

# External Debt Shocks, Debt Service Payment, Debt Weight and the Growth of the Nigerian Economy

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## ABSTRACT

This study analyzes the nexus between external debts and the growth of the Nigerian economy from 1993 to 2023, focusing on key macroeconomic indicators. The objectives include: (i) examining the relationship between external debts and economic growth, (ii) assessing the impact of debt servicing on growth, (iii) analyzing the effect of exchange rate fluctuations, and (iv) evaluating the influence of inflation on economic performance. The study adopts an ex-post facto research design, leveraging secondary data from the Central Bank of Nigeria (CBN) Statistical Bulletin and World Development Indicators (1999–2024). The data, being time-series and publicly available, ensures reliability and eliminates human bias. Using the Autoregressive Distributed Lag (ARDL) estimation method and the Breusch-Pagan-Godfrey (BPG) test for heteroscedasticity, the findings reveal that external debt stock (Coefficient = -0.08, p-value = 0.03) and debt servicing (Coefficient = -0.20, p-value = 0.00) negatively and significantly impact economic growth. Additionally, economic growth exhibits significant responsiveness to debt burden (Coefficient = -0.05, p-value = 0.01). The study concludes that excessive external borrowing and high debt servicing costs constrain Nigeria's economic expansion, while exchange rate volatility and inflation further exacerbate these challenges.

**Keywords:** External Debt, Economic Growth, Debt Servicing, Exchange Rate, Inflation, ARDL, Nigeria.

## INTRODUCTION

Achieving sustained economic growth remains a primary macroeconomic objective for every nation. Capital finance, particularly investment in infrastructure and productive capacity, is essential for governments to expand GDP and ultimately improve living standards (Balogun, 2023). However, most emerging economies face a fundamental challenge: their treasuries lack sufficient resources to meet development demands due to poor productivity, low savings rates, and high expenditure levels (Ofurum & Fubara, 2022). To bridge this resource gap, governments borrow from external sources a strategy that, when effectively deployed, can foster investment, stimulate growth, and accelerate economic development. The theoretical justification for external borrowing is well established. The dual gap hypothesis posits that governments should borrow to close the savings-investment gap and supplement limited domestic resources (Chenery, 1996). Keynesian economics further supports deficit spending as a mechanism for increasing aggregate demand, which in turn stimulates private investment and economic expansion. Countries borrow for diverse reasons including financing persistent budget deficits, expanding financial markets, diversifying income streams, and improving low productivity output all of which are relevant to Nigeria's economic context (Ajufu et al., 2025).

However, external debt carries significant risks. When debt levels become excessive, debt servicing obligations consume an increasingly large portion of government budgets, crowding out productive investment and constraining growth. Okonjo-Iweala et al. (2013) caution that beyond a certain threshold, debt repayment burdens cause economies to fall off the debt Laffer curve, where accumulated debt actively prevents investment and growth rather than facilitating it. Pattilo et al. (2022) similarly argue that while debt promotes development

at lower levels, it begins to hinder growth once cumulative obligations exceed critical thresholds. Crucially, Hadji (2022) emphasizes that debt does not inherently hinder growth rather, it is a nation's failure to effectively utilize borrowed resources and ensure timely repayment that undermines development outcomes.

Nigeria's external debt history reflects these theoretical tensions in concrete terms. The country's debt trajectory began modestly before independence but accelerated dramatically from 1978 onwards, when a jumbo loan of over \$1 billion was obtained from the International Capital Market (DMO, 2004). National debt rose sharply from \$0.763 billion in 1979 to \$8.65 billion in 1980 an increase of nearly 74% and continued climbing to \$35.94 billion by 2004. While debt relief in 2006 temporarily reduced this burden, external obligations have since resumed an upward trajectory. Nigeria's World Bank debt alone grew from USD6.29 billion in 2015 to USD13.93 billion in 2022, while total debt stock reached NGN77 trillion in 2023 (DMO, 2004; IMF projections).

Despite these substantial debt accumulations ostensibly borrowed to finance growth and development Nigeria continues to struggle with high unemployment, persistent poverty, and low living standards (Aiyedogbon & Ohwojasa, 2019; Nwagwu, 2018). The country experienced economic contraction of 1.58% in 2016 and 1.92% in 2020, even as its external debt portfolio expanded from NGN32.9 billion in 2020 to NGN39.5 billion in 2021 and NGN46.2 billion in 2022. Unfavorable lending conditions, exchange rate volatility, and debt repudiation risks have compounded Nigeria's debt burden, directly constraining economic growth (Akinwunmi & Adekoya, 2018). These developments raise fundamental questions about the actual developmental returns on Nigeria's external borrowing over the study period. The relationship between external debt and economic growth in Nigeria remains empirically contested, with existing studies producing conflicting conclusions. Sami and Mbah (2018) and Kolawole (2020) confirm that external debt negatively affects economic development, while Adegboyega (2018) and Akanbi et al. (2022) find a favorable influence. Ibi and Aganyi (2015) argue for no significant association, while Adeniyi et al. (2018) demonstrate that findings depend substantially on the analytical methodology employed. This lack of consensus, combined with Nigeria's rapidly deteriorating debt profile and persistent developmental underperformance, necessitates renewed empirical investigation spanning the 1993–2023 period.

This study examines the nexus between external debt and Nigerian economic growth from 1993 to 2023. Specifically, it investigates the relationship between external debt and economic growth, examines the impact of debt servicing on economic performance, analyzes the relationship between exchange rate dynamics and growth, and determines the impact of inflation on Nigeria's economic trajectory. These variables collectively capture the multidimensional channels through which external debt influences macroeconomic outcomes.

The study holds important implications for multiple stakeholders. For government and policymakers, the findings provide evidence-based insights into how external debt dynamics have shaped Nigeria's growth trajectory, enabling more informed borrowing decisions and debt management strategies. The research supports effective policy formulation at both national and state levels, addressing critical questions about debt sustainability, optimal borrowing thresholds, and the conditions under which external debt promotes rather than undermines growth. For economists, researchers, and the broader public, the study contributes to resolving the ongoing theoretical and empirical debate surrounding Nigeria's external debt-growth nexus, providing a foundation for future research and practical recommendations aimed at ensuring that external borrowing serves as a genuine catalyst for sustainable economic development rather than a persistent constraint upon it.

## LITERATURE REVIEW

### Concepts of External Debts and Economic Growth in Nigeria

External debt refers to financial obligations that a country incurs from foreign sources, denominated in foreign currency, with the commitment to repay at a future date (Udoffia & Akpanah, 2016). Distinguished from internal debt which involves domestic borrowing external debt encompasses financial, technical, and managerial responsibilities assumed by international creditors. Hadji (2022) broadly defines foreign debt as any financial commitments, resolved or unresolved, owed to foreign entities, expressed in foreign currency, goods, or services. External debt is typically classified into three categories: multilateral debt from international institutions such as the IMF, World Bank, and African Development Bank; bilateral debt from individual foreign governments; and

commercial debt from private international financial markets. Nations borrow externally for two primary categories of reasons (Efuntade et al., 2020). The first encompasses macroeconomic motivations using borrowed capital to promote investment, consumption in education and health, or to finance balance of payments deficits. The second involves leveraging lower nominal interest rates available internationally, supplementing limited domestic long-term lending capacity, and bypassing budgetary constraints. When effectively deployed, external borrowing functions as a strategic tool for addressing poverty and stimulating economic progress a rationale directly relevant to understanding Nigeria's borrowing behavior from 1993 to 2023.

### **History of Nigeria's External Debt**

Nigeria's external debt history provides essential context for analyzing the debt-growth nexus across the study period. The country's foreign borrowing began modestly in 1958 with a US\$28 million loan for railway construction, remaining relatively manageable through the 1970s as concessional loans from multilateral and bilateral sources carried extended repayment terms of ten to forty years at reduced interest rates (DMO, 2004). The critical turning point came in 1978, when declining oil prices strained government finances, prompting a US\$1 billion "jumbo loan" from the international capital market that pushed total debt to US\$2.2 billion. The subsequent oil market decline of the early 1980s, compounded by inappropriate macroeconomic policies including tariff protection and import licensing, necessitated accelerating external borrowing. Between 1978 and 1983, foreign debt grew significantly, reaching US\$18.6 billion by 1986 a trajectory that included trade arrears accumulated during 1982–1983. By 1988, debt had reached US\$29.7 billion, rising further to US\$32.9 billion by 1990, distributed across Paris Club creditors, the London Club, multilateral institutions, and other creditors (Ajab & Audu, 2006).

Nigeria's 1986 Structural Adjustment Programme represented a policy response to this mounting burden, though debt continued accumulating. By 2004, external debt stood at US\$35.94 billion before Paris Club debt relief in 2006 reduced it dramatically to US\$3.54 billion. However, domestic debt simultaneously increased from US\$10.3 billion in 2004 to US\$18.58 billion by 2007, primarily reflecting accumulated budget deficit financing and developmental project borrowing (DMO, 2006). Since 2006, external obligations have resumed their upward climb, with Nigeria's World Bank debt growing from USD6.29 billion in 2015 to USD13.93 billion in 2022, while total debt stock reached NGN77 trillion in 2023 the immediate backdrop against which this study's analysis concludes.

### **Benefits and Challenges of External Debt Financing**

External financing offers genuine developmental advantages, particularly for emerging economies like Nigeria that cannot independently fund large-scale capital projects. Borrowing enables governments to make critical infrastructure investments, maintain economic liquidity, and pursue growth targets constrained by domestic savings gaps or foreign exchange shortfalls (Obadan, 2001). Soludo (2003) affirms that countries borrow for legitimate macroeconomic purposes including higher investment and financing of balance of payments deficits. For Nigeria, external borrowing provides access to capital unavailable through domestic markets and compensates for limited foreign direct investment inflows. However, excessive external debt generates serious developmental costs that are directly relevant to Nigeria's experience from 1993 to 2023. When debt servicing obligations escalate, they crowd out productive government expenditure on infrastructure, education, and social services. The debt Laffer curve concept illustrates how beyond a critical threshold, accumulated debt actively prevents investment and growth rather than enabling it (Okonjo-Iweala et al., 2013). Nigeria's persistent debt burden has contributed to high unemployment, chronic poverty, and a deteriorating standard of living despite decades of borrowing ostensibly aimed at development (Aiyedogbon & Ohwojasa, 2019). Rising interest payments consume revenue that should fund essential services, constrain new development projects, and damage international creditworthiness by reducing foreign investment flows and further undermining growth prospects.

### **Concept of Economic Growth**

Economic growth describes the increase in a country's national output or gross domestic product, representing expanded capacity to produce goods and services relative to previous periods (Lawal et al., 2024). Classical economic theory identifies labor and capital as primary growth determinants (Khorravi & Karimi, 2010), while

modern frameworks recognize the additional roles of technology, institutional quality, and financial development. Economic growth is typically measured in real terms adjusting for inflation as the percentage increase in national output, providing a standardized basis for cross-period and cross-country comparisons. In Nigeria's context, the relationship between external debt and economic growth is central to understanding the country's developmental trajectory from 1993 to 2023. The empirical record reveals a paradox: despite substantial external borrowing over this period, Nigeria experienced economic contractions of 1.58% in 2016 and 1.92% in 2020, alongside persistent poverty and unemployment. This outcome aligns with Hadji's (2022) argument that debt does not inherently hinder growth rather, it is the failure to effectively deploy borrowed resources toward productive investment and ensure sustainable repayment that undermines developmental outcomes. Resolving this paradox and providing evidence-based policy guidance for optimizing Nigeria's external debt management to support sustained economic growth constitutes the central motivation of this study.

## **THEORETICAL FRAMEWORK**

### **External Debt and Economic Growth**

Three complementary theories underpin the analysis of the nexus between external debt and economic growth in Nigeria from 1993 to 2023, collectively explaining both the rationale for borrowing and the conditions under which debt promotes or constrains development.

#### **The Dual Gap Theory**

Chenery's (1996) Dual Gap Theory provides the foundational justification for external borrowing. It postulates that economic growth depends on investment, which is in turn a function of savings. Since developing nations like Nigeria lack sufficient domestic savings due to low per capita income to finance the investment levels required for growth, they resort to external finance to bridge both the savings-investment gap and the foreign exchange gap. Ayadi and Ayadi (2008) emphasize that external funds should only be sought when the returns generated exceed borrowing costs. Fajana (1993) reinforces this, arguing that external debt is not inherently problematic the critical issue is whether borrowed funds are invested in viable, high-return projects and prudently managed. This theory directly frames Nigeria's borrowing rationale throughout the study period, while also highlighting the country's persistent failure to deploy borrowed resources productively.

#### **The Debt Overhang Theory**

Krugman's (1988) Debt Overhang Theory explains how excessive debt accumulation becomes a barrier to growth. Large debt stocks create implicit tax disincentives on future output, discouraging private investment as potential investors anticipate that governments will impose higher taxes to service obligations. Audu (2004) demonstrates this effect in Nigeria's context, showing how debt servicing burdens have constrained public expenditure on infrastructure and social services, reducing both public and private investment and worsening developmental outcomes a pattern directly observable across the 1993–2023 study period.

#### **The Debt Laffer Curve**

The Debt Laffer Curve synthesizes these perspectives by establishing that debt promotes growth only up to a threshold point, beyond which additional borrowing becomes counterproductive (Elbadawi et al., 1996). Once debt exceeds this threshold, servicing costs strain resources available for productive investment, crowding out growth. Nigeria's expanding debt trajectory reaching NGN77 trillion by 2023 raises serious questions about whether the country has surpassed this critical threshold, making empirical investigation of the debt-growth relationship across the study period both timely and essential.

#### **Empirical Literature**

The empirical literature on the relationship between external debt and economic growth reveals mixed and often contradictory findings, both globally and within Nigeria's specific context underscoring the importance of this study's investigation of the debt-growth nexus from 1993 to 2023. International evidence establishes the

foundational debate. Were (2001) found a negative relationship between external debt accumulation and economic growth in Kenya, while domestic investment positively influenced economic performance highlighting that debt deployment matters as much as debt acquisition. Naeem (2015) similarly demonstrated that substantial indebtedness significantly hampers growth and investment in the Philippines, recommending accelerated loan repayment policies for emerging nations. Sami and Mbah (2018) confirmed a statistically significant negative relationship between external debt and growth in Oman, while Taofik and Abdisamad (2020) identified a negative relationship between external debt stock and economic growth in Somalia. Hadji (2022) corroborated these findings in Sierra Leone, establishing that increased debt negatively impacts sustained economic expansion. (Manasseh et al., 2025), however, found that foreign debt had no significant effect on Swaziland's economic growth, recommending instead that borrowed funds be directed toward productive activities.

Within Nigeria, empirical findings are particularly divergent, reflecting the complexity of the debt-growth relationship in Africa's largest economy. Sulaiman and Azeez (2012) found a positive long-run impact of external debt on Nigerian economic growth through Johansen cointegration analysis, recommending that borrowing be pursued primarily for economic rather than political purposes. Efuntade et al. (2020) similarly confirmed a positive correlation between external loans and Nigeria's economic growth from 1981 to 2018, cautioning however against excessive debt accumulation. Kur et al. (2021) found a significant positive relationship between external debt, investment, and growth, while emphasizing the need for diligent oversight to prevent misappropriation.

Contrasting these positive findings, several studies document negative relationships. Lucky and Godday (2017) established a significant negative relationship between external debt and Nigerian economic development from 1990 to 2015, recommending prioritization of domestic over external financing. Elom-Obed et al. (2017) confirmed that both external and domestic debt significantly impair Nigeria's economic growth. Amaefule (2018) demonstrated that external debt exerts a negative influence on both GDP and per capita income, attributing this to misutilization of borrowed funds. Olusegun et al. (2020) found that external debt had a considerable negative impact on economic progress, though debt servicing showed a positive correlation with growth. Eze and Akujuobi (2021) concluded that external debt detrimentally affects Nigeria's growth, attributing this largely to misappropriation of loan funds and recommending stronger oversight mechanisms.

Some studies find more nuanced outcomes. Essien et al. (2016) found that neither foreign nor domestic debt significantly impacts Nigeria's price level or output, suggesting limited macroeconomic transmission. Ndubuisi (2017) found that while debt service payments negatively affect growth, external debt stock itself has a positive and significant impact recommending its deployment toward infrastructure development. Uchenna et al. (2020) found a statistically significant positive correlation between external debt and economic growth when controlling exchange rates and inflation. Ofurum and Fubara (2022) found that debt repayment has a limited negative effect on real GDP, while external debt itself shows no statistically significant impact. Collectively, these studies confirm that the external debt-growth relationship in Nigeria is neither uniformly positive nor negative, but highly contingent on how borrowed resources are deployed, managed, and serviced. The persistent divergence in findings across methodologies and time periods directly motivates this study's comprehensive examination of the 1993–2023 period, incorporating debt servicing, exchange rate, and inflation as critical mediating variables to provide updated, policy-relevant empirical evidence on Nigeria's debt-growth nexus.

## Gap in literature

Based on the above studies reviewed, this study tends to bridge the gap in previous studies by using recent data to evaluate the relationship between external debt and economic growth in the Nigerian economy.

## METHODOLOGY

Secondary data was used in this study. It is secondary because it comes from already existing and verifiable data and it is not subject to human error or bias. The data set for this study were drawn from CBN statistical bulletin and World development Indicators. The data is in quantitative form meaning that they appear in figures. The data is time series because it has a natural time ordering (1999-2024).

The variables used in this study are defined in the table below.

Table 3.1: Description of variables

S/NO	Name of variables	Notation	Role	Source
1	External Debt Stock	EXDSTOCK	Independent Variables	World Development Indicators
2	Debt Servicing	DSP	Independent Variables	World Development Indicators
3	Debt Burden	EXDGDGP	Independent Variables	CBN statistical bulletin
4	Economic growth	GDP	Dependent Variables	World Development Indicators
5	Real interest rate	RINTR	Control Variable	World Development Indicators
5	Exchange rate	REXR	Control Variable	World Development Indicators

Source: Compiled by the author

In order to analyse the nexus between external debts and the growth of the Nigerian economy, the research utilized a robust method of estimation to fit or suit the nature of the research effort. This work is modeled after Chidinma et al. (2025) who conducted an econometric assessment on the impact of conflict on youth unemployment in Nigeria.

The Autoregressive distributed Lag model method is used in this study and specified thus:

$$Y_t = \beta_0 + \sum_{n=1}^k \Delta\beta_1 Y_{t-n} + \sum_{n=1}^k \Delta\beta_2 X_{1t-n} + \sum_{n=1}^k \Delta\beta_3 X_{2t-n} + \sum_{n=1}^k \Delta\beta_4 X_{3t-n} \dots + \rho_1 X_{1t} + \rho_2 X_{2t} + \rho_3 X_{3t} \dots + \varepsilon_t$$

Where:

Y= Dependent variable (Economic Growth)

X<sub>1</sub> ... X<sub>3</sub>= Independent variables (external debt shocks, debt service payment and debt to GDP ratio)

ρ<sub>1</sub> ... ρ<sub>3</sub> = Co-efficient of the long run variation

β<sub>2</sub> ... β<sub>4</sub> Co-efficient of the long run variation

μ , = long-run coefficient

ε<sub>t</sub> = error term

The analytical framework follows three stages.

First the datasets are tabulated and graphed to display their behavioural pattern. The basic descriptive statistics establishes the distributional characteristics of the variables in the study and with due attention to their shape, aggregative and variability characteristics, which includes measures such as measures of central tendency, measure of dispersion, symmetrical properties of the series and measure of the degree of peakness of the distribution. At this stage also, correlational matrix is deployed as a test for the degree and direction of linear association between the variables.

While Test for stationarity displays the unit root properties of the series.

Second, the estimation method employed in this study is Auto Regressive Distributed Lag model (ARDL). It is preferred to Ordinary Least Square (OLS) model because OLS has many shortcomings remedied by ARDL. Since regressors for an ARDL model include lagged values of the dependent variable, OLS estimation of the model produces biased estimates. The following are the benefits of using ARDL:

- a. It models short run and long run elasticity simultaneously
- b. It is a lag model i.e. it takes data one period backwards
- c. It is more robust
- d. It performs better for small sample size of data which is suitable for this research
- e. The ARDL can be applied whether the regressors are I (1) and/or I (0), i.e. Whether the results are all unit root or all stationary or, indeed, even if mixed results are obtained

Thirdly, to ascertain whether the model is best, linear and unbiased, the following post estimation test were carried out:

- Test for higher order auto correlation using BG Lag Multiplier test (BG LM test)
- Test for heteroscedastic residuals using white test or ARCH test
- Test for model stability using Ramsey RESET Tests and CUSUM Tests.

Inferences in this study was based on 5% degree of significance.

## RESULTS

Table 4.1 below comprises of the proxies for the variables used in this study. The time frame for coverage is 1999–2024. Based on the dataset as it was presented, estimates from this study were made.

**Table 1: Values of External debt stock, Debt servicing, debt to GDP ratio, economic growth rate, real interest rate and exchange rate in Nigeria.**

Year	LGDPGR	LDSP	LEXDGDGP	LEXDSTOCK	REXR	RINTR
1999	2.080148	-1.756741	2.127352	24.09568	100.0000	1.067736
2000	0.653760	0.338743	2.828506	24.96395	109.9025	6.055977
2001	1.897820	-1.549835	2.153799	24.47521	117.5464	11.20162
2002	1.669201	-1.722144	2.165353	24.25342	100.5039	5.685580
2003	1.897820	-1.549835	2.153799	24.47521	117.5464	11.20162
2004	1.911684	-1.395425	1.839898	23.73973	99.56163	6.684909
2005	2.080148	-1.756741	2.127352	24.09568	100.0000	1.067736
2006	2.080148	-1.756741	2.127352	24.09568	100.0000	1.067736
2007	1.293956	0.622870	3.103740	25.29084	117.0343	1.227719
2008	0.792282	0.360826	2.861433	25.12233	124.1892	4.522188
2009	1.050897	0.958333	3.368652	25.35295	115.6167	1.233050
2010	0.975575	-0.697416	2.237934	24.53048	119.8621	13.59615
2011	1.897820	-1.549835	2.153799	24.47521	117.5464	11.20162
2012	2.080148	-1.756741	2.127352	24.09568	100.0000	1.067736
2013	1.050897	0.958333	3.368652	25.35295	115.6167	1.233050
2014	1.842091	-0.852591	2.129318	24.56642	124.8404	11.35621
2015	1.050897	0.958333	3.368652	25.35295	115.6167	1.233050
2016	1.179172	0.541083	3.099841	25.35896	133.1890	0.919232
2017	1.293956	0.622870	3.103740	25.29084	117.0343	1.227719
2018	1.842091	-0.852591	2.129318	24.56642	124.8404	11.35621
2019	1.669201	-1.722144	2.165353	24.25342	100.5039	5.685580
2020	1.293956	0.622870	3.103740	25.29084	117.0343	1.227719

2021	1.911684	-1.395425	1.839898	23.73973	99.56163	6.684909
2022	1.050897	0.958333	3.368652	25.35295	115.6167	1.233050
2023	0.792282	0.360826	2.861433	25.12233	124.1892	4.522188
2024	2.084047	-1.465671	2.093306	23.84778	92.64212	18.18000

Source: World Development indicators

Where:

LGDPGR = (Log transformed value of Economic growth)

LDSP = (Log transformed value of Debt servicing)

LEXDGDP = (Log transformed value of debt to GDP ratio)

LEXDSTOCK = (Log transformed value of External debt stock)

RINTR = Real Interest rate

REXR = Real Exchange rate

The series was log transformed to equalize the bases of the values. A log transformed series is an excellent indicator of elasticity and ultimately, it makes comprehension easier.

The table below displays correlation factors between different variables. The table's cells each display the correlation between two variables. Data are summarized using correlation matrices, which are also utilized as inputs for more sophisticated studies and as diagnostics for such analyses.

**Table 2: Summary of correlational matrix**

VARIABLES	LGDPGR	LDSP	LEXDGDP	LEXDSTOCK	REXR	RINTR
<b>LGDPGR</b>	1.00					
<b>LDSP</b>	R = -0.86 {-8.37} 0.00	1.00 ----- -----				
<b>LEXDGDP</b>	R = -0.80 {-6.53} [0.00]	R = 0.95 {15.57} [0.00]	1.00 ----- -----			
<b>LEXDSTOCK</b>	R = -0.81 {-7.01} [0.00]	R = 0.93 {12.78} [0.00]	R = 0.94 {14.68} [0.00]	1.00 ----- -----		
<b>REXR</b>	R = -0.57 {-3.41} [0.00]	R = 0.60 {3.73} [0.00]	R = 0.51 {2.93} [0.00]	R = 0.73 {5.34} [0.00]	1.00 ----- -----	
<b>RINTR</b>	R = 0.28 {1.48} [0.15]	R = -0.44 {-2.42} [0.02]	R = -0.56 {-3.38} [0.00]	R = -0.44 {-2.42} [0.02]	R = -0.00 {-0.01} [0.98]	1.00 ----- -----

R=correlational coefficient; {} = t-stat; [] = probability of t-statistics.

Source: Extracted from E-views

The t-statistic must be  $> 2.5$  and the probability must be  $< 0.05$  for two variables to have a linear relationship with one another. Based on this criterion, there is linear correlation between LGDPGR and the independent variables. In order to prevent running a spurious regression, the stationarity test was employed to look at the stationarity characteristics of the variables under examination. The Augmented Dickey-Fuller (ADF), a test that adheres to the traditional unit root test technique, was utilized. The decision were based on a 5% level of significance.

**Table 3: Unit Root Test Results**

Variables	Test stat	Critical Values@			INF
		1%	5%	10%	
LEXDSTOCK	-4.60	-4.37	-3.60	-3.23	I(0)
LDSP	-4.55	-4.37	-3.60	-3.23	I(0)
LEXDGDP	-5.18	-4.37	-3.60	-3.23	I(0)
RINTR	-3.92	-4.39	-3.61	-3.24	I(1)
REXR	-4.54	-4.37	-3.60	-3.23	I(0)
LGDPGR	-4.77	-4.37	-3.60	-3.23	I(0)

Source: Extracted from E-views

From table 4.3 above, all the variables with the exception of RINTR were found in the traditional unit root test to have attained stationarity at levels while RINTR was found to be stationary at first difference. From the result on the unit root test, there is a notable difference in order of integration of the variables. There is a mixture of I (0) and I (1) variables. This justifies the use of the Autoregressive distributed lag model because the model tolerates that combination. The decision rule states that if the ADF statistics is more negative than the critical value at the chosen level then the series is stationary. Based on this, the series in the result above was found to be stationary. This implies that there is no unit root.

### Regression Analyses

The table below presents the summary of the ARDL regression results, which is a robust method for exploring the long term relationships among variables. The table outlines the key ARDL results including the coefficients, statistical significance and implications of the variables in the model. These results form the foundation for subsequent in-depth discussion, offering insights into variable relationships and their significance for the research objectives.

**Table 4: Summary of ARDL Long run regression results**

Variables	Coefficient	Std. Error	t-Statistic	p-Values
LEXDSTOCK	-0.0898	0.0389	-2.3062	0.0358
LDSP	-0.2003	0.0747	-2.6819	0.0094
LEXDGDP	-0.0585	0.0207	-2.8213	0.0129
RINTR	-0.9430	0.5858	-1.6096	0.1283
REXR	0.0399	0.0200	1.9894	0.0652
<b>DIAGNOSTIC TESTS</b>				
BGLM	0.44 (0.64)			
BPG	2.10 (0.09)			
RESET	1.29 (0.27)			

Source: Extracted by the author from E-views 10

For the diagnostics test, the BG-LM is the test for higher auto correlation. The insignificant p-value of the BG-LM test shows that there's no higher auto correlation for the model. BPG is a test for heteroscedastic residuals. The insignificant p-value of the BPG test suggests that the model is without heteroscedastic residuals. The Ramsey RESET (Regression Error Specification Test) is insignificant ( $>0.05$ ) which suggests that there is no specification error or misspecification in the model. In Summary, the model is best, linear and unbiased. There is no higher auto correlation, according to the diagnostic test, specifically the BG-LM test. The lack of heteroscedastic residuals in the outcome is demonstrated by the BPG's insignificance. The RESET demonstrates that the model is stable and without any specification error.

External debt shock is found to negatively and significantly affect economic growth in Nigeria. A unit change in debt shock reduced growth by a significant figure of 9% leading to the conclusion that External debts stock significantly affect economic growth of Nigeria. The finding shows that external debt stock has a negative and significant impact on economic growth in Nigeria. This relationship can be attributed to several factors. Firstly, high levels of external debt can lead to debt servicing costs that consume a significant portion of the country's revenue, thereby reducing the amount available for essential public services and investments that drive economic growth. Secondly, excessive external debt can also lead to a decline in investor confidence, making it more difficult for the country to attract foreign investment, which is crucial for economic growth. Furthermore, the burden of external debt can limit the government's ability to implement fiscal policies that stimulate economic growth, as a significant portion of the budget is dedicated to debt repayment.

Secondly, debt service payment is found to adversely and significantly affect economic growth. A percentage change in debt service payment reduces growth by 20% which is found to be highly significant at 0.05. The research reveals that Debt servicing has a negative and significant impact on economic growth in Nigeria. Debt servicing refers to the payment of interest and principal on debts, and high debt servicing costs can divert resources away from essential public services and investments that drive economic growth. In Nigeria, the country's debt servicing costs have been increasing in recent years, which has reduced the government's ability to invest in critical sectors such as education, healthcare, and infrastructure. The negative impact of debt servicing on economic growth can be attributed to several factors. Firstly, high debt servicing costs can reduce the government's ability to invest in essential public services, which can have a negative impact on human development and economic growth. Secondly, debt servicing costs can also limit the government's ability to implement fiscal policies that stimulate economic growth, as a significant portion of the budget is dedicated to debt repayment. Furthermore, the burden of debt servicing can lead to a decline in investor confidence, making it more difficult for the country to attract foreign investment. This finding is consistent with Kalu (2016) who found debt service payment to be prejudicial to economic growth.

Lastly, debt burden represented by Debt to GDP ratio negatively affects the growth of the Nigerian economy. The degree of responsiveness of economic growth to debt burden is found to be 5% decrease for every unit increase in debt burden. This relationship can be attributed to several factors, including the impact of debt burden on investment, consumption, and government spending. In Nigeria, the country's debt burden has been increasing in recent years, which has reduced the government's ability to invest in essential public services and stimulate economic growth. The significant responsiveness of economic growth to debt burden highlights the importance of managing debt effectively and promoting economic growth. This can be achieved by implementing policies that promote economic diversification, investing in infrastructure and human capital, and reducing dependence on external debt. Additionally, the government should consider implementing policies that promote transparency and accountability in debt management, such as publishing detailed information on debt burden and debt management strategies. Following Kalu, Igwe, Okoyeuzu & Ukpere (2017), debt burden has been seen as a limiting factor to economic growth in most highly indebted poor countries like Nigeria.

## SUMMARY AND CONCLUSIONS

Debts and the growth of the Nigerian economy have been of concern to economic watchers and researchers. This study adds a voice to the continuing conversation on debt weight as a limiting facto to the growth of the Nigerian economy. The study reveals that external debt stock has a negative and significant impact on economic growth in Nigeria. Again, the research found out that Debt servicing has a negative and significant impact on economic growth in Nigeria. Lastly, the study reveals that Economic growth has a significant responsiveness to debt burden

in Nigeria. The outcome of this study necessitates that government should consider implementing policies that promote economic diversification, such as investing in non-oil sectors and promoting private sector development to increase the competitiveness of the economy thereby containing the impact of debt on the economy.

Also, government should consider implementing policies that promote transparency and accountability in debt management, such as publishing detailed information on debt servicing costs and debt management strategies. Again, it is recommended that the government implements a debt management strategy that prioritizes debt sustainability and reduces debt servicing costs.

Based on debt to GDP ratio, it is recommended that the government implements a comprehensive economic development strategy that prioritizes debt sustainability and promotes economic growth. Additionally, the government should consider implementing policies that promote fiscal discipline and reduce corruption, such as strengthening institutions and promoting transparency and accountability in governance.

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