Public Debt, Institutional Quality and Economic Growth in Nigeria

Akande Omowunmi Comfort[1], Okeke Oluwatosin Nkechi[2], Wabeke Isreal Obinna[3], Oladele Ibijoke Abosede[4]

Department of Finance, Babcock University, Ilishan Remo, Ogun State, Nigeria

DOI: https://doi.org/10.47772/IJRISS.2026.100800237

Received: 14 August 2026; Accepted: 19 August 2026; Published: 01 September 2026

ABSTRACT

Nigeria's persistent accumulation of public debt has raised concerns about its capacity to generate sustainable economic growth. This issue are caused by the weaknesses in institutional quality, debt servicing pressures and macroeconomic instability that limit the effectiveness of borrowed funds. This study examined the effect of public debt and institutional quality on economic growth in Nigeria from 1996 to 2025. The study employed the Autoregressive Distributed Lag (ARDL) modelling after the Augmented Dickey-Fuller test established that the variables were integrated at levels and first differences. The Bounds test confirmed the existence of a long-run relationship among the variables, while the error correction mechanism was used to examine short-run dynamics. The findings revealed that total debt stock had a positive and significant long-run effect on economic growth (α = 0.9981; p = 0.0000), while its immediate short-run effect was positive but insignificant (α = 0.1095; p = 0.0678). However, the lagged effect of total debt stock was negative and significant (α = -0.4966; p = 0.0002). Institutional quality exerted a positive and significant long-run effect on economic growth (α = 0.6974; p = 0.0407), but its short-run effect was positive and insignificant (α = 0.1005; p = 0.3791). Debt servicing had a positive but insignificant long-run effect (α = 0.1418; p = 0.0599), while interest rate had a negative and significant long-run effect (α = -0.0982; p = 0.0082). Inflation exerted a negative but insignificant long-run effect (α = -0.0269; p = 0.0680). The error correction coefficient was negative and significant (α = -0.6359; p = 0.0000), confirming stable adjustment towards long-run equilibrium. The study concludes that public debt can support economic growth when effectively managed and complemented by strong institutions. The study recommended that Government should ensure that borrowed funds are channelled primarily towards infrastructure, human capital development, productive sectors and projects capable of generating sufficient economic returns. Borrowing for excessive recurrent expenditure should be discouraged.

Keywords: Public Debt; Institutional Quality; Economic Growth; Nigeria.

INTRODUCTION

The public debt crisis in Africa has remained a persistent macroeconomic challenge since the early 1980s, when several African countries increasingly struggled to meet their debt obligations despite apparent growth in primary commodity exports and international trade. The declining creditworthiness of many African countries raised concerns about international financial stability, the commitment of African governments to debt-servicing agreements, and the capacity of international financial institutions to withstand widespread sovereign debt distress. The consequences were substantial, including declining economic growth, inadequate capital formation, deteriorating exports, rising unemployment, and worsening living conditions. Against this background, the International Monetary Fund (IMF) and the World Bank introduced the Heavily Indebted Poor Countries (HIPC) Initiative in 1996 to reduce the debt burden of qualifying developing countries to sustainable levels and restore conditions for economic growth. Before the HIPC Initiative, debt overhang was prevalent across African economies and was associated with weak growth and underdevelopment (Elbadawi, Ndulu, & Ndung' u, 1997). By 2005, several African countries had received substantial debt cancellation or relief, creating fiscal space but also paving the way for a renewed wave of external borrowing (International Monetary Fund (IMF), 2015). The resurgence of public debt accumulation in Africa can be attributed to several factors, including the relatively lower cost of cross-border capital compared with domestic financing (Afful-Koomson, 2015); the political and social constraints associated with relying heavily on tax increases in

low-income economies (Bosire et al., 2020; Oberholzer & Stack, 2014); population growth and expansion in government responsibilities, which increase pressure on public expenditure (Ayee, 2005; Curristine et al., 2007; Fourie & Poggenpoel, 2017); the adoption of expansionary fiscal policies to stabilise economic activity (Toye, 2000); and the persistent growth of recurrent and capital expenditure amid inadequate government revenue (Baharumshah et al., 2016).

Nigeria represents an important case in this debate because its public debt has expanded alongside persistent difficulties in achieving sustained and broad-based economic growth. Although public borrowing can provide resources for infrastructure, human capital development, productive investment, and other growth-enhancing expenditures, its contribution to growth depends substantially on how borrowed resources are allocated and utilised. While a considerable number of studies have examined public debt and economic growth in Nigeria, there remains an important gap concerning the channels through which debt influences growth. Growth theories identify two broad and complementary channels through which financial development affects economic growth: the capital accumulation channel and the total factor productivity channel (Kemoe & Lartey, 2022a). Existing studies on public debt and deficit financing in Nigeria have largely concentrated on capital accumulation, with comparatively less attention to the total factor productivity channel (Akanbi et al., 2022). The capital accumulation channel emphasises the mobilisation of savings for productive investment, which increases capital formation and has the potential to generate higher output (Ogege & Ekpudu, 2011). However, Nigeria's experience suggests that rising public debt has not always been accompanied by corresponding improvements in economic growth (Ezeabasili et al., 2011). This divergence has significant implications for macroeconomic stability, welfare, investment, and long-term development. Although debt financing can increase capital availability for business development and economic expansion, its effectiveness in generating productivity gains and multiplier effects remains theoretically and empirically uncertain. This raises a fundamental question regarding whether the growth consequences of public debt are determined solely by the amount borrowed or also by the institutional environment within which borrowing and expenditure take place.

The existing empirical evidence on the public debt–economic growth relationship is characterised by considerable heterogeneity. While Ezeabasili et al. (2011), Ogege & Ekpudu (2011), and Onafowora & Owoye (2019) report positive relationships between public debt and economic growth, Adesola (2010), Joseph, Selekekeme, & Stephen (2019), and Opoku, Ibrahim, & Sare (2019) find negative relationships. This divergence suggests that the effect of public debt may depend on contextual factors that have not been adequately incorporated into conventional debt–growth models. One such factor is institutional quality, whose role as a mediating or moderating variable remains insufficiently explored in the Nigerian context. Institutional quality, reflected in political stability, rule of law, bureaucratic efficiency, governance quality, institutional capacity, and policy coherence, can determine how effectively public resources are mobilised, allocated, monitored, and transformed into productive outcomes. Weak institutions may encourage corruption, rent-seeking, inefficient expenditure, and poor accountability, thereby reducing the growth-enhancing effects of public borrowing, whereas strong institutions may improve the productivity of debt-financed expenditure and strengthen fiscal discipline (Adekunle, 2020). Another unresolved issue concerns causality. While Adesola (2012); Alhassan and Fiador (2014); Becken and Carmignani (2020) argue that public debt could potentially cause economic growth, Ali and Imai (2015); Easterlin (1974); and Olawunmi and Ayinla 2008) argue that sustaining economic growth may require additional financial resources that domestic savings are often unable to provide, thereby creating the need for borrowing. Thus, public debt may influence economic growth, economic growth may influence public debt, or both may be bidirectionally related. The possibility of a non-linear relationship also warrants attention, as moderate levels of debt may support productive investment while excessive debt may constrain growth through increased debt-servicing obligations, reduced fiscal space, crowding-out effects, and macroeconomic instability.

The foregoing concerns are particularly important for Nigeria given the magnitude and increasing trajectory of its public debt. Although external and domestic borrowing may be justified by the need to finance infrastructure, address fiscal deficits, and meet expanding government obligations, the rapid accumulation of debt and concerns about its sustainability and utilisation create significant economic risks. Poorly managed public debt may worsen external vulnerabilities through adverse exchange-rate movements and deteriorating terms of trade (Acosta Ormaechea, 2020), while capital flight may contribute to financial instability and

precipitate financial crises (Ndikumana & Boyce, 2003). Consequently, donors, financial institutions, investment partners, policymakers, and the wider society have become increasingly concerned about the implications of Nigeria's rising debt burden for economic performance and development. Against this background, this study examines the independent effects of public debt and institutional quality on economic growth in Nigeria, alongside the effects of debt servicing, interest rate and inflation. By including institutional quality as a distinct explanatory variable within the public debt–growth framework, rather than as a moderator of the debt–growth relationship, the study assesses whether institutional quality exerts its own significant influence on growth over and above that of public debt. Whether institutional quality conditions, rather than merely accompanies, the effect of public debt on growth is a related question that would require an explicit interaction specification and is identified as a direction for further research.

REVIEW OF LITERATURE

Conceptual Review

Economic growth refers to the quantitative and sustained increase in an economy's capacity to produce goods and services over time, commonly measured by the percentage change in real Gross Domestic Product (GDP) or Gross National Product (GNP), with positive growth indicating economic expansion and negative growth reflecting economic contraction or recession (Van et al., 2020; Umaru, Aliero & Abubakar, 2021). It is also associated with sustained increases in per capita output or income, accompanied by improvements in labour force participation, consumption, capital formation, trade, and total factor productivity (Ijirshar, Joseph & Godoo, 2016; Timothy & Maria, 2021; Ömer, 2022). However, the conventional use of GDP as a measure of economic growth has been questioned because increases in aggregate output may not necessarily translate into poverty reduction or inclusive improvements in citizens' welfare; hence, sustainable growth should benefit a broad segment of the population (Tella & Alimi, 2016).

Public debt is an important instrument of macroeconomic policy through which governments finance development objectives, manage fiscal imbalances, and pursue economic and financial stability. It generally refers to the total financial obligations of a government arising from borrowing from domestic and external sources and may therefore be classified into domestic and external debt (Valdrin, Fisnik & Halit, 2021). Government debt, sovereign debt, and public debt are often used interchangeably in the literature to describe the amount owed by a government to lenders, including individuals, businesses, financial institutions, other organisations, and foreign governments (Teboho & Joel, 2021). Public debt encompasses borrowing from within the country or abroad and from private individuals, associations, banking institutions, and non-bank financial institutions, while Ömer (2022) describes it as the total value of outstanding government bonds at a given point in time. Similarly, Bade and Parking (2004) define public or national debt as the cumulative amount borrowed by the federal government to finance expenditures in excess of tax revenue. Public debt can serve as a growth-enhancing instrument when borrowed resources are directed towards productive investments, as evidenced by Onofrei, Ionel, Bogdan, Angela and Valentina (2022), Shrestha (2021), Valdrin, Fisnik and Halit (2021), Nwamuo and Agu (2021), and Ajayi and Edewusi (2020), although other studies emphasise its potential adverse economic consequences (Cordelia & Ogechi, 2021; Veronica, 2021; Mhlaba, Phiri, and Nsiah, 2019; Saungweme, Odhiambo & Camarero; Momodu and Monogbe, 2017).

Institutional quality refers to the effectiveness, efficiency, and credibility of a country's formal and informal institutions, including its legal framework, property rights, regulatory systems, political structures, governance mechanisms, and control of corruption. Strong institutional quality promotes transparency, accountability, investor confidence, efficient resource allocation, and sustainable economic growth, while weak institutions can encourage corruption, distort economic incentives, undermine public trust, and reduce investment (Abubakar, 2020). Empirical evidence supports the importance of institutional quality for economic performance. Kutan, Samargandi and Sohag (2017) found that countries with inclusive political and economic institutions generally achieve higher long-run economic growth than those characterised by extractive institutions. Thus, institutional quality represents an important determinant of economic growth because strong and accountable institutions create an enabling environment for productive investment, effective governance, and efficient utilisation of economic resources (Anaduaka, 2014).

THEORETICAL FRAMEWORK

The Solow Growth Model, developed by Robert Solow, provides the theoretical framework for this study. As a neoclassical growth model, it explains long-run economic growth through capital accumulation, labour growth and technological progress, emphasizing the supply-side capacity of an economy to produce goods and services (Mankiw, 2002). The model expresses output as a function of capital and labour, (Y=F(K,L)), and suggests that increased capital accumulation and technological advancement can enhance productivity and economic growth. The model is relevant to this study because public debt can provide resources for capital formation and productive investment, while institutional quality can influence the efficiency with which such resources are allocated and utilised. Thus, the Solow framework provides a basis for examining how public debt and institutional quality can influence Nigeria's long-run economic growth.

Empirical Review

The empirical literature on public debt and economic growth presents diverse and, in some cases, contradictory findings across countries and methodological approaches. In Nigeria, Izuchukwu, Peters and Obinna (2022) examined the effect of public debt on economic growth using data from 1990–2020 and the Ordinary Least Squares (OLS) technique. The study found that both external and domestic debt had positive and significant relationships with real GDP growth, while a unidirectional causality existed between real GDP growth and external debt. Similarly, Chukwuemeka and Samuel (2021), using annual Nigerian data and ADF, Phillips-Perron, Johansen cointegration and dynamic regression techniques, found a negative but insignificant effect of external debt on economic growth in both the short and long run, while domestic debt exerted a positive and significant effect. Their long-run results also indicated that credit to the private sector positively and significantly affected economic growth. Eke and Akujuobi (2021), covering 1981–2018 and employing a cointegration approach, found a significant short-run relationship between public debt and economic growth. Although both domestic and external debt were statistically significant, external debt exerted a negative contribution to growth, which the authors attributed partly to the misappropriation of external borrowings. Veronica (2021), using annual data from 1990–2019 and applying the ADF test, Johansen cointegration and VECM, similarly found that public debt had a negative and significant effect on economic growth in the long run but a negative and insignificant effect in the short run. Debt servicing was also found to have a significant negative effect on growth in both periods, while no causality was established between public debt and economic growth. Ajayi and Edewusi (2020), using Nigerian data from 1982–2018 and VECM, reported that external debt negatively affected economic growth in both the short and long run, whereas domestic debt had positive effects in both periods. Abdulkarim and Saidatulakmal (2020), using ARDL and data from 1980–2018, found that external debt stock constrained long-run growth but enhanced growth in the short run, while domestic debt had a positive long-run effect and a negative short-run effect. They further found that debt-service payments reduced growth in both the short and long run, whereas foreign reserves enhanced growth. Sajuyigbe, Odetayo and Adeyemi (2018), using ADF, Johansen cointegration, VECM and Granger causality tests for 1999–2015, also found an inverse relationship between external debt and economic growth in Nigeria. In contrast, Timothy and Maria (2021), using the Harrod-Domar and Two-Gap theories and OLS on Nigerian data, reported that external debt had a negative but insignificant effect on economic growth. Sani and Sunday (2021) and Sani (2021), through exploratory reviews of empirical evidence, likewise concluded that excessive borrowing had adversely affected Nigeria's economic growth and recommended economic diversification, improved business conditions, and the reduction of financial leakages and corruption. These findings collectively suggest that the growth effect of Nigerian public debt depends on the type of debt, its utilisation, servicing burden, and the broader macroeconomic environment.

Evidence from other developing and emerging economies further demonstrates the heterogeneous nature of the debt–growth relationship. Valdrin, Fisnik and Halit (2021), examining Kosovo between 2007 and 2019, found that public debt had a positive effect on economic growth, attributing the result to the country's relatively low debt level, financial stability, and the use of borrowed funds for capital investment. Luljeta and Driton (2021), examining transition economies in Southeast Europe using fixed-effects and dynamic linear regression models, found a positive and statistically significant relationship between fiscal deficits and economic growth, consistent with Keynesian expectations. Their results also indicated that public debt and imports positively

affected economic growth, whereas exports and foreign direct investment exerted negative effects. Ngangnchi and Joefendeh (2021), using Dynamic OLS for Cameroon, found that external debt had a negative and significant effect on economic growth, while public investment exerted a positive and significant long-run effect. Importantly, the study found that public investment positively moderated the effect of external debt on growth, suggesting that the productive utilisation of borrowed resources can determine whether debt becomes growth-enhancing or growth-constraining. Atinafu (2020), applying ARDL to Ethiopian data covering 1970–2017, found that a high stock of public external debt had a significant negative long-run effect on economic growth. Amara, Abdur, Mirajul-haq and Nighat (2016), using the augmented Solow growth model and bounds testing for Pakistan from 1972–2013, however, found a positive but statistically insignificant relationship between public debt and economic growth, while human capital and private investment had significant positive effects on growth. Similarly, Onofrei, Ionel, Bogdan, Angela and Valentina (2022), using PMG, MG and DFE models within the ARDL framework for EU countries, found that increases in public debt were negatively and significantly associated with economic growth in both the short and long run. Agatha, António and Sérgio (2021), using monthly data from 1998–2019 and VEC and ARDL methodologies, found a bidirectional Granger causality between debt-to-GDP and GDP growth. Their results further showed that debt could promote growth in the short run but become harmful in the long run, while economic growth consistently reduced debt in both periods. The long-run relationship was also influenced by inflation, exchange rates and the Emerging Markets Bond Index Plus. These findings indicate that the effect of public debt is neither universally positive nor negative but is conditional on debt levels, investment quality, macroeconomic stability, and the time horizon considered.

A related strand of empirical literature focuses on the nonlinear and indirect channels through which public debt influences economic performance. Wissem (2019), using Panel Threshold Regression for Tunisia, Algeria, Morocco and Egypt over 2003–2012, identified a public debt threshold of 42.8% of GDP. Below this threshold, public debt had a positive relationship with economic growth, whereas beyond the threshold, its effect became negative. This finding supports the argument that moderate borrowing can finance productive investment, while excessive debt can undermine economic performance. Salyungu and Felician (2019), examining Tanzania with an ARDL bounds-testing approach, found a significant nonlinear relationship between external debt and private investment in both the short and long run, although Granger causality tests suggested that the relationship represented co-movement rather than causality. The combined effect of domestic and external debt on private investment was statistically significant in both periods. Sunday, Ngozi, Michael and Ogochukwu (2016), using a VAR framework, Granger causality, impulse response and variance decomposition techniques for Nigeria, found that shocks to external debt increased prime lending rates with a lag, although external and domestic debt did not significantly affect the general price level or output over the study period. Ariana, Bedri, Alma and Ermira (2019), examining Kosovo, emphasised the importance of exports in economic performance and found that exports had a positive effect on economic growth. Saungweme and Odhiambo (2018), in their review of the literature on public debt servicing, concluded that the growth effects of public debt service depend on the size, structure and composition of domestic and external debt. Collectively, these studies demonstrate that debt may affect growth indirectly through private investment, interest rates, debt servicing, trade and other macroeconomic channels, thereby indicating the importance of examining the broader institutional and economic environment surrounding public borrowing.

An increasingly important dimension of the literature concerns institutional quality, governance and corruption as determinants of economic performance and as possible conditioning factors in the public debt–growth relationship. Siti (2020), using a dynamic threshold model for a panel of 53 countries, directly examined the role of institutional quality in the relationship between external debt and economic growth. The study found that external debt adversely affected economic growth, whereas institutional quality improved growth, and importantly, the effect of external debt depended on the level of institutional quality. At high levels of external debt, however, the positive contribution of institutional quality to growth became relatively small, suggesting that excessive debt may overwhelm the growth benefits associated with better institutions. Abdikarim (2021), using panel data for East African countries from 2013–2017, found that corruption had a negative effect on economic development and that regulatory quality was also important in explaining economic performance. Mamun, Tahmina and Shapan (2021), examining Bangladesh, India and Pakistan using ECM-ARDL and fixed-effects models, found that a one-percent increase in corruption reduced GDP by 0.07 units in the fixed-

effects model, while trade had a positive relationship with economic growth. Amarda (2020) examined the effect of corruption on public debt and economic growth and identified government expenditure, the informal economy, infrastructure expenditure and persistent budget deficits financed through debt as important channels through which corruption can contribute to debt accumulation. The study further argued that debt can generate negative economic consequences, particularly in developing countries where austerity measures may intensify rather than resolve debt pressures. Abderraouf (2020), examining the effect of corruption control on economic growth using simultaneous-equation models over 1984–2018, also highlighted the importance of public-sector actions and corruption control in determining economic outcomes. These studies reinforce the argument that the consequences of public debt cannot be adequately understood without considering the quality of institutions governing public finance, accountability, regulation and resource allocation.

METHODOLOGY

Research Design

The study adopts an ex-post facto research design, which is appropriate for examining relationships among variables using existing data without manipulating the variables. The design enables the study to assess how changes in public debt and institutional quality influence economic growth in Nigeria (Cohen et al., 2007). The study uses annual secondary data covering 1996–2025, sourced from the World Bank's World Development Indicators (WDI), World Governance Indicators (WGI), Central Bank of Nigeria (CBN), and Debt Management Office (DMO) databases. Although the 1996–2025 period spans 30 calendar years, the descriptive statistics and estimations reported in Section 4 are based on 29 usable observations because first-differencing of the I(1) variables in the ARDL/ECM specification consumes one observation at the start of the series.

Model Specification

In accounting for the public debt/deficit, institutional quality and economic growth relationship in Nigeria, this study adapt the work of Siti (2020) whose work examine the effect of external debt and institutional quality on economic growth in Nigeria. The functional form is specified in Equ (3.1) as;

$$\boldsymbol{RGDP_t = f(TODBT_t, DSP_t, INSQ_t, INTR_t, INF_t)} \qquad \textbf{(3.1)}$$

Where RGDP is Real Gross Domestic Product, TODBT is total debt stock, INTR is Interest rate, INSQ is institutional quality, INF is Inflation Rate, DSP is Debt Sevicing, Consistent with the study's objective of examining the independent effects of public debt and institutional quality on growth, Equation (3.1) enters the two variables additively rather than as an interaction term; a moderation specification, in which institutional quality is interacted with total debt stock, is not estimated here and is left for subsequent research. The econometric form is then specified as;

$$\boldsymbol{lnRGDP_t = \alpha_1 + \alpha_1 TODBT_t + \alpha_1 DSP_t + \alpha_3 INSQ_t + \alpha_1 INTR_t + \alpha_1 INF_t + U_t} \qquad \textbf{(3.2)}$$

Table 3.1: Measurement of Variables

Variable	Symbol	Measurement	Expected Sign
Real Gross Domestic Product	RGDP	Real GDP, measured in constant prices, representing the level of economic output in Nigeria. The natural logarithm of RGDP is used in the model.	Dependent
Total Debt Stock	TODBT	Total public debt stock, comprising the outstanding domestic and external debt of the Nigerian government, measured in monetary value. The variable may be expressed as a ratio to GDP to account for the size of the economy.	+/-

Debt Servicing	DSP	Total government debt-service payments, comprising principal repayments and interest payments on domestic and external debt, measured in monetary value or as a percentage of government revenue/GDP.	−
Institutional Quality	INSQ	Composite institutional quality index generated using Principal Component Analysis (PCA) from six World Governance Indicators: government effectiveness, regulatory quality, rule of law, control of corruption, political stability and absence of violence, and voice and accountability.	+
Interest Rate	INTR	Lending interest rate, measured as the annual percentage rate charged by commercial banks on loans to the private sector.	−
Inflation Rate	INF	Annual percentage change in the Consumer Price Index (CPI), representing the rate of increase in the general price level.	−

Estimation Techniques

The study employs the Autoregressive Distributed Lag (ARDL) estimation technique to examine the short-run and long-run effects of public debt and institutional quality on economic growth in Nigeria. The ARDL approach is appropriate because the variables exhibit mixed orders of integration, I(0) and I(1), and none is integrated beyond I(1). The estimation procedure involves conducting a Unit Root Test using the Augmented Dickey-Fuller (ADF) technique to determine the stationarity and order of integration of the variables, followed by the Bounds Testing approach to cointegration to establish the existence of a long-run relationship among the variables. Where cointegration is confirmed, the ARDL long-run coefficients and associated Error Correction Model (ECM) are estimated to capture both long-run equilibrium relationships and short-run adjustments. The ECM coefficient is expected to be negative and statistically significant, indicating the speed at which short-run deviations converge towards long-run equilibrium. Post-estimation diagnostic tests, including tests for serial correlation, heteroskedasticity, normality and parameter stability, are also conducted to establish the reliability and adequacy of the estimated model

RESULTS AND DISCUSSION OF FINDINGS

Table 2: Descriptive Statistics

	LNRGDP	LNTODBT	LNDSP	INQT	INTR	INFLR
Mean	31.23534	8.789190	5.095540	-2.109484	13.14655	15.25276
Median	31.40290	8.666993	5.473238	-2.094370	13.50000	12.54000
Maximum	33.38049	11.42385	9.544503	0.000000	20.50000	72.84000
Minimum	28.76250	6.944376	2.959471	-2.607670	6.000000	5.390000
Std. Dev.	1.423273	1.149964	2.002517	0.479134	3.214446	12.28564
Skewness	-0.239162	0.294602	0.790282	2.898028	-0.061753	3.733575
Kurtosis	1.826529	2.531148	2.710254	14.12209	3.486497	17.98518
Jarque-Bera	1.940374	0.685104	3.120079	190.0649	0.304419	338.7128
Probability	0.379012	0.709956	0.210128	0.000000	0.858808	0.000000
Sum	905.8249	254.8865	147.7707	-61.17505	381.2500	442.3300
Sum Sq. Dev.	56.71979	37.02766	112.2821	6.427930	289.3147	4226.231
Observations	29	29	29	29	29	29

Source: Author's Computation (2026)

Where RGDP is Real Gross Domestic Product, TODBT is total debt stock, INTR is Interest rate, INSQ is institutional quality, INF is Inflation Rate, DSP is Debt Sevicing, Table 2 presents the descriptive statistics for the variables used in the study based on 29 observations. The mean of real gross domestic product (LNRGDP) is 31.24, with a median of 31.40, indicating a relatively stable distribution around its average, while its minimum and maximum values are 28.76 and 33.38, respectively. Total debt stock (LNTODBT) has a mean of 8.79 and ranges from 6.94 to 11.42, suggesting a considerable expansion in Nigeria's debt stock over the study period. Debt servicing (LNDSP) records a mean of 5.10, with values ranging from 2.96 to 9.54, indicating substantial variation in government debt-servicing obligations. Institutional quality (INQT) has a mean of -2.11 and ranges between -2.61 and 0.00, reflecting generally weak institutional performance over the period, although improvements were recorded in some years. The interest rate (INTR) has an average of 13.15%, with a minimum of 6.00% and a maximum of 20.50%, while inflation (INFLR) records a mean of 15.25%, ranging from 5.39% to 72.84%, indicating considerable volatility in Nigeria's inflationary conditions.

The standard deviations further indicate the extent of dispersion in the variables. Inflation has the highest standard deviation of 12.29, followed by debt servicing (2.00), interest rate (3.21), real GDP (1.42), total debt stock (1.15), and institutional quality (0.48), confirming that inflation experienced the greatest fluctuations during the study period. The skewness statistics show that LNRGDP and INTR are slightly negatively skewed, while LNTODBT and LNDSP are positively skewed; INQT and INFLR exhibit substantial positive skewness of 2.90 and 3.73, respectively. The kurtosis and Jarque-Bera statistics indicate that LNRGDP, LNTODBT, LNDSP, and INTR are approximately normally distributed, as their Jarque-Bera probabilities exceed the 5% significance level. However, INQT and INFLR significantly depart from normality, with Jarque-Bera probabilities of 0.0000. Overall, the descriptive statistics reveal substantial variations in Nigeria's debt, institutional quality, interest rate, and inflation dynamics, particularly the pronounced volatility in inflation and the relatively weak institutional quality observed over the study period.

Table 3: multicollinearity table

	LNRGDP	LNTODBT	LNDSP	INQT	INTR	INFLR
LNRGDP	1					
LNTODBT	0.889394	1				
LNDSP	0.774727	0.674592	1			
INQT	0.156082	0.082722	0.214557	1		
INTR	-0.18225	0.208747	-0.17699	-0.17422	1	
INFLR	-0.25289	-0.14435	-0.0515	0.755648	0.164028	1

Source: Author's Computation (2026)

Where RGDP is Real Gross Domestic Product, TODBT is total debt stock, INTR is Interest rate, INSQ is institutional quality, INF is Inflation Rate, DSP is Debt Sevicing,

Table 3 presents the pairwise correlation matrix used to assess potential multicollinearity among the variables. The results show that LNRGDP has relatively strong positive correlations with LNTODBT (0.889) and LNDSP (0.775), while LNTODBT and LNDSP are moderately correlated (0.675). INQT is strongly positively correlated with INFLR (0.756), whereas its correlations with LNRGDP, LNTODBT, LNDSP and INTR are relatively weak. Similarly, the correlations involving INTR are generally low, ranging between -0.182 and 0.209. Although the correlation between LNRGDP and LNTODBT is relatively high, none of the explanatory variables exhibits a pairwise correlation above the conventional threshold of 0.90, suggesting that serious multicollinearity is unlikely to pose a major problem in the model. Thus, the explanatory variables can be jointly included in the regression analysis without substantial concern about excessive linear dependence.

Table 4: Unit root test

Variables	**Augmented Dickey-Fuller Statistics**		**Order of Integration**
	@level	**@ First Diff.**	**ADF**
LNRGDP	-1.269	-5.461	I(1)

LNTODBT	-0.9117	-4.6352	I(1)
INFLR	-8.521	—	I(0)
LNDSP	-1.430	-5.476	I(1)
INSQ	-8.847	-	I(0)
INTR	-0.740	-5.2780	I(1)

Source: Author's Computation (2026)

Where RGDP is Real Gross Domestic Product, TODBT is total debt stock, INTR is Interest rate, INSQ is institutional quality, INF is Inflation Rate, DSP is Debt Sevicing,

The Augmented Dickey-Fuller (ADF) unit root test results indicate that the variables exhibit mixed orders of integration, with some variables stationary at level and others becoming stationary after first differencing. Specifically, LNRGDP, LNTODBT, LNDSP and INTR are non-stationary at level but become stationary after first differencing, indicating that they are integrated of order one, I(1). In contrast, INFLR and INSQ are stationary at level, implying that they are integrated of order zero, I(0). The results confirm that none of the variables is integrated beyond order one, I(1), thereby providing a suitable basis for the application of cointegration techniques such as the ARDL bounds-testing approach. The mixed integration order also suggests the need to account for both short-run dynamics and long-run relationships among public debt, institutional quality and economic growth.

Table 5: Bound cointegrating test

F-Bounds Test		Null Hypothesis: No levels relationship		
Test Statistic	Value	Signif.	I(0)	I(1)
			Asymptotic: n=1000	
F-statistic	10.95878	10%	2.08	3
K	5	5%	2.39	3.38
		2.5%	2.7	3.73
		1%	3.06	4.15

Source: Author's Computation (2026)

Where RGDP is Real Gross Domestic Product, TODBT is total debt stock, INTR is Interest rate, INSQ is institutional quality, INF is Inflation Rate, DSP is Debt Sevicing,

At the 5% significance level, the Bounds cointegration test indicates the existence of a long-run relationship among the variables in the model. The calculated F-statistic of 10.95878 is substantially higher than the upper-bound critical value, I(1) = 3.38, at 5% significance level. Since the F-statistic exceeds both the lower bound I(0) = 2.39 and the upper bound I(1) = 3.38, the null hypothesis of no levels relationship is rejected. This confirms that LNRGDP, LNTODBT, LNDSP, INQT, INTR and INFLR are cointegrated, implying the existence of a stable long-run relationship between public debt, debt servicing, institutional quality, interest rate, inflation and economic growth in Nigeria. Consequently, the study can proceed to estimate the long-run and short-run dynamics of the model.

Table 4.7: Estimated Model examining the effect of public debt and institutional quality on economic growth in Nigeria

Dependent Variable: LRGDP				
MODEL: ARDL				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
ECM Short Run Equation				
D(LNTODBT)	0.109484	0.054554	2.006898	0.0678
D(LNTODBT(-1))	-0.496580	0.092111	-5.391098	0.0002
D(LNDSP)	0.049219	0.010529	4.674432	0.0005

D(LNDSP(-1))	-0.052560	0.013576	-3.871685	0.0022
D(INQT)	0.100470	0.110008	0.913298	0.3791
D(INTR)	-0.036631	0.007205	-5.084012	0.0003
D(INTR(-1))	0.024791	0.006905	3.590366	0.0037
D(INFLR)	-0.008528	0.002629	-3.243860	0.0070
CointEq(-1)*	-0.635894	0.059280	-10.72694	0.0000
Long Run Equation				
LNTODBT	0.998118	0.095931	10.40457	0.0000
LNDSP	0.141773	0.068231	2.077845	0.0599
INQT	0.697407	0.304191	2.292664	0.0407
INTR	-0.098230	0.031046	-3.164047	0.0082
INFLR	-0.026890	0.013409	-2.005340	0.0680
C	25.27360	0.985613	25.64251	0.0000
MODEL EVALUATION				
R-squared	0.653228			
Adjusted R-squared	0.499107			
F-statistics	466.2343 (0.0000)			
Diagnostics Statistics				
Normality Test	3.1921 (0.0952)			
Serial Correlation LM Test	2.1471 (0.1676)			
Heteroskedasticity Test:	0.5552 (0.8537)			
CUSUM test:	Stable			
CUSUM Square test:	Stable			

Source: Author's Computation (2026)

Where RGDP is Real Gross Domestic Product, TODBT is total debt stock, INTR is Interest rate, INSQ is institutional quality, INF is Inflation Rate, DSP is Debt Sevicing,

Table 4.7 presents the estimated ARDL model examining the effect of public debt and institutional quality on economic growth in Nigeria. The short-run results show that the contemporaneous change in total debt stock (D(LNTODBT)) has a positive coefficient of 0.1095 but is statistically insignificant at the 5% level (p = 0.0678), suggesting that an immediate increase in public debt does not significantly improve economic growth. However, its first lag has a negative and significant effect on growth (coefficient = -0.4966; p = 0.0002), indicating that the adverse effects of debt accumulation may emerge with a lag. Debt servicing (D(LNDSP)) has a positive and significant short-run effect on economic growth (0.0492; p = 0.0005), while its lagged effect is negative and significant (-0.0526; p = 0.0022), suggesting that although debt servicing may initially coincide with economic activity, its subsequent burden can constrain growth. Institutional quality has a positive but statistically insignificant short-run effect on economic growth (0.1005; p = 0.3791). Interest rate has a negative and significant contemporaneous effect (-0.0366; p = 0.0003), while its lagged value has a positive and significant effect (0.0248; p = 0.0037). Inflation also has a negative and significant short-run effect on economic growth (-0.0085; p = 0.0070), indicating that rising inflation constrains economic performance. Importantly, the error correction coefficient is negative and statistically significant (-0.6359; p = 0.0000), confirming the existence of a stable long-run equilibrium relationship and indicating that approximately 63.6% of short-run deviations from equilibrium are corrected within each period.

In the long run, total debt stock has a positive and statistically significant effect on economic growth (0.9981; p = 0.0000), implying that an increase in public debt is associated with higher economic output over the long term. Debt servicing also has a positive coefficient (0.1418), although its effect is statistically insignificant at the 5% level (p = 0.0599). Institutional quality exerts a positive and significant long-run effect on economic growth (0.6974; p = 0.0407), suggesting that improvements in institutional quality contribute significantly to

Nigeria's long-term economic performance. Conversely, interest rate has a negative and significant effect on economic growth (-0.0982; p = 0.0082), indicating that higher borrowing costs may discourage investment and constrain economic activity. Inflation has a negative but statistically insignificant long-run effect at the 5% level (-0.0269; p = 0.0680). The model demonstrates reasonable explanatory power, with an R-squared of 0.6532 and adjusted R-squared of 0.4991, indicating that the explanatory variables jointly account for approximately 65.3% of the variation in economic growth. The F-statistic is significant (466.2343; p = 0.0000), confirming the overall statistical significance of the model. The diagnostic tests further indicate that the model is well specified: the normality test is insignificant (p = 0.0952), indicating normally distributed residuals; the serial correlation LM test is insignificant (p = 0.1676), suggesting absence of serial correlation; and the heteroskedasticity test is insignificant (p = 0.8537), indicating homoscedastic residuals. Finally, the CUSUM and CUSUM of Squares tests indicate that the model is stable, confirming the reliability of the estimated ARDL results.

The study finding is consistent with Izuchukwu, Peters and Obinna (2022), who found that both external and domestic debt positively and significantly influenced Nigeria's real GDP growth, and with Chukwuemeka and Samuel (2021) and Ajayi and Edewusi (2020), who reported positive effects of domestic debt on economic growth. It is also consistent with Valdrin, Fisnik and Halit (2021), who found that public debt promoted economic growth in Kosovo, particularly where borrowed resources were directed towards capital investment, and Luljeta and Driton (2021), who reported a positive effect of public debt on economic growth in Southeast European transition economies. However, the finding contrasts with Veronica (2021), Eke and Akujuobi (2021), Sajuyigbe, Odetayo and Adeyemi (2018), Atinafu (2020), and Onofrei, Ionel, Bogdan, Angela and Valentina (2022), who found negative effects of public or external debt on economic growth. The differences may be explained by variations in debt composition, utilisation, study periods, estimation techniques and prevailing macroeconomic conditions. The short-run negative lagged effect also agrees with Abdulkarim and Saidatulakmal (2020), who found different short- and long-run effects of domestic and external debt, and Agatha, António and Sérgio (2021), who established that debt could support growth in the short run but become harmful over the longer term. Thus, the findings suggest that the impact of public debt on Nigeria's economic growth is time-dependent and influenced by how borrowed resources are managed and utilised.

The study further finds that institutional quality has a positive and significant effect on economic growth in the long run, although its short-run effect is positive but insignificant. This suggests that improvements in the quality and effectiveness of institutions contribute more substantially to sustained economic performance than to immediate changes in output. The finding supports Siti (2020), who established that institutional quality enhances economic growth and that the effect of external debt depends on the level of institutional quality. It also agrees with Abdikarim (2021), who found that corruption and regulatory weaknesses negatively affected economic development in East African countries, and Mamun, Tahmina and Shapan (2021), who reported a negative relationship between corruption and economic growth in Bangladesh, India and Pakistan. Similarly, Abderraouf (2020) emphasised the importance of corruption control and effective public-sector actions in promoting economic growth, while Amarda (2020) identified corruption, government expenditure, the informal economy and infrastructure spending as important channels linking public debt and economic performance. The positive institutional quality finding therefore indicates that stronger governance, effective regulation, rule of law, political stability, government effectiveness, accountability and control of corruption can improve resource allocation and create an environment in which debt-financed expenditure is more likely to generate productive economic outcomes.

Limitations and Directions for Future Research

Several limitations qualify the findings and point to useful extensions. First, the model estimated here treats public debt and institutional quality as additive, independent determinants of growth rather than as an interacting pair; it therefore cannot speak directly to whether institutional quality moderates the growth effect of public debt, and a specification that interacts total debt stock with institutional quality would be needed to test moderation formally. Second, the sample, though covering thirty calendar years, yields only 29 annual observations once first-differencing is applied, which is a relatively short span for an ARDL/ECM framework and warrants caution in generalising the results; extending the data where possible or corroborating the findings with higher-frequency or panel data would strengthen future work. Third, total debt stock was used as

the single debt measure; robustness checks using the debt-to-GDP ratio and using external and domestic debt separately would help establish whether the results are sensitive to how debt is measured. Fourth, Real GDP was adopted as the dependent variable following common practice in this literature, but alternative or complementary measures, such as GDP per capita or non-income indicators of development, could be examined to assess whether the results are specific to aggregate output growth. Finally, the analysis does not formally test for structural breaks in the debt–growth relationship, does not address potential endogeneity between public debt and economic growth, and relies on a single Principal Component Analysis-based measure of institutional quality; incorporating structural break tests, endogeneity-robust estimators such as instrumental-variable or system GMM approaches, and alternative institutional-quality indices (for example, individual World Governance Indicators or indices from other providers) would provide a fuller and more robust picture of the debt–institutions–growth relationship in Nigeria.

CONCLUSION AND RECOMMENDATIONS

This study examined the independent effects of public debt, institutional quality and related macroeconomic variables on economic growth in Nigeria between 1996 to 2025. The independent variables were public debt stock, debt servicing, institutional quality, interest rate and inflation rate, entered additively rather than through an interaction term, while the dependent variable is Real gross domestic product. The study adopt an ex-post research design while data were sourced from world development indicators, world governance indicators and central bank of Nigeria. Autoregressive distributed lag modelling was used. The empirical results established the existence of a stable long-run relationship among the variables. The findings show that public debt has a positive and significant effect on economic growth in the long run, although its short-run effect is mixed. This suggests that public borrowing can contribute to economic expansion when it is appropriately managed and directed towards productive activities, but the immediate burden and adjustment effects associated with debt accumulation may constrain economic performance. The study also established that institutional quality has a positive and significant long-run effect on economic growth. This depicts the importance of effective governance, regulatory quality, rule of law, government effectiveness, political stability, accountability and control of corruption in promoting sustainable economic performance. The findings suggest that the benefits associated with public borrowing are more likely to materialise in an environment characterised by strong and effective institutions. Debt servicing was found to have mixed effects, while interest rate exerted a negative effect on economic growth. Inflation also negatively affected growth in the short run, indicating the importance of maintaining macroeconomic stability.

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

1. Government should ensure that borrowed funds are channelled primarily towards infrastructure, human capital development, productive sectors and projects capable of generating sufficient economic returns. Borrowing for excessive recurrent expenditure should be discouraged.
2. Government should improve the effectiveness of public institutions through stronger accountability mechanisms, transparent public procurement, effective regulatory systems, adherence to the rule of law and improved government effectiveness. Strong institutions will enhance the efficiency with which public debt is converted into productive economic outcomes.
3. The authorities should maintain a sustainable debt-management framework that considers the size, composition, maturity structure and cost of public debt. Particular attention should be given to avoiding excessive accumulation of expensive external and short-term debt.
4. Government should reduce unnecessary debt-servicing pressures by negotiating favourable borrowing terms, extending maturities where appropriate and prioritising lower-cost financing options. This would preserve fiscal resources for productive expenditure.

REFERENCES

1. Abdikarim, B. J. (2021). The effect of corruption on economic growth: empirical evidence in East Africa. International Journal of Research and Innovation in Social Science (IJRISS), 5(6), 717-723. www.rsisinternational.org

2. Abdulkarim Y. & Saidatulakmal M. (2020). The impact of government debt on economic growth in Nigeria. A version of this preprint was published at Cogent Economics & Finance. 1-21. https://doi.org/10.1080/23322039.2021.1946249.
3. Acosta, Ormaechea, S. (2020). Public Debt Dynamics and Intra-Year Exchange Rate Fluctuations. IMF Working Papers, 20(261). https://doi.org/10.5089/9781513561585.001
4. Adekunle, I. A., Williams, T. O., Omokanmi, O. J., & Onayemi, S. O. (2020). The mediating role of institutions in the remittance-growth relationship: Evidence from Nigeria. Economic Annals, 65(227), 7–30. https://doi.org/10.2298/EKA2027007A
5. Adesola, W. A. (2012). Debt servicing and economic growth in Nigeria: An empirical investigation. Global Journal of Social Sciences, 8(2), 13–30. https://doi.org/10.4314/gjss.v8i2.
6. Afful-Koomson, T. (2015). The Green Climate Fund in Africa: what should be different? In Climate and Development. https://doi.org/10.1080/17565529.2014.951015
7. Agatha S. António A. & Sérgio R. (2021). Public debt and economic growth in Brazil. Public finance notebooks, Brasília, 20(3), 1-46. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3748077
8. Ajayi, Ibidolapo E & Edewusi, D G. (2020). Effect of public debt on economic growth of Nigeria: An empirical investigation. International Journal of Business and Management Review 8(1), 18-38. DOI: https://doi.org/10.37745/ijbmr.vol8.no1p18-38.2020
9. Akanbi, A., Uwaleke, U. J., Ibrahim, U. A., Akanbi, A., Uwaleke, U. J., & Ibrahim, U. A. (2022). Effect of external debt service on economic growth in Nigeria. Journal of Service Science and Management, 15(4), 437–451. https://doi.org/10.4236/JSSM.2022.154026
10. Amara, A. K., Abdur R., Mirajul-haq & Nighat A. (2016). The impact of public debt on economic growth of Pakistan. International Journal of Academic Research in Economics and Management Sciences, 5(2). 46-56. DOI: 10.6007/IJAREMS/v5-i2/221
11. Amarda, K. (2020). Corruption and Economic Growth in the Balkan Countries. European Journal of Economics and Business Studies. 3(3), 88-97.
12. António A. & Eduardo. S. (2021). Corruption and economic growth: does the size of the government matter? Research in Economics and Mathematics. REM Working Paper 164-2021. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3787986.
13. Ariana, X. S., Bedri S., Alma S. L. & Ermira B. (2020). The impact of public debt in economic growth. Academic Journal of Interdisciplinary Studies. 9 (4), 177-186. DOI: https://doi.org/10.36941/ajis-2020-0072.
14. Atinafu, W. (2020). External debt-growth nexus: Empirical evidence from Ethiopian economy. Economics, Management and Sustainability, 5(2), 6-27. doi:10.14254/jems.2020.5-2.1.
15. Baharumshah, A. Z., Jibrilla, A. A., Sirag, A., Ali, H. S., & Muhammad, I. M. (2016). Public Revenue-Expenditure Nexus in South Africa: Are there Asymmetries? South African Journal of Economics. https://doi.org/10.1111/saje.12130
16. Bosire, E. N., Stacey, N., Mukoma, G., Tugendhaft, A., Hofman, K., & Norris, S. A. (2020). Attitudes and perceptions among urban South Africans towards sugar-sweetened beverages and taxation. Public Health Nutrition. https://doi.org/10.1017/S1368980019001356
17. Chukwuemeka N, & Samuel A. (2021). Public debt and economic growth: The Nigerian Experience. International Journal of Research and Scientific Innovation (IJRSI), 8(3), 133-141. www.rsisinternational.org
18. Cohen, L., Manion, L., & Morrison, K. (2007). Ex Post Facto Research. In Research Methods in Education.
19. Curristine, T., Lonti, Z., & Joumard, I. (2007). Improving Public Sector Efficiency: Challenges and Opportunities. OECD Journal on Budgeting. https://doi.org/10.1787/budget-v7-art6-en
20. Durbin, J. (1960). Estimation of Parameters in Time-Series Regression Models. Journal of the Royal Statistical Society: Series B (Methodological), 22(1), 139–153. https://doi.org/10.1111/j.2517-6161.1960.tb00361.x
21. Eke, C. K., & Akujuobi, N. E. (2021). Public debt and economic growth in Nigeria: An empirical investigation. International Journal of Development and Management Review, 16(1), 178–192. https://doi.org/10.4314/ijdmr.v16i1.
22. Elbadawi, I. A., Ndulu, B. J., & Ndung'u, N. (1997). Debt Overhang and Economic Growth in Sub-Saharan Africa. In External Finance for Low-Income Countries. DOI:

https://doi.org/10.1017/CBO9780511492648.002
23. Ezeabasili, V. N., Isu, H. O., & Mojekwu, J. N. (2011). Nigeria's External Debt and Economic Growth: An Error Correction Approach. International Journal of Business and Management, 6(5). https://doi.org/10.5539/ijbm.v6n5p156
24. Fourie, D., & Poggenpoel, W. (2017). Public sector inefficiencies: Are we addressing the root causes? South African Journal of Accounting Research. https://doi.org/10.1080/10291954.2016.1160197
25. Hassan, A. & Daniel M. (2021). Exploring the Channels of Transmission between External Debt and Economic Growth: Evidence from Sub-Saharan African Countries. Economies 9: 50. https:// doi.org/10.3390/economies9020050
26. Ibrahim, A. K., & Khan, S. M. (2019). Domestic Debt and Economic Growth in Nigeria: An ARDL Bounds Test Approach. Economics and Business, 33(1), 50–68. https://doi.org/10.2478/EB-2019-0004
27. Izuchukwu O., Peters S. O. O. & Obinna V. N. (2022). Does Public Debt Determine Economic Growth; Evidence from Nigeria. Asian Journal of Economics, Business and Accounting 22(23): 175-183.
28. Kemoe, L., & Lartey, E. K. K. (2022). Public debt, institutional quality and growth in sub-Saharan Africa: a threshold analysis. International Review of Applied Economics, 36(2), 222–244. https://doi.org/10.1080/02692171.2021.1957785
29. Mamun M., Tahmina A. P. & Shapan C. M. (2020). The Impact Of Corruption On The Economic Growth In Bangladesh, India And Pakistan: An Ardl Approach. Independent Journal Of Management & Production (Ijm&P). 12(8), 2080- 2093. DOI: 10.14807/ijmp.v12i8.1470
30. Ndikumana, L., & Boyce, J. K. (2003). Public Debts and Private Assets: Explaining Capital Flight from Sub-Saharan African Countries. World Development, 31(1), 107–130. https://doi.org/10.1016/S0305-750X(02)00181-X
31. Ngangnchi, F. H., and Joefendeh, R. (2021). External Debt, Public Investment and Economic Growth in Cameroon. International Journal of Finance Research, 2(4). 260 - 273. DOI: https://doi.org/10.47747/ijfr.v2i4.461
32. Oberholzer, R., & Stack, E. M. (2014). Perceptions of taxation: A comparative study of different population groups in South Africa. Public Relations Review. https://doi.org/10.1016/j.pubrev.2013.11.010
33. Ogege, S., & Ekpudu, J. (2011). The effects of debt burden on the Nigerian economy. Journal of Research in National Development, 8(2). https://doi.org/10.4314/jorind.v8i2.66829
34. Onafowora, O., & Owoye, O. (2019). Impact of external debt shocks on economic growth in Nigeria: a SVAR analysis. Economic Change and Restructuring, 52(2), 157–179. https://doi.org/10.1007/S10644-017-9222-5/METRICS
35. Onofrei, M., Ionel B., Bogdan N. F., Angela R., & Valentina D. R. (2022). Public Debt and Economic Growth in EU Countries. Economies 10: 254. https://doi.org/ 10.3390/economies10100254
36. Sajuyigbe, A. S., Odetayo, T. A. & Adeyemi, A. Z. (2018). External debt and economic growth of Nigeria: An Empirical Investigation. South Asian Journal of Social Studies and Economics. 1(2): 1-11. DOI: 10.9734/SAJSSE/2018/v1i225780.
37. Salyungu M. & Felician M. (2019). The Effect of Public Debt on Private Investment in Tanzania. African Journal of Economic Review, 7(1). 109-135. DOI:10.13140/RG.2.2.32360.52483
38. Sani, A. I. (2021). Public debt burden and issues of economic growth in Nigeria: are there solutions? In: Accounting and taxation review https://www.atreview.org/admin/12389900798187/Atreview5(2)%201-14.pdf.
39. Sani, A.I., & Nwite, S. (2021). Public debt burden and issues of economic growth in Nigeria: Are there solutions? Accounting and Taxation Review, 5(2): 1-14. http://www.atreview.org
40. Saungweme, T & Odhiambo, N M. (2018). Public debt service and economic growth: a survey of international literature. Applied Econometrics and International Development, 18(2), 129-142. https://www.semanticscholar.org/paper/Public-debt-
41. Siti N. M. D. (2020). External debt, institutional quality and economic growth. Bulletin of Monetary Economics and Banking, 23(2), 221 – 238. doi.org/10.21098/bemp.v23i2.1173
42. Sunday N. E., Ngozi .T. I. A., Michael K. M. & Ogochukwu G. O. (2016). An Empirical Analysis of the Macroeconomic Impact of Public Debt in Nigeria. CBN Journal of Applied Statistics 7(1), 125-145.

https://www.cbn.gov.ng/Out/2016/SD/An%20Empirical%20Analysis%20of%20the%20Macroeconomic%20Impact%20of%20Public%20Debt%20in%20Nigeria.pdf

43. Tella, S. A. (1998). The Consumption Function and Informal Sector Credit in Nigeria. South African Journal of Economics, 66(4), 256–264. https://doi.org/10.1111/J.1813-6982.1998.TB01266.X
44. Teboho, J. M. & Joel H. E. (2021). Asymmetric effect of government debt on GDP growth: evidence from Namibia. Public sector economics 45 5(4) 543-558. **DOI:** 10.3326/pse.45.4.7
45. Timothy O. I., & Maria C. U. (2021). Impact Of External Debt On Economic Growth In Nigeria. European Journal of Economic and Financial Research 5(2), 132-150. DOI: 10.46827/ejefr.v5i2.1156
46. Toye, J. (2000). Fiscal crisis and fiscal reform in developing countries. Cambridge Journal of Economics. https://doi.org/10.1093/cje/24.1.21
47. Umaru, A. D., Aliero, H. M., and Abubakar, M. (2021) Budget deficit and economic growth in Nigeria, CBN Economic and Financial Review (EFR), 59(2), 23-41. https://dc.cbn.gov.ng/efr
48. Valdrin M., Fisnik M. & Halit S. (2021). The Impact of public debt on economic growth: evidence from Kosovo (20072019). Journal of Accounting, Finance and Auditing Studies 7(4)119-133. DOI: 10.32602/jafas.2021.036.
49. Van, V. T. T., Ha, N. T. T., Quyen, P. G., Anh, L. T. H., & Loi, D. T. (2020). The relationship between public debt, budget deficit, and sustainable economic development in developing countries: the role of corruption control. Jurnal Ekonomi & Studi Pembangunan, 21(1), 84-104. DOI: 10.18196/jesp.21.1.5033
50. Veronica B. E. (2021). Impact of public debt on economic growth in Nigeria (1990 to 2019). Advances in Economics and Business, 9(1), 1 - 10. DOI: 10.13189/aeb.2021.090101.