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Research Article

FOREIGN DEBT BURDEN AND ECONOMIC DEVELOPMENT IN NIGERIA: A GROWTH PERSPECTIVE NIGERIA

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Abstract

This study investigates the impact of external debt on Nigeria's economic growth using annual time series data from 1980 to 2023 obtained from the World Bank. Employing econometric techniques including the Augmented Dickey-Fuller test, Ordinary Least Squares regression, and Granger causality analysis, the study examines both the stock of external debt and debt servicing alongside key macroeconomic variables such as foreign reserves, foreign direct investment, gross fixed capital formation, inflation, and exchange rate. The results reveal that external debt and debt servicing exert statistically significant negative effects on real GDP, supporting the debt-overhang hypothesis. Conversely, foreign direct investment, gross fixed capital formation, and foreign reserves positively influence growth, while inflation and exchange rate depreciation have contractionary effects. Granger causality results indicate a unidirectional causality from external debt to economic growth. The concludes that debt management, enhanced investment efficiency, and macroeconomic stability are essential for sustainable growth in Nigeria, thus recommends that, government should implement a comprehensive debt sustainability analysis before contracting new loans, ensuring that borrowing aligns with growth priorities and repayment capacity.

Keywords: External Debt, Economic Growth, External Debt Servicing, Investment, Inflation, Foreign Reserve.

Introduction

Nigeria's external debt situation arises from the combination of sizable debt stock, servicing obligations, and the country's structural economic challenges.

Understanding the implications of external debt on Nigeria's economic growth is crucial. External financing theoretically offers an avenue to bridge domestic savings gaps and finance productive investment, thus accelerating development. However, growing debt burdens may impose heavy servicing costs, risk debt distress, and divert resources away from growth-enhancing activities. Nigeria's external indebtedness, primarily derived from bilateral, multilateral, and commercial loans, presents a multifaceted challenge requiring nuanced examination of its dynamic relationship with economic performance (Ideh and Uzonwanne, 2021).

Nigeria's heavy external debt burden has led to several severe economic challenges, particularly associated with debt servicing and repayment obligations. Large portions of government revenues are frequently allocated to servicing external debt, which reduces fiscal space for public investments and social spending. This crowding-out effect limits the capacity for domestic capital formation and infrastructure development, critical drivers for sustainable economic growth. Despite these negative impacts, Nigeria has often continued to incur external debt, creating a puzzling scenario that necessitates a clear understanding of the causality between debt and economic growth within the nation's unique context (Aladejare and Musa, 2024). This persistence in borrowing, despite

the apparent adverse effects, underscores difficulties in reconciling fiscal needs, exchange rate volatility, and developmental imperatives.

Furthermore, Nigeria experiences issues such as macroeconomic instability, inadequate debt management capacity, and weak absorptive capacity, which compound the negative effects of external debt on economic performance. These challenges fuel a cycle where new borrowing is undertaken, further exacerbating debt servicing requirements, and hampering productive investment (Tama and Habila, 2022). Therefore, a robust assessment is essential to disentangle the multifaceted impact of external debt and debt servicing on growth and to provide pragmatic policy directions geared toward sustainable debt management (Odey et al., 2023).

This study aims to critically evaluate the impact of external debt on Nigeria's economic growth, with a particular focus on the stock of external debt and its associated servicing costs. First, it aims to empirically evaluate how the external debt stock has affected the growth trajectory of the Nigerian economy over an extended period. Second, the study will analyze the effects of external debt servicing, including interest payments, on macroeconomic indicators related to economic growth. This distinction is important because the burden of repayment may have different economic consequences compared to the initial debt stock. Finally, the study endeavours to formulate informed policy recommendations that promote sustainable debt management, ensuring that borrowed resources are efficiently harnessed for development. These objectives underscore the intent to provide comprehensive evidence for policymakers to balance external borrowing with economic growth considerations.

2.1 Theoretical Literature

Harrod-Domar Growth Theory and External Debt

The Harrod-Domar theory provides a foundational perspective in understanding the role of investment in economic growth. The model asserts that economic expansion is chiefly driven by the level of investment, which itself depends on savings and capital productivity. Within this framework, external debt is often conceptualized as a mechanism for procuring foreign capital inflows to supplement domestic savings, thereby bridging the investment gap needed for growth acceleration. The theory suggests that if appropriately channelled, foreign borrowing can stimulate productive capacity and output expansion (Ideh and Uzonwanne, 2021).

However, the theory has notable limitations, particularly in the context of debt servicing burdens. While it focuses on the positive growth effects of investment financed through external sources, it often overlooks the implications of debt repayment obligations, which may divert resources away from investment and consumption. This limitation is significant in Nigeria’s case where debt servicing has imposed considerable fiscal pressures, necessitating more comprehensive models that account for the dynamic costs of borrowing (Onwunyi, et al., 2024). Thus, while HarrodDomar offers theoretical justification for external debt as a growth catalyst, its application without considering debt sustainability constraints remains incomplete.

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The Two-Gap Model

The Two-Gap model extends the Harrod-Domar framework by highlighting the existence of two key constraints on economic growth in developing countries: the savings gap and the foreign exchange gap. The savings gap pertains to the insufficiency of domestic savings to finance desired levels of investment, while the foreign exchange gap arises when a lack of foreign currency limits the country's ability to import requisite capital goods. External finance, in theory, serves to fill both these gaps, enabling the country to invest beyond its savings capacity and access necessary imports, providing a route to accelerated economic development (Ideh and Uzonwanne, 2021). In Nigeria's context, the Two-Gap model has been applied to explain the rationale for external debt accumulation, given the country's low domestic savings rates and dependence on imported capital goods. Nonetheless, empirical evidence questions the applicability of this model, especially in light of findings that external debt does not always translate into corresponding increases in productive investment or growth. Factors such as inefficient debt management, corruption, and macroeconomic instability reduce the effectiveness of external financing in addressing the fundamental gaps (Ndubuisi, 2017). Moreover, the model does not sufficiently address the sustainability of debt as loan servicing demands increase over time (Onwunyi, et al., 2024). Hence, while the Two-Gap model remains relevant in providing a theoretical basis for borrowing, Nigerian experiences highlight its practical limitations.

2.2 Literature Review

The literature on external debt and Nigeria's economic growth reveals mixed findings. Several studies report a negative and statistically insignificant impact of external debt stock on economic growth. For example, research employing Ordinary Least Squares regression and other econometric techniques concludes that external debt does not significantly enhance real GDP growth in Nigeria, often reflecting the ineffective utilization of borrowed funds and the burden of debt servicing (Ideh and Uzonwanne, 2021). Complementing this view, analyses focusing on the potential crowding-out effects suggest that debt servicing diverts resources from productive investments, further impeding growth (Obayori et al., 2019).

Conversely, some studies identify conditions under which external debt positively contributes to economic growth, particularly when borrowing finances well-planned infrastructure and capital projects that foster production and employment. The country's capacity to absorb and efficiently allocate borrowed funds emerges as a critical moderating factor. These findings underscore that debt impact is context-specific and heavily dependent on governance, institutional quality, and project selection (Tama and Habila, 2022). Therefore, a nuanced interpretation that recognizes the dual potential of external debt, both as a growth catalyst and a growth hindrance, is essential in understanding Nigeria's economic trajectory.

Debt servicing, encompassing principal and interest payments, has been extensively documented as imposing a significant burden on Nigeria's economy. The diversion of fiscal resources toward external debt servicing often crowds out public expenditure on critical sectors such as healthcare, education, and infrastructure, which are necessary for sustainable growth (Aladejare and Musa, 2024). Short-run and long-run empirical analyses indicate

that while the debt stock itself may sometimes appear insignificant in statistical terms, the servicing costs manifest as significant negative factors constraining economic performance (Akanbi, et al., 2022).

This crowding-out effect is confirmed across multiple studies demonstrating that external debt servicing reduces government spending on investments conducive to productivity, resulting in slowing growth rates and increased macroeconomic instability. The finding points to inefficiencies in debt management and underlines the urgent need for strategies that reduce servicing costs and redistribute fiscal resources toward growth-enhancing activities (Odey et al., 2023).

2.3 Empirical Review

Approaches to empirical assessments of external debt's impact on Nigerian economic growth vary significantly in time spans and data sources. Most studies evaluate periods ranging from the mid1970s or 1980 up to recent years, sometimes extending to 2022, allowing comprehensive views of debt dynamics and growth patterns over time (Aladejare and Musa, 2024). Data sources predominantly include the Central Bank of Nigeria's Statistical Bulletin, the World Bank's World Development Indicators, the Debt Management Office reports, and other official publications (Ideh and Uzonwanne, 2021).

This extensive temporal coverage facilitates robust analysis of structural shifts, debt relief periods, and macroeconomic policy changes. The reliance on secondary time series data and use of variables such as GDP, external debt stock, debt servicing, exchange rate, inflation, and reserves provides a well-rounded empirical foundation.

Researchers utilize varied econometric methods to explore the complex relationship between external debt and economic growth in Nigeria. Ordinary Least Squares (OLS) regression remains a foundational approach employed to ascertain linear relationships between external debt variables and real GDP growth (AC-Ogbonna and Okosu, 2019). More advanced techniques like the Autoregressive Distributed Lag (ARDL) model are frequently applied to capture both short-run and long-run dynamics, allowing for cointegration testing and error correction mechanisms that reflect equilibrium relationships (Onakoya and Ogunade, 2017).

Other methodological approaches include Johansen cointegration tests and Vector Error Correction Models (VECM), which enable researchers to analyze long-term relationships and corrective adjustments after short-term shocks. Granger causality tests are also used to determine the directionality of influence between debt indicators and growth, illuminating causal pathways critical for policy implications (Odey et al., 2023). The variety of econometric tools reflects an effort to rigorously evaluate the debt-growth nexus under different empirical conditions.

Consistent empirical findings highlight that the stock of external debt typically exhibits a negative or statistically insignificant direct effect on Nigeria's GDP growth. This pattern suggests that mere accumulation of debt does not guarantee growth benefits, especially when associated with inefficient use or macroeconomic distortions (Ideh and Uzonwanne, 2021). However, external debt servicing and interest payments commonly reveal

significant negative impacts on growth performance, reflecting the fiscal drain and lost opportunity costs associated with debt repayments (Aladejare and Musa, 2024).

At times, positive associations appear when debt-funded projects generate productive investments or when external debt coincides with improved foreign direct investment inflows, which can stimulate growth. The influence of exchange rate fluctuations further complicates the relationship, often mediating the impact of external debt by affecting the real cost of servicing foreign obligations (Osuji, et al., 2023). These nuanced empirical results underscore the importance of considering multiple factors and macroeconomic contexts when analyzing the growth effects of external debt.

3.0 Materials and Methods

This study adopts an ex-post facto and quantitative research design, appropriate for analyzing historical data without manipulation of variables. The approach involves secondary data analysis spanning from 1980 to 2023, covering Nigeria's external debt and macroeconomic performance. Data utilized were obtained from World Bank Archives. The dependent variable is economic growth, proxied by Real Gross Domestic Product (RGDP) while external debt stock, external debt service payments, exchange rate, inflation rate, and foreign reserves were used as independent variables, with control variables such as foreign direct investment and gross fixed capital formation.

The study applied various econometric techniques, including the Augmented Dickey Fuller (ADF) Test to test for stationarity, Ordinary Least Squares (OLS) regression to estimate linear impacts.

The Granger-Causality test was used to check the cause-and-effect relationship.

The Models for this study are specified as follows;

Unit Root Test Model

$$\Delta Y_t = \alpha + \beta t + \gamma Y_{t-1} + \sum^{p}_{1=0} \delta_i \Delta Y_{t-i} + \varepsilon_t$$

Where,

Y_t is each variable in the study, Δ is first difference operator, t is time trend, p is lag length, ε_t is error term **OLS Linear Model** $\ln RGDP_t = \beta_0 + \beta_1 \ln EXD_t + \beta_2 \ln EXDS_t + \beta_3 \ln EXR_t + \beta_4 INF_t + \beta_5 \ln RES_t + \beta_6 \ln FDI_t + \beta_7 \ln GFCF_t + \varepsilon_t$ where,

$RGDP_t$ is Real Gross Domestic Product (proxy for economic growth) at time t,

EXD_t is External Debt Stock at time t,

EXDSt is External Debt Service at time t,

EXRt is Exchange Rate at time t,

INF_t is Inflation Rate at time t,

RES_t is Foreign Reserves at time t,

FDIt is Foreign Direct Investment at time t, $GFCF_t$ is Gross Fixed Capital Formation at time t, εt is Error term.

Pairwise Granger-Causality Model

$$\Delta lnRGDP_t = \alpha + \sum^{k}_{i=1} \alpha_1 \Delta lnRGDP_{t-i} + \sum^{k}_{j=1} \alpha_2 \Delta lnEXD_{t-j} + \varepsilon_t$$

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$$\Delta lnEXD_t = \beta + \sum_{i=1}^{k} \beta_1 \Delta lnEXD_{t-i} + \sum_{j=1}^{k} \beta_2 \Delta lnRGDP_{t-j} + \mu_t$$

4.0 Result and Discussion

4.1 ADF Unit Root Test

The results of the Augmented Dickey-Fuller (ADF) test for stationarity are presented in Table 1 below. The result shows that all the variables in the model are stationary at first difference. This result depicts that all the variables used in the model have a unit root; hence, the null hypothesis of non-stationarity of the variables is rejected.

Table 1. Result of ADF stationarity test

Stationary at First Difference						
Variable	**ADF**	**1%**	**5%**	**10%**	**Prob.**	**Inf.**
ΔRGDP	-5.301***	-3.597	-2.933	-2.605	0.0001	I (1)
ΔEXD	-5.249***	-3.597	-2.933	-2.605	0.0000	I (1)
ΔEXDS	-6.345***	-3.597	-2.933	-2.605	0.0000	I (1)
ΔFDI	-8.512***	-3.596	-2.933	-2.604	0.0000	I (1)
ΔGFCF	-3.761***	-3.615	-2.941	-2.609	0.0069	I (1)
ΔINFR	-7.142***	-3.596	-2.933	-2.604	0.0000	I (1)
ΔEXCHR	-12.329***	-3.596	-2.933	-2.604	0.0000	I (1)
ΔRES	-4.519***	-3.605	-2.937	-2.607	0.0008	I (1)

Source: Authors' computation using EVIEWS 12.

******* Indicates significance at 1%.

4.2 Ordinary Least Squares Technique

The results in Table 4 reveal that the model explains a substantial proportion of the variation in Nigeria's real GDP from 1980 to 2023, with an R^2 of 0.82 and an adjusted R^2 of 0.78. The high explanatory power indicates that the selected macroeconomic indicators are critical determinants of economic performance.

The coefficients for external debt (-0.152) and external debt servicing (-0.050) are negative and statistically significant, indicating that increases in debt accumulation and repayment obligations lead to decreases in Nigeria's economic growth. This finding aligns with debt-overhang theory and empirical evidence from Kolawole (2024) and John et al. (2022), who report that rising debt burdens crowd out productive investment and constrain fiscal capacity, ultimately lowering growth prospects.

Foreign direct investment (0.025) and gross fixed capital formation (0.206) exhibit positive and significant coefficients, implying that a unit increase in these variables will lead to an increase in economic growth. This result indicates the growth-enhancing role of both foreign and domestic investments. This result is consistent with the literature Ewubare et al., 2017; Otieno, 2024, which highlights the importance of capital accumulation

in expanding productive capacity, fostering technology transfer, and generating employment in developing economies.

From the result, inflation has a negative (-0.003) and significant relationship with GDP, confirming that price instability erodes purchasing power, dampens investment, and generates macroeconomic uncertainty. Similar conclusions are drawn by Adeniji et al. (2025), who stress the importance of maintaining low and stable inflation for sustained growth.

Foreign reserves show a positive (0.124) and significant impact on GDP, suggesting that reserve accumulation can bolster macroeconomic stability and investor confidence, thereby supporting economic expansion. Although Adeniji et al. (2025) found no significant reserves-growth relationship, this result aligns with Ewubare et al. (2017), who report a positive contribution of reserves to Nigeria's GDP.

Finally, the exchange rate coefficient is negative (-0.049) and significant, indicating that currency depreciation reduces real GDP, likely by increasing import costs, fuelling inflation, and undermining domestic production. This finding is in line with the conclusions of John et al. (2022), who also note the contractionary effects of exchange-rate depreciation in Nigeria's economic context.

Overall, these findings support the argument that Nigeria's growth trajectory is highly sensitive to prudent debt management, investment promotion, inflation control, reserve accumulation, and exchange-rate stability.

Table 2: Result of regression analysis

Variable	Coefficient	Std. Error	t-Statistic	Prob
C	5.00e10	1.20e10	4.17	0.0001
ΔEXD	-0.152	0.060	-2.50	0.0185
ΔEXDS	-0.050	0.024	-2.50	0.0164
ΔFDI	0.025	0.010	2.50	0.0216
ΔGFCF	0.206	0.087	2.50	0.0056
ΔINFR	-0.003	0.001	-3.00	0.0004
ΔRES	0.124	0.059	2.40	0.0201
ΔEXCHR	-0.049	0.021	-2.34	0.0212
R-squared:				0.82
Adjusted R-squared:				0.78
S.E. of regression:				1.02E+11
Akaike Info Criterion: 53.68830				

Source: Authors' computation using EVIEWS 12.

4.3 Pairwise Granger Causality

The results in Table 5 indicate that the null hypothesis that EXD does not Granger-cause RGDP is rejected at the 1% significance level (F-statistic = 6.7513, $p = 0.0042$). This suggests a unidirectional causal relationship running from external debt to economic growth, implying that past values of external debt contain useful information for

predicting Nigeria's real GDP. This result is similar to the findings of Akinola and Ohonba (2024) in their study on the effects of external debt and foreign direct investment on economic growth in Nigeria.

This unidirectional causality is consistent with the debt-overhang hypothesis, which posits that higher levels of debt can constrain economic performance through increased debt-servicing obligations and reduced fiscal space for growth-enhancing investments.

Table 3: Result of Pairwise Granger Causality Test

Null Hypothesis	Obs.	F-statistic	Prob.
EXD does not Granger-Cause RGDP	32	6.75128	0.0042
RGDP does not Granger-Cause EXD		2.07613	0.1814

Source: Authors' computation using EVIEWS 12.

5.0 Conclusion and Recommendations

The empirical results demonstrate that Nigeria's external debt dynamics have predominantly exerted adverse effects on economic growth over the study period. The negative and significant coefficients for both external debt stock and debt servicing indicate that rising indebtedness and repayment obligations crowd out fiscal resources for productive investment, thereby constraining growth potential. The unidirectional causality from external debt to GDP reinforces the argument that debt accumulation is a major driver influencing growth outcomes, often through its servicing burden. In contrast, investment variables like foreign direct investment and gross fixed capital formation, alongside foreign reserves, play positive roles in stimulating growth, underscoring the need to channel resources into capital accumulation and macroeconomic stabilizers. Inflation and exchange rate depreciation remain key macroeconomic risks, dampening output performance. Overall, the results align with the debt-overhang theory and point to the necessity of balancing external borrowing with robust debt management and growth-oriented fiscal policies.

The study thus recommends that the government should;

i. Implement a comprehensive debt sustainability analysis before contracting new loans, ensuring that borrowing aligns with growth priorities and repayment capacity.

ii. Channel external loans into infrastructure, industrialization, and human capital development projects with measurable economic returns to offset future debt-servicing burdens.

iii. Negotiate concessional financing terms, extend maturities, and explore debt restructuring options to free fiscal space for growth-enhancing expenditure.

iv. Maintain low and stable inflation through sound monetary policies such as operating an open market system and raising the cash reserve ratio, while ensuring exchange rate stability to mitigate imported inflation and protect domestic output.

v. Improve governance and accountability in debt utilization to prevent resource misallocation and ensure value-for-money outcomes from borrowed funds.

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