing in both ADF and PP. In other words, the variables are integrated of order zero and one (i.e., $I(0)$ and $I(1)$).

Where some of the variables are $I(0)$ while others are $I(1)$ one suggests the problem of unit root= in the equations. It becomes imperative to perform co-integration tests to determine the presence of equilibrium relationship amongst the variables in each equation. The study adopts the ARDL bound testing technique for co-integration, as the variables are integrated of diverse orders (i.e., order zero and order one).

Table 4: ADF and Philip-Perron Unit Root Test Results

Variables	ADF			PP		
	Level	1 st Difference	Order of integration	Level	1 st Difference	Order of integration
RGDP	-6.399008**	-	I(0)	-	-	I(0)
EXR	1.752293	-9.960455	I(1)	-	-	I(1)
GFCF	-3.005072	-	I(0)	-	-	I(0)
INTR	-2.406282	-9.644692	I(1)	-	-	I(1)
LFP	-3.725070	-	I(0)	-	-	I(0)
DD	5.107469	-	I(0)	-	-	I(0)

Source: Researcher's computation (2024), using E-Views 9.

Note: Mackinnon critical values for ADF at 1, 5 and 10% levels are -3.60, -2.93 and -2.60, respectively, and for PP are 3.605, 2.936 and 2.606, respectively. ** means significant at 5% level.

4.3 Lag Length Selection

Table 5: Lag length criteria

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-1209.849	NA	2.49e+20	63.99205	64.25062	64.08405
1	-1054.601	253.2987	4.81e+17	57.71586	59.52583	58.35984
2	-992.9837	81.07593	1.45e+17	56.36756	59.72893	57.56351
3	-934.9426	58.04109	6.89e+16	55.20751	60.12027	56.95543
4	-857.6209	52.90432*	2.09e+16*	53.03268*	59.49684*	55.33258*

Source: Researcher's computation (2024), using E-Views 9.

The efficiency and validity of an error correction model depends on the lag structure. The study used VAR lag order selection criteria to determine the lag lengths. The study employed the Akaike Information Criterion (AIC) and Schwarz Criterion (SC) and the result shows four optimal lag lengths in the inclusive growth index and fiscal deficit models as shown in Table 5 above. In order to reduce the possibilities of underestimation while maximising the likelihood of recovering the true lag (Venus, 2004), the study used three and four as the maximum lag lengths, respectively.

4.1.4 Co-integration Test Results

From the bound testing result reported in Table 6 below, long run relationship exists among the variables in all the estimated equations, given that the values of the F-statistic are greater than the critical values at five percent level in both the upper and the lower bounds. Therefore, the null hypothesis of absence of co-integration is rejected, while the study proceeds to estimate the long run coefficient of each of the equations.

Table 6: Co-Integration Test Results

Equations	K	F-Stat	I (0)	I (1)	Outcome
RGDP (DD,GFCF,EXR,INTR,LFP)	5	8.01	2.62	3.79	Co-integration

Note: K =number of parameters

Source: Researcher's computation (2025), using E-Views 9.

4.2 Findings, Presentation and Analysis of Econometric Results of the Long run Coefficients of Domestic Debt and Economic Growth Equation Results

Table 7: Dependent variable: RGDP

Variable	Coefficient	Std. Error	t-Statistic	Prob.
DD	0.070798	0.102807	0.688651	0.5031
EXR	-10.700193	3.272263	-3.269967	0.0061
	-			
	235.89325			
INTR	3	75.304241	-3.132536	0.0079
	122.55848			
GFCF	0	55.615851	2.203661	0.0462
	-			
	422.65892			
LFP	3	244.433101	-1.729139	0.1074
	28365.577	15069.9664		
C	03	70	1.882259	0.0824

Source: Researcher's Computation, 2025

The long-run relationship between Real Gross Domestic Product (RGDP) and domestic debt-related macroeconomic variables is presented in **Table 7**. The Autoregressive Distributed Lag (ARDL) long-run estimates reveal several insightful findings regarding the impact of these variables on economic growth in Nigeria:

Domestic Debt Service (DD):

The coefficient for DD is positive but statistically insignificant, implying that a unit increase in domestic debt service leads to a 7.07% increase in RGDP. Although this outcome aligns with a priori expectations, the insignificance suggests that the relationship lacks robustness. This may be attributed to inefficiencies in debt management, poor utilisation of borrowed funds, limited policy effectiveness, and challenges related to debt sustainability. The result underscores the importance of structural reforms and complementary macroeconomic policies to enhance the productive impact of domestic debt.

Exchange Rate (EXR):

The coefficient for exchange rate is negative and statistically significant, indicating that a unit increase in the exchange rate (i.e. naira depreciation) results in a 107.0% decline in RGDP. This is consistent with theoretical expectations, as currency depreciation raises the cost of imports, fuels inflation, and erodes the purchasing power of both consumers and firms. The significant negative impact highlights the critical role of exchange rate stability in fostering a conducive environment for economic growth.

Interest Rate (INTR):

Interest rate is found to have a negative and statistically significant relationship with RGDP. Specifically, a one-unit increase in the interest rate leads to a 235.89% decrease in RGDP. This strong negative relationship supports the view that high interest rates discourage investment and consumption, increase borrowing costs, and ultimately undermine economic growth. It also reflects the crowding-out effect, whereby excessive government borrowing drives up interest rates and limits private sector access to credit.

Gross Fixed Capital Formation (GFCF):

The coefficient for GFCF is positive and statistically significant, suggesting that a unit increase in capital formation contributes to a 122.55% rise in RGDP. This finding corroborates the a priori expectation that investment in physical capital enhances a country's productive capacity, boosts output, and fosters long-term economic development. It also highlights the importance of infrastructure investment and capital accumulation in driving employment, productivity, and overall macroeconomic resilience.

Labour Force Participation Rate (LFP):

Surprisingly, the coefficient for LFP is negative and statistically significant. A one-unit increase in labour force participation is associated with a 422.65% decline in RGDP. This finding contradicts theoretical expectations and suggests that, during the study period, increased labour force participation may have coincided with low productivity, underemployment, or a mismatch between labour supply and demand. The negative impact may also reflect structural inefficiencies, a weak private sector, and increasing fiscal pressure on the government to create jobs through public borrowing, thus undermining growth.

The long-run results underscore the multifaceted dynamics between domestic debt and economic growth in Nigeria. While variables such as domestic debt service and capital formation show potential to enhance growth, their effects are hindered by macroeconomic volatility, particularly with respect to exchange and interest rates. The unexpected negative influence of labour force participation further points to deep-rooted structural challenges. These findings emphasise the need for coherent fiscal and monetary policies, institutional reforms, and targeted investments to ensure that domestic debt translates into sustained economic development.

4.2.1 Findings, Presentation and Analysis of Econometric Results of the short run estimates of Domestic debt and economic growth Equation Results

Table 8: Dependent variable: RGDP

Variable	Coefficien			Prob.
	t	Std. Error	t-Statistic	
D(RGDP(-1))	0.141227	0.163460	0.863988	0.4033
D(RGDP(-2))	0.177581	0.081986	2.165999	0.0495
D(DD)	0.074583	0.257605	0.289524	0.7767
D(DD(-1))	-0.180008	0.445105	-0.404417	0.6925
D(DD(-2))	-1.467608	0.473072	-3.102292	0.0084
D(DD(-3))	1.094367	0.396148	2.762517	0.0161
D(EXR)	-14.016392	4.013112	-3.492649	0.0040
D(EXR(-1))	-15.426960	4.939820	-3.122980	0.0081
D(INTR)	-13.418393	42.244266	-0.317638	0.7558
D(INTR(-1))	91.540851	26.927450	3.399537	0.0047
D(INTR(-2))	92.251017	29.538004	3.123130	0.0081
D(INTR(-3))	34.196796	27.012767	1.265949	0.2277
D(GFCF)	5.842330	26.255926	0.222515	0.8274
D(GFCF(-1))	-86.163816	29.666411	-2.904423	0.0123
D(LFP)	-17.277556	80.071012	-0.215778	0.8325

D(LFP(-1))	344.927783	49.844971	-6.920012	0.0000
D(LFP(-2))	285.476012	128.364638	2.223946	0.0445
D(LFP(-3))	221.331833	76.846155	2.880194	0.0129
CointEq(-1)	-1.135582	0.282606	-4.018250	0.0015
R-squared	0.968007	Mean dependent var		228.1466
Adjusted R-squared	0.908943	S.D. dependent var		1379.027
S.E. of regression	416.1316	Akaike info criterion		15.14303
Sum squared resid	2251151.	Schwarz criterion		16.22039
Log likelihood	-262.7176	Hannan-Quinn criter.		15.52635
F-statistic	16.38903	Durbin-Watson stat		2.243226
Prob(F-statistic)	0.000003			

Source: Researcher's Computation, 2025

The short-run dynamics of the relationship between domestic debt and economic growth are presented in Table 8. The findings reveal several statistically significant interactions between the dependent variable (RGDP) and the explanatory variables across different lags, offering insights into the short-term transmission mechanisms at play.

Domestic Debt (DD):

In the current and third-period lags, domestic debt exhibits a positive and statistically significant relationship with RGDP. Specifically, a 1% increase in DD results in a 7.45% and 109.43% increase in RGDP, respectively. However, in the first and second-period lags, the relationship turns negative yet significant, with a 1% rise in DD causing a -18.00% and -146.76% decline in RGDP. These findings suggest that the effects of domestic debt on economic growth are non-linear and time-sensitive. While initial accumulation of debt may disrupt economic activity, its medium-term impact (possibly through fiscal spending or investment stimulus) may contribute positively to growth.

Exchange Rate (EXR):

The exchange rate shows a consistently negative and statistically significant impact on RGDP in both the current and one-period lag. A 1% increase in EXR (indicating naira depreciation) leads to a -140.10% and -154.26% decline in RGDP. This finding is in line with a priori expectations, reflecting the detrimental effects of currency depreciation—such as increased import costs, weakened currency value, and elevated inflation—which together suppress economic growth.

Interest Rate (INTR):

The relationship between interest rate and RGDP is positive and significant in the first, second, and third-period lags, with 1% increases in INTR resulting in 915.40%, 922.51%, and 341.96% growth in RGDP, respectively. However, in the current period, the relationship is negative and statistically insignificant, with a 1% increase leading to a -134.18% decline in RGDP. These mixed outcomes contradict theoretical expectations and suggest possible anomalies in Nigeria's financial market structure. The positive lagged effects may reflect belated responses to previous monetary tightening or temporary investment shifts, while the current-period decline supports the traditional view that high interest rates constrain borrowing and investment.

Gross Fixed Capital Formation (GFCF):

GFCF demonstrates a positive but insignificant relationship with RGDP in the current period (584.23%), but becomes negative and statistically significant in the one-period lag (-861.63%). This outcome deviates from theoretical expectations, implying that during the study period, capital formation was either misallocated or insufficiently productive in the short run. The lagged negative impact may point to implementation delays, inefficiencies in public spending, or crowding-out effects caused by debt-financed investment.

Labour Force Participation Rate (LFP):

LFP reveals a negative and significant relationship with RGDP in the current (-172.77%) and first-period (-344.92%) lags. In contrast, it turns positive and significant in the second (285.47%) and third-period (221.33%) lags. The initial negative relationship suggests that rising labour force participation may have coincided with weak job creation, underemployment, or economic strain during the earlier years of the study. However, the positive lagged impact supports the expectation that increased labour force engagement can eventually drive productivity and reduce reliance on public borrowing when employment opportunities and economic conditions improve.

Error Correction Term (ECM):

The ECM coefficient of -1.135582 is correctly signed and statistically significant, confirming that approximately 113% of any short-run disequilibrium is corrected towards long-run equilibrium within one year. The corresponding t-statistic (-4.018250) supports significance at the 5% level, reinforcing the model's validity in capturing short-run adjustments.

Model Fit and Diagnostic Statistics:

The R-squared (0.968007) and adjusted R-squared (0.908943) indicate that approximately 96% of the variation in RGDP is explained by the model, while only 4%

is attributable to other factors. The F-statistic (16.38) confirms the joint statistical significance of the explanatory variables. Additionally, the Durbin-Watson statistic (2.24) suggests the absence of autocorrelation in the residuals, thereby validating the robustness of the model.

Model Stability:

The stability of the model, as shown in Figure 2, is confirmed through CUSUM and CUSUM of Squares tests. Both statistics fall within the critical bounds, indicating that the estimated parameters remain stable throughout the sample period. This enhances confidence in the model's reliability for both forecasting and policy formulation.

The short-run dynamics demonstrate that while some macroeconomic variables may exert delayed or contrary effects on economic growth, domestic debt, exchange rate, interest rate, and labour force participation all exhibit critical roles. The findings suggest the need for calibrated fiscal and monetary policies to manage short-run fluctuations while safeguarding long-run stability and growth.

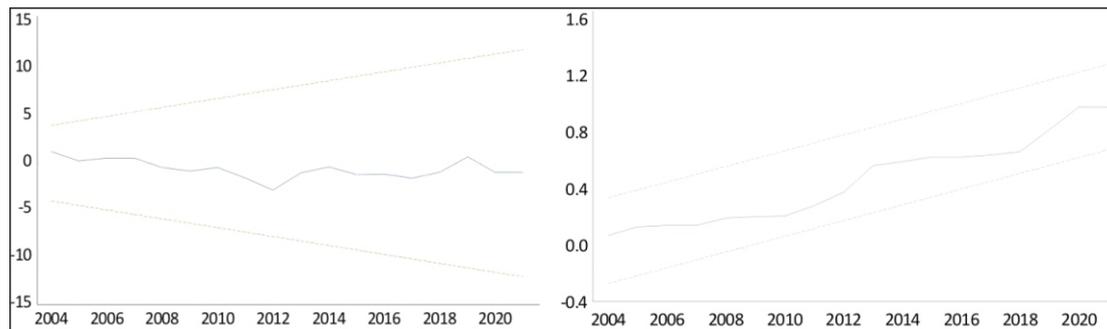


Figure 2: Model stability test.

Source: Author's extraction from Eviews 12.

5.1 Discussion of Findings

The ARDL regression results, both in the short and long run, provide intriguing insights into the relationship between domestic debt and economic growth in Nigeria. A notable outcome is the positive and statistically significant relationship observed between two key explanatory variables—domestic debt (DD) and Gross Fixed Capital Formation (GFCF)—and the dependent variable real gross domestic product (RGDP).

These findings suggest that an increase in domestic debt and investment in physical capital correlates with economic growth. Specifically, GFCF plays a pivotal role in boosting productive capacity and long-term output by fostering infrastructure development, job creation, and income generation. However, the long-run

insignificance of DD despite its positive coefficient points to concerns regarding limited policy effectiveness, debt sustainability challenges, and the need for structural reforms. These outcomes are consistent with the findings of scholars such as BabuSymon, Aguilas, and Mose (2015); Khan and Gill (2016); Isaac and Rosa (2016); and Owusu-Nantwi and Erickson (2016), who found a positive and significant relationship between public debt and economic growth in Ghana and Nigeria, largely attributed to prudent debt-to-GDP ratios maintained over time.

Conversely, exchange rate (EXR), interest rate (INTR), and labour force participation rate (LFP) exhibit negative relationships with RGDP in both the short and long run. This suggests that increases in these variables tend to constrain economic growth and amplify domestic debt pressures.

The negative impact of exchange rate volatility implies that currency depreciation increases the cost of imported inputs, drives inflation, and erodes purchasing power, ultimately raising the cost of debt servicing and necessitating additional domestic borrowing. The negative relationship of interest rate reflects the burden of higher borrowing costs, which dampens both private investment and household consumption. High interest rates make servicing existing domestic debt more expensive and may prompt the government to issue more debt, exacerbating fiscal imbalances. The counterintuitive negative effect of LFP could signal economic distress, where increased participation is driven by declining household income or skill mismatches in the labour market. This scenario can result in underemployment and diminished productivity. In addition, a lower LFP can shrink the tax base, increasing reliance on domestic borrowing to finance government activities.

5.2 Conclusion and Recommendations

This study investigated the empirical relationship between domestic debt and economic growth in Nigeria over the period 1981 to 2023, using the Autoregressive Distributed Lag (ARDL) model. The findings reveal that domestic debt (DD) and Gross Fixed Capital Formation (GFCF) positively impact economic growth in both the short and long run. This indicates that borrowing—when channelled into productive investments—can enhance Nigeria's growth trajectory.

However, the study also uncovered that exchange rate, interest rate, and labour force participation rate adversely affect economic growth. These variables have mostly remained above their sustainable thresholds during the study period, thereby exacerbating Nigeria's domestic debt profile and impeding economic performance.

Based on the empirical findings and analysis of the study, the following recommendations are proposed:

1. The government should ensure that domestic debt management policies align with an optimal, growth-maximizing debt threshold. Fiscal authorities are encouraged to implement structural and fiscal reforms that enhance the efficiency of debt utilization. Given the evidence that high debt servicing costs hinder economic growth, strategic planning must prioritize sustainable debt management and productive investments.
2. To cushion the adverse effects of currency depreciation, public authorities should promote export competitiveness by supporting the development of value-added exports. Policies aimed at diversifying the export base, building foreign reserves, and adopting a managed float exchange rate regime will help mitigate volatility and support macroeconomic stability.
3. The Central Bank should consider implementing countercyclical monetary policies by gradually reducing interest rates (where inflationary pressures are contained) to stimulate private sector investment. Strengthening monetary-fiscal policy coordination and deepening financial markets will enhance credit accessibility and promote long-term economic resilience.
4. The government should prioritize investment in education, technical and vocational training, and skill development programmes. Addressing labour market inefficiencies and skill mismatches will improve labour productivity, increase formal employment, expand the tax base, and reduce dependence on debt-financed public spending.

References

- Adafu, I. and Abula, M. (2010). Domestic Debt and the Nigerian Economy. *Current Research journal of economic theory* 2(10); 22-26
- Adams, R. A. (2004). *Public Sector Accounting and Finance Made Simple*. 3rd Edition. Corporate Ventures Publishers, Lagos, 470p.
- Adofu, I. and Abula, M. (2010). Domestic debt and the Nigerian economy. *Current Research Journal of Economic Theory*, 2(1): 19-22.
- Adom, P. (2016). The DDT effects; the case of economic growth and public debt RCPE 752201

- Alegandro, O. J. and Ileana, R. J. (2017). *The Impact of Government Debt on Economic Growth: An Overview of Latin America*. Department of Economic, University of Perugia, Perugia, 251p.
- Allison, J. (2013). Key issues of analytical domestic debt sustainability. *Debt Relief International Journal* 5(1) 1_17
- Babu, J. O., Symon, K., Aquilars, M. K. and Mose, G. (2015). Effect of domestic debt on economic growth on the East African Community. *American Journal of Research Communication*, 3(9): 58 – 73.
- CBN (2023). Central Bank of Nigeria Statistical bulletin
- Dairu, O. O. (2017). *Public Finance: A Theoretical Approach*. 1st Edition. Cearce Publishers Ltd., Lagos, 498p.
- David, S. M. and Moore, R. A. (2015). Management Principles for developing nations. *Journal of Public Administration and Social Sciences*, 2(3): 106 – 121.
- DMO (2023). Nigeria public debt stock debt management office, Nigeria
- Domar, R. E. (1946). Capital expansion, rate of growth and employment. *Econometrica*, 14(2): 137 – 147.
- Eaton, E. (1993). Sovereign Debts: A primer. *World Bank Economic Review*, 7(3): 137 – 172.
- Eze, O. M., Nweke, A. M. and Atuma, E. (2019). Public debt and Nigeria's economic growth. *IOSF Journal of Economics and Finance (IOSR-JEF)*, 10: 24 – 40.
- Gupta, O. (2002) *Public finance and accounting*, 3rd Edition bll Publication Ltd. Lagos
- Gupta, O. O. and Gamaliel, W. N. (2002). *Public Finance and Accounting*. 3rd Edition. BCLM Publishers Ltd., Lagos, 690p.
- Harrod, R. F. (1939). An Essay in dynamic theory. *The Economic Journal*, 49(193): 14 – 33.
- Katuma, S. P. (2001). Toward minimization of external borrowing by government of developing nations. *Journal of Economics and Contemporary Studies* 2(4): 103 – 117

- Kylon, T. and Krusan, W. I. (2001). Economic growth indicators for developed and developing nations. *Journal of International Relations and Politics* 2(1): 264 – 277.
- Modow.N. and Brigitte k. (2019). On the robust drivers of public debt in Nigeria, CEF journals
- Mousa, T. A. and Shawawreh, A. (2017). The impact of public debt on the Economic Growth of Jordan. An empirical study. *Accounting and Finance Research*, 6(2): 114– 120.
- Ndiyo, N. A. (2005). Fundamentals of Research in Behavioural Sciences and Humanities. Calabar: Excel Publishers. ISSN 578 – 051 – 780 – 4.
- Ogbe N.E. (1992) Evaluation of Debt Relief Experience. Research program of financial policies
- Ogbonna et al (2019). Public Debts service and Nigerian economic growth. *Empirical Academic Research* 6(10); 22-34
- Okonjo-Iwealla (2011). Nigeria's external and domestic debt. The nation newspaper of August
- Oshadama O. L. (2006). The impact of domestic debt in Nigeria Economic Growth, ADB
- Paiko, I. I. (2012). Deficit financing and its implication on private sector investment: The Nigerian experience. *Arabian Journal of Business and Management*, 1(9): 18 – 31.
- Precious, L. N. (2015). Effects of public debt on economic growth in Swaziland. *International Journal of Business and Commerce*, 5(1): 1 – 24.
- Ricardo, D. (1973). *Works and Correspondence of David Ricardo*, 11 volumes, edited by P.Sraffa and M. Dobb, Cambridge University Press, 281p.
- Say, J. R. (1954). A treatise on political economy. *Quarterly Journal of Economics*, 442: 1219 – 1235
- Smith, A. (1776). *An Inquiry into the Nature and Causes of the Wealth of Nation*. Randim House, New York, 390p.