



**GOVERNMENT DEBTS AND ECONOMIC GROWTH NEXUS:  
EMPIRICAL EVIDENCE FROM EMERGING ECONOMY**

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**Abstract**

The intricate relationship between government public debt and economic growth has long been a subject of scholarly inquiry, and its relevance is particularly pronounced in the context of emerging economies like Nigeria. The study examined the effect of Government public debt on economic growth; an empirical analysis from Nigeria. A yearly time-series data was adopted for this study from 2001 to 2022 was sourced from Central Bank of Nigeria (CBN), and Securities Exchange Commission (SEC). Data was subjected to linear regression analysis which was used to estimate the parameters of the model. The findings revealed that the coefficient for external debts services (GFD) is -0.256090, indicating a negative relationship with economic growth. This suggests that an increase in GFD leads to a reduction in economic growth. Cost of servicing the debt (CSD) has a coefficient of 0.429029, which also shows a negative relationship with economic growth. This implies that higher costs associated with servicing debt correspond to lower economic growth, and Government Domestic debts (GDD) have a coefficient of -0.263782, signifying a negative impact on economic growth. The study therefore recommended that the government should develop strategies to manage and stabilize foreign debt levels. This could involve negotiating favorable terms with international creditors, seeking concessional loans, and improving debt repayment schedules to prevent excessive debt accumulation and reduce the burden on the economy, implement policies aimed at reducing debt servicing costs. This could include refinancing existing high-cost debt with lower-interest options, optimizing the debt maturity structure, and improving credit ratings through sound fiscal policies and economic reforms, regulate the issuance and management of domestic debt to ensure it is used efficiently and does not crowd out private sector investment, also, ensure that both foreign and domestic debt are allocated to projects and sectors with high growth potential, and establish mechanisms for regular monitoring and evaluation of public debt levels and their impact on economic growth.

**Keywords: government debts, economic growth, emerging economy.**

## **1. Introduction**

The intricate relationship between government public debt and economic growth has long been a subject of scholarly inquiry, and its relevance is particularly pronounced in the context of emerging economies like Nigeria. As Nigeria grapples with the challenges and opportunities posed by its public debt, understanding the nuanced impact of this debt on economic growth becomes paramount (Ahmad, 2021). The accumulation of domestic debt by the government may impose a strain on fiscal resources, potentially diverting funds away from essential public services and development projects. This raises questions about the extent to which domestic debt influences the government's ability to foster economic growth through strategic investments. Foreign debt exposes the economy to exchange rate fluctuations, impacting the cost of debt servicing. The question arises as to how the reliance on foreign debt, often denominated in foreign currencies, affects economic growth, especially in the face of volatile global currency markets (Ahmad, 2021).

The cost incurred in servicing government debt, including both interest payments and principal repayments, competes for a share of the national budget. Understanding the implications of a significant portion of the budget being allocated to debt servicing is crucial for assessing the government's capacity to stimulate economic growth through strategic spending. (Favour, 2017). The problem of public debt proliferation that many developing nations face has garnered international attention; this phenomenon, which is brought on by declining oil prices, volatile exchange rates, rising interest rates, etc., has had a detrimental impact on the economies of developing nations worldwide, particularly Nigeria (Favour, Ideniyi, Oge, and Charity, 2017). One of the key tools of fiscal policy that the government can use to finance a country's development is debt, or borrowing. In order to cover expenses that will eventually boost productivity and enhance economic growth, debt is used (Muhammad, Ruhaini, Nathan, and Arshad, 2017). Abdulkarim and Saidatulakmal (2021) assert that when government revenue streams are inadequate to support rising government expenditures, borrowing becomes essential. The secret to boosting economic growth and development is borrowing money at a fair rate to finance infrastructure and public projects.

Like many developing countries, Nigeria has turned to public debt as a vital tool for funding social programs, infrastructure projects, and other development endeavors. Nevertheless, the ramifications of this debt for economic expansion are still unclear and complex. Nigeria's

persistent “reliance on public debt, particularly foreign debt, which is frequently characterized by unfavorable lending conditions, unstable foreign exchange rates, and the possibility of repudiation that occurs when debt becomes excessive, has a negative impact on the country's economic growth due to its inability to accumulate domestic resources to cover the typical budget deficit that the nation has experienced over the years (Akinwunmi and Adekoya, 2018). It has also been determined that this problem hinders the development of domestic capital, which leads to a decrease in the availability of essential services for the nation's population (Udoka, 2018). This view was supported by the former Finance Minister, who stated that the inadequate and poor status of Nigeria's infrastructure is the primary reason for the country's lackluster development situation (Yunus, 2023).

Since the 2016 recession, Nigeria has suffered with a larger debt payment to revenue ratio because declining oil prices have directly impacted revenue. With a debt service to revenue ratio of 59.6% in 2019, Nigeria's government spent 2.45 trillion Nigerian Naira on debt service out of N4.1 trillion in total revenue. Nigeria's debt service as a percentage of income increased to 83 percent in 2020, breaking a new record due to the country's growing debt profile. This is concerning since it implies that debt payment obligations accounted for 83% of 2020 revenue. Despite having a N1.87 trillion budget, the government spent N1.76 trillion in 2020 to pay off its domestic debt. The total amount paid on foreign debts was N553 billion, while the planned budget was N805.47 billion. The decline is probably due in part to lower interest rates on overseas borrowing and relatively little borrowing from the foreign debt market throughout the year. The government only donated N4.58 billion to the sinking fund, as opposed to the N272.9 billion that was budgeted. Funds that will be utilized to settle future debts, including bonds, must be placed aside in the sinking fund (Ogunjimi, 2019).

The secret to boosting economic growth and development is borrowing money at a fair rate to finance infrastructure and public projects. A large debt load and interest payments, however, can come from excessive borrowing without adequate investment planning and have a range of detrimental effects on the economy. Due to this process throughout time, the majority of governments have enormous amounts of outstanding debt (Joy and Panda, 2020). With a slower GDP growth rate, slower export growth, quickly declining per capita income, and rising poverty rates, Nigeria is currently among the most indebted nations in Sub-Saharan Africa. A cycle of hurried and distressed borrowing that they cannot repay has ensnared the majority of these nations, including Nigeria. Even worse However, the global prices of their main products are declining, which means they need to borrow more money (Ogunjimi, 2019). Additionally,

earlier research on the impact of external debt service on Nigeria's economic development was the focus of papers like Chukwuemeka Nwamuo, Samuel Agu (2021) and Ezenwobi, Ngozi (2021). Three research questions are attempted to be addressed by the study: The first is to understand how Nigeria's domestic government debt affects economic growth, and the second is to look at how Nigeria's foreign government debt affects economic growth. The third is to determine how much Nigeria's economic growth is impacted by the cost of debt servicing.

## **2. Literature Review**

Iulia (2019) looked at how Romania's national debt affected economic growth between 1995 and 2018. The study measured the effect of the independent variable on the dependent variable using the straightforward Vector Autoregressive model (VAR). According to the findings, the economy first experiences discouragement before beginning to thrive. For two periods, the effects on government revenues and expenditures are favorable; after that, they decline. Using an econometric methodology, Amílcar Serrão (2023) investigates the relationship between public debt and economic development in advanced economies from 1946 to 2009. The results indicated a negative correlation between governmental debt and economic expansion in developed nations. These connections were also determined to be important. The model's findings also indicate that even if the public debt-to-GDP ratio falls below 220%, the real GDP growth rate does not drop much. According to the public debt-to-GDP ratio elasticity of the real growth rate, the real GDP growth rate falls by 1.13% for every 1% increase in the public debt/GDP category above 120%. Only when the public debt-to-GDP ratio is higher than 220% does public debt have a more detrimental impact on the real GDP growth rate in advanced economies.

Conversely, Picarelli, Vanlaer, and Marneffe (2019) investigate how public debt affected public investment in the EU from 1995 to 2015. Panel data for the time under review was used to analyze 26 EU nations. According to their findings, public investment in EU countries decreases by 3% for every 1% increase in public debt. The results also show that, compared to the EU as a whole, the Eurozone has a comparatively smaller detrimental impact on investment from debt. Qureshi and Liaqat (2020) used panel vector auto regression to examine the long-term effects of external debt on economic growth utilizing panel data from 1990 to 2015 in 123 different countries worldwide. The study's sample countries were chosen based on their income levels. According to their research, economic growth and foreign debt are positively correlated in lower- and middle-income nations, while the total impact of external debt on national

economic growth is negatively correlated. This demonstrates how the impact of external debt on economic growth differs according to a nation's level. Lau (2022) used panel data for 16 chosen countries in the region for the study period 1980–2016 to examine the impact of external debt on the economic growth of developing nations in Asia. They concluded from the panel data analysis that external debt significantly and negatively affects growth in the majority of developing Asian nations. The study's conclusion was that in order to promote sustainable growth in the area, fiscal restraint that aims for an optimum debt to GDP ratio is essential. According to Saungweme and Odhiambo (2020), there was a detrimental effect of both public and domestic debt on Zimbabwe's economic growth from 1970 to 2017. The Autoregressive Distributed Lag method (ARDL) was used for the analysis, and the results showed that local debt has a greater negative impact on the Zimbabwean economy than does international debt.

Ndubuisi (2017) used secondary data from 1985 to 2015 to evaluate the effect of external debt on economic growth in an emerging economy. To analyze the data, the study used the Ordinary Least Square (OLS) approach. The findings indicated that while external debt stock had a positive and considerable impact on Nigeria's growth index, debt service payments had a negative and negligible impact on the country's economic growth. Additionally, a long-term correlation between external debt and the growth index (GDP) was demonstrated by the Johansen cointegration test. Kharusi and Ada (2018) found that external debt significantly and negatively impacted Oman's economic growth. From 1990 to 2015, they used the Autoregressive Distributed Lag Cointegration technique to examine the connection between Oman's economic development and external debt. Based on their research, they suggested using external debt more effectively to boost economic growth.

Saifuddin (2018) examined Bangladesh's state debt and economic expansion. Since secondary data spanning the years 1974–2014 were gathered for the study, the quantitative research approach was chosen. The TSLS regression analysis and the Augmented Dickey-Fuller test were used to examine the data collected for the study. The study's conclusions showed a favorable correlation between public debt and economic growth as well as investment. This outcome shows that Bangladesh's government debt is a pool of financial resources that are employed for profitable investments. The impact of state debt on the Central African Economic and Monetary Community's (CEMAC) economic growth was evaluated by Ndieupa (2018). In order to collect panel data from developing nations, specifically Gabon, Cameroon, the Central African Republic, and others, the panel research design was chosen. Equatorial Guinea, the

Republic of the Congo, Chad, and the African Republic. Inferential analyses were used to assess the study's data. The study's findings showed that public debt negatively and statistically significantly affects economic growth.

Matandare and Tito (2018) assessed Zimbabwe's economic development and state debt. The research design used in the study was quantitative. We collected secondary time series data from the World Development Indicators database covering 36 years (1986-2016). The study's data were subjected to inferential analysis. The study's conclusions demonstrated a substantial inverse association between Zimbabwe's external debt and economic expansion. Additionally, the study determined that inflation and the exchange rate had substantial negative correlations with economic

Economic growth is significantly positively correlated with both external and Zimbabwean growth. Based on the results, the authors proposed that the government should increase efforts to increase domestic revenue sources in order to finance its growth plans because the accumulation of external debt hinders economic growth. They also suggested that diversifying the economy is essential because the government should create new industries that can produce income in order to support economic growth.

Muhammad (2017) investigated the connection between South-East Asian nations' public debt and economic expansion. Since secondary data covering a ten-year period (2006-2015) was gathered from the World Bank and OECD national accounts, the quantitative research approach was chosen. Granger causality, the VAR analytical tool, and other inferential analyses were used to examine the data collected for the study. The study's conclusions demonstrated that public debt has a major impact on a nation's economic growth, particularly over the long term.

Mousa and Shawawreh (2017) examined how debt affected Jordan's economic expansion. In particular, the study examined the effects of public debt on GDP, the impact of domestic debt on GDP, the impact of debt servicing on GDP, and the impact of external debt on GDP. Since the study examined secondary time series data covering fifteen years (2000-2015), a quantitative research approach was adopted. The study's data was analyzed using a regression model using the least squares approach. The study's conclusions showed that the entire amount of public debt, particularly the external debt, has a detrimental effect on economic growth. In light of these findings, According to the study, countries should rely less on external debt and more on their own internal resources.

Nymphas et al. (2023) investigated how Nigeria's public debt affected the country's economic expansion. The study specifically assesses the effects of Nigeria's external debt, external debt

service payments, and domestic debt on the country's GDP from 1981 to 2020. For this study, the ex post facto research design was used. The Central Bank of Nigeria (CBN) and the World Development Index (WDI) provided the time series data. The Philips Perron Unit root test was used to corroborate the results of the Augmented Dickey Fuller unit root test (ADF), which was used to test for stationarity of the time series data for all variables. The study looked into the short- and long-term relationships between Nigeria's public debt and economic development using the Autoregressive Distributed Lagged model as an econometric technique. The study's conclusions showed that while the coefficients of domestic and external debt had a positive and significant impact on Nigeria's economic growth, the time series data became stationary at first difference. On the other hand, external debt service payments had a long-term negative and significant impact on Nigeria's economic growth..

Ezenwobi et al. (2021) investigated how government borrowings affected Nigeria's economic growth. The World Development Indicators database (2020) and CBN statistical bulletin were the secondary sources of the annual data used in this study, which covered the years 1990–2020. The data was analyzed using a multiple regression model with the Augmented Dickey–Fuller (ADF) unit root test, Johansen cointegration, and Error Correction Mechanism (ECM). The study used the human development index (HDI), a stand-in for development, as the dependent variable and the foreign debt (EXD), domestic debt (DOD), interest rate (INTR), and inflation (INF) as independent variables. The outcome showed a statistically significant positive correlation between Interest rates show a statistically significant negative correlation with Nigeria's economic development, however external debt and economic development are equal to domestic debt and economic development in Nigeria.

Nigeria's economic growth and the effect of public debt were examined by Chukwuemeka and Samuel (2021). From 1981 to 2019, annual time series data were acquired from the Central Bank of Nigeria Statistics. The Johansen cointegration test method was also used to do a cointegration test, and the results indicated that the variables in the model were co-integrated, indicating a long-term link between them. The overparameterized model's coefficient of multiple determination (R<sup>2</sup>) was 0.890783, but the parsimonious model's was 0.846548, according to the error correction process. The short-run regression result indicated that Nigeria's economic growth is negatively and negligibly impacted by external debt.

Odubuasi, Uzoka, and Anichebe (2018) looked into how Nigeria's economic growth was impacted by external debt. Secondary data was gathered between 1981 and 2017. The study utilized the Error Correction Mechanism (ECM) for the short- and long-term associations,

Granger Causality to determine the cause-effect link among the variables, and the ADF to test for data stationarity. The findings show that government capital expenditures and the stock of external debt have a positive and considerable impact on Nigeria's economic growth, but the cost of servicing external debt is not significant. elucidating economic expansion. Abdulkarim and Saidatulakmal (2021) assessed how Nigeria's economic growth was impacted by government debt. Real GDP, foreign reserve position, interest rate, gross fixed capital creation, foreign direct investment, domestic and international debt, debt service payment, and the ARDL technique were the variables of the study, which used annual data from 1980 to 2018. It was discovered that while external debt had a short-term growth-enhancing effect, it was a long-term growth hindrance. While domestic debt had a short-term negative impact on growth, it had a significant positive long-term benefit. Long-term and short-term growth was hindered by debt service payments, demonstrating the debt overhang impact.

From 1981 to 2018, Alagba and Eferakeya (2019) examined the impact of Nigeria's public debt on the country's economic development. The Debt Management Office and the Central Bank of Nigeria Statistical Bulletin provided the data used in the study. Analyzing the impact of Nigerian internal debt on the country's economic growth and assessing the impact of international debt on the same was one of the study's goals. The study's conclusions demonstrated that the Federal Government of Nigeria's domestic debt had a positive and statistically significant impact on the economy. growth of Nigeria, whereas foreign debt has a less impact on the nation's economic expansion. The high cost of debt payment has a detrimental impact on economic expansion. In order to finance budget deficits, the analysis comes to the conclusion that the federal government should lower the rate at which it results in loans, particularly international loans.

Didia and Ayokunle (2020) looked at how Nigeria's economic growth was affected by public and publicly guaranteed debt. In order to determine if foreign and domestic debt have different effects on Nigeria's economic growth, the study breaks down the entire amount of public and publicly guaranteed debt into these two categories. A study conducted utilizing the Vector Error Correction Model (VECM) and data from the CBN and the World Bank from 1980 to 2016 showed that, over the long term, domestic debt has a statistically significant positive association with economic growth, while external debt has a negative link.

The study's policy proposal is that the Nigerian government should begin to pay more attention to the proportion of external and domestic debt in the country's loan portfolio. The relationship between public external debt and economic growth in African nations was

investigated by Ehikioya et al. (2020). The study looked at the dynamic relationships between external debt and economic growth in 43 African nations between 2001 and 2018 using the Johansen Cointegration test and the Generalized Method of Moments (sysGMM) system. Data from the World Bank's World Development Indicators (WDI) and the International Monetary Finance (IMF)'s World Economic Outlook database were used in the study. The research offers insight into how not statistically significant in relation to economic growth.

Ehikioya et al. (2020) support the necessity for policymakers to guarantee that foreign debt is used appropriately to economic activity to produce long-term, stable economic performance. Olusegun et al. (2020) found that while government spending and domestic debt and impede economic growth in Nigeria, foreign direct investment and external debt have a favorable impact. The error correction model coefficient, which stands at -0.969, indicates that government spending, foreign direct investment, domestic debt, and external debt account for roughly 96.9 percent of any imbalance in economic growth. spending in a single time frame (a year). According to the report, the nation can borrow money from outside sources, when necessary, but care should be made to prevent financial crises. Additionally, the government should reevaluate its spending plan to prioritize infrastructure development, since this would encourage investment from both domestic and foreign sources and thereby boost economic expansion. Last, governments and policymakers ought to create laws that would draw in foreign capital and create an atmosphere that is conducive to the safety of people and property.

### **3. METHODOLOGY**

#### **Theoretical Framework**

This study is theoretically anchored on Neo-Classical theory. The model offers insights to the link between government debt and growth within a neoclassical economic framework. Individuals and firms make decisions based on rational expectations, maximizing their utility or profits given available information. Markets are efficient allocators of resources, guided by supply and demand forces and characterized by equilibrium prices. Economic decisions are based on marginal costs and benefits, where individuals and firms compare the additional utility or profit gained from an action against the additional cost incurred. (Robert, 2018).

Neoclassical debt theory assumes that government borrow to finance deficits can have both positive and negative effects on economic growth. Investment in Productive Capital: Neoclassical theorists argue that government borrowing to finance investments in productive capital, such as infrastructure and education, can enhance long-term economic growth. These

investments increase the economy's productive capacity, leading to higher output and income levels in the future. Some neoclassical economists suggest that individuals may anticipate future tax increases to repay government debt and adjust their behavior accordingly. Under Ricardian equivalence, individuals increase savings to offset future tax burdens, leading to no net effect on consumption and economic growth. Neoclassical economists emphasize the potential for government borrowing to crowd out private investment. When governments compete with the private sector for funds, they may drive up interest rates, reducing private investment in productive capital and dampening economic growth. (Robert, 2018).

Neoclassical theorists caution against government borrowing for non-productive expenditures, such as excessive spending on consumption or inefficient projects. Debt financed consumption may lead to inflationary pressures without contributing to long-term growth, while inefficient projects may fail to generate sufficient returns to justify borrowing costs. Neoclassical economists advocate for fiscal discipline to ensure that government borrowing is directed towards productive investments and sustainable levels of debt. Prudent fiscal policies, such as balanced budgets or fiscal rules, can help mitigate the negative effects of government debt on economic growth. Governments should prioritize investments in productive capital that yield high economic returns and enhance long-term growth prospects. Infrastructure projects with positive net present value, investments in education and human capital, and policies that promote innovation and productivity growth are often emphasized. Neoclassical theorists stress the importance of debt sustainability, where governments ensure that borrowing levels are manageable relative to GDP and future tax revenues. Excessive debt burdens can lead to debt crises, higher borrowing costs, and macroeconomic instability, undermining long-term growth prospects (Edward, 2017).

## **Methods**

This study investigated the effect of government public debts on economic growth in Nigeria. Government domestic debt, Government foreign debt and Cost of servicing the debt will be used to ascertain its influence on economic growth. The model is based on the modification of the model adapted in the study of (Ehikioya, 2020) as given below

The model is implicitly specified as:

$$FGTE_t = \beta_0 + \beta_1 FGDD_t + \beta_2 FGFD_t + \beta_3 CSD_t + \beta_4 FGRR_t + U_t$$

Where: FGTE = Federal Government Total Expenditure, FGDD = Federal Government Domestic Debt, FGFD = Federal Government Foreign Debt, CSD = Cost of servicing debt,

FGRR = Federal Government Retained Revenue,  $U_t$  is the stochastic error term  $a_1, b_1-b_3$  are the coefficients.

The adapted model is restated in an econometric form as:

$$RGDP_t = \beta_0 + \beta_1 GDD_t + \beta_2 GFD_t + \beta_3 CSD_t + U_t \text{ Where:}$$

GDP=Gross domestic product, GDD=Government domestic debt, GFD=Government foreign debt CSD=Cost of servicing the debt  $\mu$  =Stochastic Disturbance (Error Term)  $\beta_0$  = Intercept of relationship in the model/constant  $\beta_1 - \beta_4$  = coefficients of each of the independent variables.

The data are obtained from CBN Bulletin (2001-2022). The selection of this timeframe is motivated by the notable intermittent rises in public debt during these years. These data include Government domestic debt, Government foreign debt, Cost of servicing the debt, Economic growth. Inferential statistics, specifically time series modelling techniques, are employed to assess the relationships and dynamics within the data. The primary inferential analysis tool utilized is time series regression analysis, which enables the examination of relationships between variables over time. Prior to conducting regression analysis, pre-regression tests such as tests for autocorrelation and stationary are performed to ensure the validity of the modelling approach.

#### **4. Results**

The summary statistics presented in Table 4.1 provide a detailed overview of the summary statistics of the variables employed in the research. The mean value for RGDP is 4.341822, indicating that, on average, the economy grew at a rate of 4.34% over the observed period. The standard deviation of 4.081692 suggests significant variability in economic growth rates, with the minimum and maximum values ranging from -2.03512 to 15.32916. This wide range demonstrates periods of both economic contraction and substantial growth. For GFD, the mean is 2.254699, meaning that Government foreign debt averaged 2.25% of the relevant metric. The standard deviation of 1.466115 indicates moderate variability, with values spanning from -1.66019 to 4.648895. This range includes negative values, suggesting instances where debt services were either minimal or possibly offset by other factors.

Cost of servicing the debt has a mean of 28.12813, indicating the average cost of servicing debt. The standard deviation is relatively high at 11.53255, reflecting significant fluctuations in debt servicing costs, with values ranging from 14.16873 to 53.12219. This suggests that debt servicing costs can vary widely from year to year. Lastly, GDD has a mean of 2.154592, showing that, on average, the Government domestic debt is around 108 units. The standard

deviation is 1.412116, highlighting considerable Government domestic debt, with values spanning from -1.66019 to 4.648895. This range includes negative values, suggesting instances where Government domestic debt was either minimal or possibly offset by other factors. Overall, the summary statistics reveal notable variability across all four economic variables, indicating dynamic and sometimes unpredictable economic conditions.

The correlation table presented in Table 4.2 illustrates the relationships the dependent and independent variables of the research. Starting with Real Gross Domestic Product, it has a perfect correlation with itself, as expected, with a value of 1.0. The correlation between Real Gross Domestic Product and External Debts Services is -0.003, which is very close to zero, indicating almost no linear relationship between economic growth and Government foreign debt. The p-value of 0.984 suggests that this correlation is not statistically significant. Real Gross Domestic Product and Debts Services Costs show a correlation of -0.158. This negative correlation implies a weak inverse relationship, where higher debt servicing costs are slightly associated with lower economic growth. However, with a p-value of 0.394, this relationship is not statistically significant, indicating that debt servicing costs do not have a meaningful impact on Real Gross Domestic Product in this dataset. The correlation between Real Gross Domestic Product and GDD is -0.197, suggesting a weak negative relationship. This implies that greater Government Domestic debts are somewhat associated with lower economic growth. Nonetheless, the p-value of 0.285 shows that this correlation is also not statistically significant. Moving to Government foreign debt, it shows a perfect correlation of 1.0 with itself. The correlation between Government foreign debt and Debts Services Costs is 0.199, indicating a weak positive relationship. This means that higher Government foreign debt is slightly associated with higher debt servicing costs. However, the p-value of 0.281 indicates that this relationship is not statistically significant. External Debts Services and Government Domestic debts have a correlation of -0.039, which is very close to zero, suggesting almost no linear relationship between Government foreign debt and Government Domestic debts. The p-value of 0.832 confirms that this correlation is not statistically significant. Debts Services Costs, which has a perfect correlation of 1.0 with itself, shows a correlation of 0.023 with Government Domestic debts. This near-zero correlation indicates almost no linear relationship between debt servicing costs and Government Domestic debts. The p-value of 0.900 reinforces that this relationship is not statistically significant. Overall, the correlation matrix reveals that none of the variables—RGDP, GFD, CSD, and GDD— show statistically significant linear relationships with each other in this dataset. Each correlation coefficient is accompanied by a

high p-value, indicating that any observed correlations are likely due to random chance rather than any meaningful economic relationship.

**Table 4.1:** Summary Statistics

Variable	Mean	Std. Dev.	Minimum	Maximum
RGDP	4.34182	4.08169	-2.03512	15.3292
GFD	2.2547	1.46612	-1.66019	4.6489
CSD	28.1281	11.5326	14.1687	53.1222
GDD	2.15459	1.41212	-1.43019	4.6489

**Note:** RGDP stands for Realm Gross Domestic Product, GFD represents Government foreign debt, CSD stands for Cost of servicing the debt and GDD represents Government Domestic debts.

*Source: Author's Computation, 2024*

**Table 4.2:** Correlation Matrix

Variable	RGDP	GFD	CSD	GDD
RGDP	1			
GFD	-0.003 (0.984)	1		
CSD	-0.158 (0.394)	0.199 (0.281)	1	
GDD	-0.004 (0.885)	-0.037 (0.834)	0.023 (0.900)	1

*Source: Author's Computation, 2024*

The regression analysis provides insights into the effect of debts on economic growth. The coefficient for external debts services (GFD) is -0.256090, indicating a negative relationship with economic growth. This suggests that an increase in GFD leads to a reduction in economic growth. The p-value for GFD is 0.0420, indicating that this relationship is statistically significant at the 5% level, suggesting a high level of confidence in this negative association. Cost of servicing the debt(CSD) has a coefficient of -0.429029, which also shows a negative

relationship with economic growth. This implies that higher costs associated with servicing debt correspond to lower economic growth. The p-value for CSD is 0.0609, suggesting that this relationship is statistically significant at the 10% level, indicating moderate confidence in the observed effect.

Government Domestic debts (GDD) have a coefficient of -0.263782, signifying a negative impact on economic growth. An increase in GDD is associated with a decrease in economic growth. The p-value for GDD is 0.0432, which shows that this relationship is statistically significant at the 5% level, underscoring a significant negative effect of Government Domestic debts on economic growth. The R-squared value of 0.931 suggests that 93.4% of the variation in economic growth can be explained by the independent variables in the model. The F-statistic of 18.96, with a p-value of 0.000, indicates that the overall model is statistically significant and provides a good fit to the data.

Diagnostic tests indicate that the regression model does not suffer from significant issues. The Breusch-Godfrey LM Test for autocorrelation shows a value of 3.436 with a p-value of 0.169, indicating no significant autocorrelation in the residuals. The heteroskedasticity test results in a value of 0.896 with a p-value of 0.606, suggesting no significant heteroskedasticity. The Jarque-Bera normality test yields a value of 1.222 with a p-value of 0.542, indicating that the residuals are normally distributed.

**Table 4.3:** Estimated Model for Economic Growth

Variable	Coefficient	Std. Error	t-Statistic	p-value
GFD	-0.2561	0.1209	-2.1175	0.0420
CSD	-0.4290	0.1924	2.2305	0.0609
GDD	-0.2638	0.1233	-2.8529	0.0324
C	0.0175	0.0072	2.5342	0.0432
R-squared	0.9340			
F-statistic	18.9600			0.0000
Breusch-Godfrey LM Test	3.4360			0.1690
Heteroskedasticity Test	0.8960			0.6060
Jarque-Bera Normality test	1.2220			0.5420

*Source: Author's Computation, 2024*

## **5. Conclusions**

As Nigeria grapples with the challenges and opportunities posed by its public debt, understanding the nuanced impact of this debt on economic growth becomes paramount (Ahmad, 2021). The regression analysis indicates that higher levels of government foreign debt and increased government domestic debts are linked to lower economic growth. This suggests that policymakers should prioritize strategies to stabilize government foreign debt and reduce the variability of government domestic debts to support robust and stable economic expansion. The study identifies these significant relationships, it also highlights the complexity of economic interactions. The lack of statistically significant correlations between these variables in pairwise analyses underscores the need for comprehensive modeling and the consideration of multiple factors to understand economic dynamics fully. This complexity requires a nuanced approach to policymaking, moving beyond simplistic linear relationships and accounting for broader economic contexts and potential non-linear effects.

The findings suggest that countries should adopt policies to effectively manage foreign debt exposure, mitigate debt servicing costs, and promote the efficient use of government domestic debt. By doing so, policymakers can enhance economic resilience and create conditions conducive to sustained long-term growth. Future research could further explore additional economic factors and their interactions to refine policy recommendations and improve economic management strategies. To foster sustainable growth, it is imperative for policymakers to adopt a multifaceted approach to managing government public debt. Hence, we offer these recommendations:

1. **Stabilize Government Foreign Debt:** Develop strategies to manage and stabilize foreign debt levels. This could involve negotiating favorable terms with international creditors, seeking concessional loans, and improving debt repayment schedules to prevent excessive debt accumulation and reduce the burden on the economy
2. **Minimize Debt Servicing Costs:** Implement policies aimed at reducing debt servicing costs. This could include refinancing existing high-cost debt with lower interest options, optimizing the debt maturity structure, and improving credit ratings through sound fiscal policies and economic reforms.
3. **Control Government Domestic Debt:** Regulate the issuance and management of domestic debt to ensure it is used efficiently and does not crowd out private sector investment. This can be achieved by maintaining a balance between short-term and

long-term borrowing and ensuring that domestic debt is directed towards productive investments that stimulate economic growth.

4. Promote Efficient Use of Debt: Ensure that both foreign and domestic debt are allocated to projects and sectors with high growth potential. Investment in infrastructure, education, and healthcare can yield significant long-term economic benefits, thereby justifying the incurrence of debt.

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