

Crowding-Out Effect of Domestic Debt on Private Infrastructure Financing in Nigeria

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Abstract: This study examines the crowding-out effect of domestic debt on private infrastructure financing in Nigeria using annual time-series data covering the period 1985–2024. The primary objective is to investigate whether increasing government domestic borrowing constrains the availability of credit to the private sector, which is a key source of financing for infrastructure development. Credit to the private sector (CPS) was used as a proxy for private infrastructure financing, while domestic debt (DDD), interest rate (INT), and gross domestic product (GDP) were included as explanatory variables. The study employed descriptive statistics and unit root tests to examine the statistical properties of the data, while the Autoregressive Distributed Lag (ARDL) model was used to estimate the dynamic relationship among the variables. The empirical results show that domestic debt has a significant positive effect on credit to the private sector in the short run, suggesting that moderate government borrowing may initially stimulate financial sector activities. However, the lagged effect of domestic debt was found to be negative and statistically significant, indicating that persistent government borrowing from the domestic financial market may eventually reduce the funds available for private sector investment. This finding supports the crowding-out hypothesis, which posits that excessive government borrowing competes with private sector demand for loanable funds. The results further reveal that interest rate has a negative but statistically insignificant effect on private sector credit, while economic growth exhibits weak positive lagged effects. The study concludes that although domestic debt can support government financing needs, excessive reliance on domestic borrowing may constrain private sector access to finance, particularly for infrastructure investment. The paper therefore recommends prudent domestic debt management, development of alternative infrastructure financing mechanisms such as public–private partnerships, and further deepening of the financial sector to ensure sustainable private sector participation in infrastructure development in Nigeria.

Keywords: *government, financing, policies, domestic, externa, borrowing, public investment, SMEs, exchange and inflation rates.*

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Introduction

The persistent expansion of public debt in Nigeria has increasingly become more than a fiscal management issue; it now represents a structural constraint on private sector financing and long-term economic development. In recent years, the rapid accumulation of domestic debt has altered the dynamics of credit allocation within the Nigerian financial system. As of the third quarter of 2025, Nigeria's total public debt stood at approximately ₦153.29 trillion, with domestic debt accounting for about ₦81.81 trillion (Debt Management Office, 2025). This sharp rise in internal borrowing reflects the government's growing reliance on domestic financial markets to finance persistent fiscal deficits. While such borrowing may support short-term fiscal operations, it has intensified the crowding-out effect, whereby government demand for credit displaces private sector access to financial resources. The crowding-out hypothesis, rooted in classical and Keynesian macroeconomic theory, posits that excessive government borrowing from domestic financial markets raises interest rates and reduces the availability of loanable funds for private investors (Barro, 1989). In the Nigerian context, this phenomenon has become increasingly evident. Government securities such as Treasury Bills and Federal Government Bonds provide highly attractive returns with minimal default risk, making

them preferred investment outlets for financial institutions. The monetary tightening stance adopted by the Central Bank of Nigeria in response to rising inflation has further reinforced this dynamic. By late 2024, the Monetary Policy Rate reached 27.25 percent, pushing yields on government securities upward and strengthening their appeal to Deposit Money Banks (CBN, 2025).

Consequently, financial institutions have increasingly diverted their loanable funds toward government securities rather than private sector lending. This behavioral shift is often described in the literature as "lazy banking," where banks prefer risk-free government assets instead of engaging in credit intermediation to the real sector (Akanbi, 2020). The implication is that critical sectors requiring long-term financing such as energy infrastructure, transportation networks, housing development, and telecommunications face severe constraints in accessing affordable credit. Empirical evidence further illustrates the imbalance in Nigeria's credit allocation structure. According to the Money and Credit Statistics of the Central Bank of Nigeria (2025), credit to government expanded significantly between 2020 and 2025, while growth in private sector credit remained comparatively sluggish. In certain quarters of 2025, government borrowing increased by nearly 695 percent relative to earlier levels, whereas lending to the

private sector grew only marginally. The resulting distortion has significantly increased the cost of borrowing for private investors. Infrastructure developers, for instance, often face lending rates exceeding 30 percent, coupled with stringent collateral requirements imposed by commercial banks (Babatunde, 2024). Such conditions make long-term infrastructure financing economically unattractive for private firms.

The implications of this crowding-out effect are particularly significant given Nigeria's substantial infrastructure deficit. Estimates suggest that the country requires over \$3 trillion in infrastructure investment over the next three decades to close its development gap and support sustainable economic growth (African Development Bank, 2022). However, the current public debt structure undermines the mobilization of private capital needed to complement government investment. High debt servicing obligations further exacerbate the problem. In several fiscal years, Nigeria's debt service payments have absorbed more than 80–90 percent of federal government revenue, leaving limited fiscal space for productive infrastructure expenditure (Ekpe, 2023). Another dimension of the crowding-out effect relates to the structure of Nigeria's domestic bond market. The extensive issuance of government securities has increasingly dominated the local capital market, thereby limiting opportunities for corporate bond issuance. Since infrastructure projects typically rely on long-term financing instruments, the dominance of sovereign debt instruments reduces the availability of market space for private infrastructure financing. As a result, private firms often depend heavily on bank loans rather than capital market funding, further intensifying credit constraints (Ojonye & Ibrahim, 2024).

Overall, the Nigerian experience illustrates how excessive domestic borrowing can distort financial intermediation and weaken private investment capacity. When the government becomes the largest borrower in the domestic financial market, it competes directly with private investors for limited financial resources. This competition not only raises borrowing costs but also discourages financial institutions from supporting private infrastructure development. Consequently, the crowding-out effect has become a major structural barrier to Nigeria's infrastructure expansion and industrial transformation. Addressing this challenge requires a combination of fiscal discipline, improved revenue mobilization, and deeper capital market development. Reducing the government's dependence on domestic bank financing would free up credit for private investors and improve the efficiency of financial intermediation. In addition, policies that promote corporate bond markets and infrastructure financing vehicles could help channel long-term capital into critical development sectors. Without such reforms, the continued expansion of domestic public debt may further constrain private sector participation in infrastructure development, thereby slowing Nigeria's progress toward sustainable economic growth.

Literature Review

Theoretical Framework

The analysis of the crowding-out effect of domestic debt on private infrastructure financing in Nigeria is anchored on two major theoretical perspectives: the Loanable Funds Theory and the Debt Overhang Theory. These theories provide the conceptual basis for explaining how excessive government borrowing from the domestic financial market can distort credit allocation, raise interest rates, and discourage private sector investment. Within the

Nigerian financial system, where the government remains a dominant borrower through Treasury Bills and Federal Government Bonds, these theories help explain the displacement of private sector credit and the limited financing available for infrastructure development.

Loanable Funds Theory

The Loanable Funds Theory, originally associated with the works of Knut Wicksell and later refined by economists such as Dennis Robertson, explains how interest rates are determined through the interaction of the supply and demand for loanable funds in the financial market. According to the theory, the supply of loanable funds is largely derived from national savings, while demand originates from investors, businesses, and government entities seeking financing. When government borrowing increases significantly, it competes directly with private sector borrowers for the same pool of funds, thereby exerting upward pressure on interest rates. In the Nigerian context, this theoretical framework provides a clear explanation for the crowding-out phenomenon observed in recent years. As government domestic borrowing expanded to approximately ₦81.81 trillion by 2025, the demand for loanable funds in the domestic financial market increased substantially (Debt Management Office, 2025). Within a financial system characterized by limited long-term savings and shallow capital markets, such an increase in government demand shifts the demand curve for loanable funds outward. The resulting increase in interest rates makes borrowing more expensive for private investors.

Empirical evidence supports this argument. Babatunde (2024) notes that rising government borrowing in Nigeria has contributed to higher lending rates, which often exceed 30 percent for private sector borrowers. Under such conditions, many infrastructure developers in sectors such as power, transportation, and manufacturing are unable to access affordable credit. Consequently, financial institutions tend to allocate a larger share of their funds to government securities because they provide attractive returns with minimal risk compared to lending to private firms. This situation leads to the displacement of private investment, particularly in capital-intensive infrastructure projects.

Debt Overhang Theory

The Debt Overhang Theory, first articulated by Myers (1977), provides another important explanation for how excessive public debt can discourage private investment. The theory posits that when a country's debt stock becomes excessively large relative to its repayment capacity, investors anticipate that a significant portion of future economic output will be used to service existing debt obligations. As a result, investors perceive that the returns on their investments may eventually be reduced through higher taxation, inflationary policies, or currency depreciation implemented by the government to meet its debt obligations. The Nigerian experience strongly reflects the dynamics predicted by the debt overhang hypothesis. By the end of 2025, Nigeria's total public debt had risen to approximately ₦153.29 trillion, with debt servicing obligations absorbing a substantial proportion of government revenue (Debt Management Office, 2025). In some fiscal periods, debt service payments have consumed more than 80 to 90 percent of federal government revenue, thereby constraining fiscal flexibility and raising concerns about long-term debt sustainability.

In such an environment, private investors may become increasingly cautious about committing long-term capital to infrastructure projects. Ojonye and Ibrahim (2024) argue that high public debt levels create uncertainty about future fiscal policies. Investors may anticipate the possibility of fiscal adjustments such as tax increases, subsidy removals, or exchange rate adjustments that could erode the profitability of private investments. As a result, investment decisions are postponed or redirected to safer financial assets rather than productive infrastructure projects. Thus, the Debt Overhang Theory complements the Loanable Funds Theory by explaining how high public debt not only absorbs financial resources but also generates macroeconomic uncertainty that discourages private sector participation in infrastructure financing. Together, these theories provide a comprehensive explanation of how excessive domestic borrowing can constrain private investment and slow infrastructure development in Nigeria.

Conceptual Clarification

To provide conceptual clarity for this study, it is important to define the key concepts underlying the relationship between public debt and private infrastructure financing in Nigeria. These concepts explain how government borrowing, financial market dynamics, and infrastructure financing interact within the economy.

Public Sector Debt Sustainability

Public sector debt sustainability refers to the ability of a government to meet its present and future debt obligations without defaulting or undertaking extreme fiscal adjustments (Anyanwu, 2023). In Nigeria, sustainability is often assessed using the debt-to-GDP ratio; however, the debt-service-to-revenue ratio is considered a more realistic indicator. By 2025, Nigeria's public debt rose to about ₦153.29 trillion, while debt servicing consumed a very large proportion of government revenue, raising concerns about fiscal sustainability (Debt Management Office, 2025).

Domestic Debt and External Debt

Domestic debt refers to government borrowing from internal sources such as banks and financial institutions within the country, usually denominated in local currency. In Nigeria, domestic debt reached approximately ₦81.81 trillion by 2025, largely through Treasury Bills and Federal Government Bonds (DMO, 2025). External debt, on the other hand, represents obligations owed to foreign creditors such as multilateral institutions and Eurobond investors. The distinction is important because domestic borrowing directly competes with the private sector for available financial resources (Umaru & Zubairu, 2025).

Crowding-Out Effect

The crowding-out effect occurs when increased government borrowing reduces the availability of credit to the private sector by raising interest rates or absorbing financial resources within the domestic financial system (Umaru & Zubairu, 2025). In Nigeria, the high yields on government securities encourage financial institutions to invest heavily in government debt instruments rather than finance private sector projects, thereby limiting access to credit for infrastructure development.

Infrastructure Gap

The infrastructure gap refers to the difference between the existing infrastructure stock and the level required to support

economic growth and population needs. Nigeria's infrastructure deficit is estimated at about \$3 trillion over the next three decades, reflecting shortages in power supply, transportation networks, housing, and digital infrastructure (Obansa & Maduekwe, 2024).

Private Infrastructure Financing

Private infrastructure financing refers to the mobilization of capital from private sector actors such as commercial banks, pension funds, and private equity investors to finance infrastructure projects. Ideally, private investment should complement public funding; however, increasing government borrowing has diverted credit away from private investors, thereby constraining private participation in infrastructure development in Nigeria (Anyanwu, 2023).

Empirical Review

The empirical review examines the relationship between public debt and private sector credit in Nigeria over the last decade (2016–2026). The literature consistently identifies a negative correlation between the growth of sovereign domestic debt and the availability of credit for private infrastructure development. As of early 2026, recent projections by Umaru and Zubairu (2025) indicate that the "crowding-out" effect has reached a critical threshold. Their study, utilizing a Vector Error Correction Model (VECM), found that for every 10% increase in government domestic borrowing which hit ₦81.81 trillion in late 2025 private sector credit growth is suppressed by approximately 3.4%. Furthermore, Babatunde (2024) analyzed the determinants of domestic credit and concluded that the high interest rate environment of 2024–2025, driven by the CBN's hawkish stance (MPR at 27.25%), effectively incentivized Deposit Money Banks (DMBs) to prefer government securities over private infrastructure loans. This resulted in the 2025 phenomenon where credit to the government outpaced the private sector by 695% [CBN, 2025].

During the post-COVID recovery phase, Okoedion (2023) conducted an empirical analysis (1981–2021) and found that the massive issuance of Sukuk and FGN Bonds to fund road projects inadvertently tightened the credit market for private contractors. Similarly, Ekpe (2023) argued that the rising debt-service-to-revenue ratio, which exceeded 90% in 2022, forced the government to rely more heavily on the domestic market, further displacing private investment. This period saw the "Ways and Means" advances from the CBN reach unprecedented levels, which Ojonye and Ibrahim (2024) link to inflationary pressures that eroded the real value of investable funds for private infrastructure. Earlier studies during the 2016 recession and the subsequent recovery identified the early stages of this imbalance. Akanbi (2020) demonstrated that between 2016 and 2019, government domestic borrowing grew at a Compound Annual Growth Rate (CAGR) that doubled that of private sector credit. This was the era where the "Lazy Banking" hypothesis gained academic traction in Nigeria, as DMBs' balance sheets became dominated by Treasury Bills. Anyanwu (2023) retrospectively noted that the 2017–2018 recovery was "infrastructure-poor" in the private sector because the yield on 364-day Treasury Bills often exceeded 15%, making it more attractive for banks than lending to high-risk power or manufacturing startups.

By 2019, the domestic debt stock had already begun its steep climb, crossing the ₦14 trillion mark. Akinmulegun

(2019) conducted a study using the Ordinary Least Squares (OLS) method to examine the impact of public debt on private investment. The findings revealed a "long-run negative relationship," suggesting that as the government increased its issuance of FGN bonds to fund the 2019 budget deficit, the interest rate on private loans surged to an average of 18%–22%, effectively pricing out small-scale infrastructure contractors. In 2018, the Nigerian financial sector was characterized by high yields on 364-day Treasury Bills, which peaked at nearly 15.8%. Adigwe et al. (2018) empirically tested the "Crowding-Out" hypothesis and found that Nigerian Deposit Money Banks (DMBs) significantly reduced their "Credit to the Private Sector" (CPS) in favor of "Credit to the Government" (CG). The study concluded that for every 1% increase in government domestic borrowing during this period, private sector credit growth slowed by 0.28%, validating the theory that banks preferred risk-free sovereign paper over real-sector lending. Following the 2016 recession, the government's need for liquidity intensified. Nwanna and Mauba (2017) analyzed the "Effect of Public Debt on Private Sector Investment" and discovered that the government's aggressive entry into the domestic bond market led to a "liquidity squeeze." Their empirical results showed that while the government successfully raised funds for the Nnamdi Azikiwe International Airport runway repair and other rail projects, private-sector-led housing and power projects stalled due to a lack of affordable bank financing.

The 2016 economic contraction forced the CBN to hike the Monetary Policy Rate (MPR) to 14% to stabilize the Naira. Umeora (2016) investigated the "Crowding-Out Effect" during this period of high inflation. The study found that the high cost of borrowing (reaching 30% for many private firms) made it impossible for private infrastructure firms to compete with the government for the dwindling pool of loanable funds. This era marked the beginning of the "yield-chasing" era in Nigerian banking. At the start of this decade, Okwu et al. (2015) examined the "Macroeconomic Determinants of Domestic Debt in Nigeria." The study highlighted that even with a lower debt-to-GDP ratio at the time, the tendency to borrow domestically was already creating a "partial crowding-out" effect. The authors warned that if the trend continued where government borrowing grew faster than the GDP Nigeria would eventually face a "credit crunch" for its private sector, a prediction that has materialized in the 2025–2026 data.

Literature Gap

The reviewed literature shows a strong consensus on the relationship between public debt expansion and private sector investment in Nigeria. Theoretically, the discussion is anchored on the Loanable Funds Theory, which argues that increased government borrowing raises the demand for limited financial resources and consequently drives up interest rates, thereby displacing private borrowers from the credit market. This argument is further supported by the Debt Overhang Theory, which suggests that excessive public debt creates fiscal uncertainty and discourages long-term private investment. In Nigeria, the rapid rise in public debt to about ₦153.29 trillion by 2025 has intensified concerns regarding debt sustainability and its implications for private capital formation (Debt Management Office, 2025). Empirical studies consistently indicate that Nigerian Deposit Money Banks tend to allocate a significant share of their portfolios to government securities because they offer relatively high and risk-free returns compared with lending to the private sector (Adigwe et al., 2018; Babatunde, 2024). Recent statistics further

reveal a strong imbalance in credit allocation, as lending to the government grew far more rapidly than credit to the private sector, reinforcing concerns about financial crowding out (Central Bank of Nigeria, 2025). Scholars such as Obansa and Maduekwe (2024) also observe that rising interest rates, often exceeding 30 percent for private borrowers, have constrained private participation in infrastructure investment, particularly in power, manufacturing, and transportation sectors.

Despite these contributions, important gaps remain in the literature. Many existing studies emphasize the size of public debt without adequately explaining why increased government borrowing has not significantly reduced Nigeria's estimated \$3 trillion infrastructure deficit. There is also limited empirical analysis of the post-2024 macroeconomic environment following the Naira devaluation and the sharp increase in domestic debt to about ₦81.81 trillion. Furthermore, most studies examine crowding-out effects at an aggregate level without providing sector-specific evidence on how domestic debt affects private financing of infrastructure sub-sectors such as independent power projects and telecommunications. Addressing these gaps, this study utilizes recent data from the Central Bank of Nigeria and the Debt Management Office to provide a more current assessment of how rising domestic debt is constraining private infrastructure financing in Nigeria.

Methodology

This study adopts an ex post facto research design to examine the crowding-out effect of domestic debt on private infrastructure financing in Nigeria. The design is appropriate because the study relies on historical macroeconomic data that cannot be manipulated by the researcher. The methodology focuses on analyzing the relationship between domestic public debt and the availability of credit for private infrastructure investment within the Nigerian financial system.

Data

The study utilizes secondary data obtained from reputable institutional sources. Annual time series data covering the period 2000–2025 are employed to capture the evolution of Nigeria's domestic debt profile and its influence on private sector financing. Data are sourced primarily from the Central Bank of Nigeria Statistical Bulletin and the Debt Management Office debt reports. Additional supporting data are drawn from publications of the National Bureau of Statistics and relevant financial reports. The dataset includes information on domestic debt levels, private sector credit, interest rates, and infrastructure investment indicators.

Techniques of Data Analysis

The study applies both descriptive and econometric techniques to analyze the data. Descriptive statistics are used to examine trends and patterns in domestic debt accumulation and private sector credit allocation. Econometric analysis is conducted using time series techniques, including unit root tests to determine stationarity of the variables, followed by the Autoregressive Distributed Lag (ARDL) model to estimate both short-run and long-run relationships among the variables. The ARDL approach is suitable because it accommodates variables integrated at different orders and allows for dynamic analysis of macroeconomic relationships.

Model Specification

To examine the effect of domestic debt on private infrastructure financing, the study specifies a functional relationship between private infrastructure financing and selected macroeconomic variables. The model is expressed as:

$$CPS = f(DDD, INT, GDP)$$

Where

CPS = Credit to private sector (proxy for Private Infrastructure Financing)

DDD = Domestic Public Debt

INT = Interest Rate

GDP = Gross Domestic Product

The econometric model is therefore specified as:

$$CPS_t = \beta_0 + \beta_1 DDD_t + \beta_2 INT_t + \beta_3 GDP_t + \mu_t$$

where β_0 represents the intercept, β_1 – β_4 represent the coefficients of the explanatory variables, and μ_t is the stochastic error term.

Descriptions of Study Variables

Table 3.1: Description of Study Variables and A Priori Expectations

Variable	Proxy/Measurement	Description	A Priori Expectation
Private Infrastructure Financing (PIF)	Credit to infrastructure-related sectors	Represents the level of private sector investment directed toward infrastructure development such as power, transportation, and telecommunications. It serves as the dependent variable capturing the availability of private funding for infrastructure projects.	—
Domestic Public Debt (DDD)	Total domestic debt stock	Refers to government borrowing from domestic sources including treasury bills, FGN bonds, and other securities issued within the local financial market. Excessive domestic borrowing may divert financial resources away from private investors.	Negative (-)
Interest Rate (INT)	Lending rate	Represents the cost of borrowing in the economy. Higher lending rates increase the cost of capital for private investors and may discourage infrastructure financing by private firms.	Negative (-)
Gross Domestic Product (GDP)	Real GDP	Captures the level of economic activity in the economy. Higher economic growth tends to stimulate private investment and infrastructure financing due to improved market opportunities.	Positive (+)

4.0 Results and Discussion

4.1 Trend Analysis

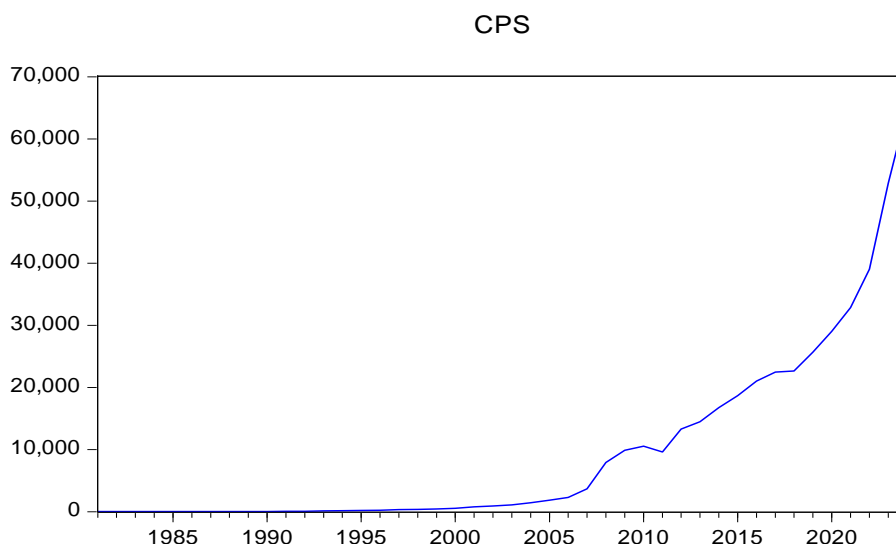


Figure 4.1 Trend of Credit to the Private Sector (CPS)

The trend of CPS shows a strong and persistent upward movement over time, with moderate growth in the early years and a sharp acceleration after the mid-2000s. The rapid increase in recent years suggests an expansion in bank lending to the private sector, although the growth appears to coincide with rising domestic debt.

DDD

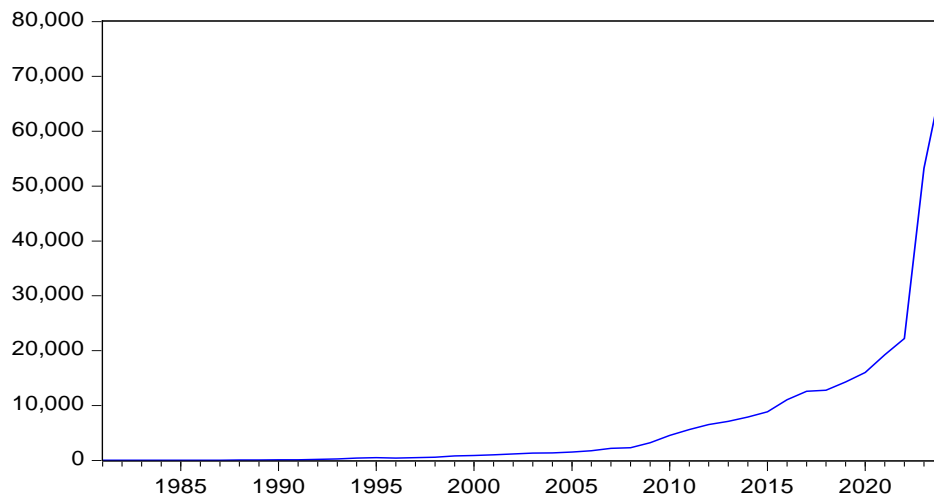


Figure 4.2 Trend of Domestic Debt (DDD)

The trend of Domestic Debt (DDD) reveals a steady rise throughout the period, with a particularly sharp increase from the late 2010s onward. This rapid accumulation of government domestic borrowing suggests increased government presence in the domestic financial market, which may exert pressure on available funds for private sector financing.

INT

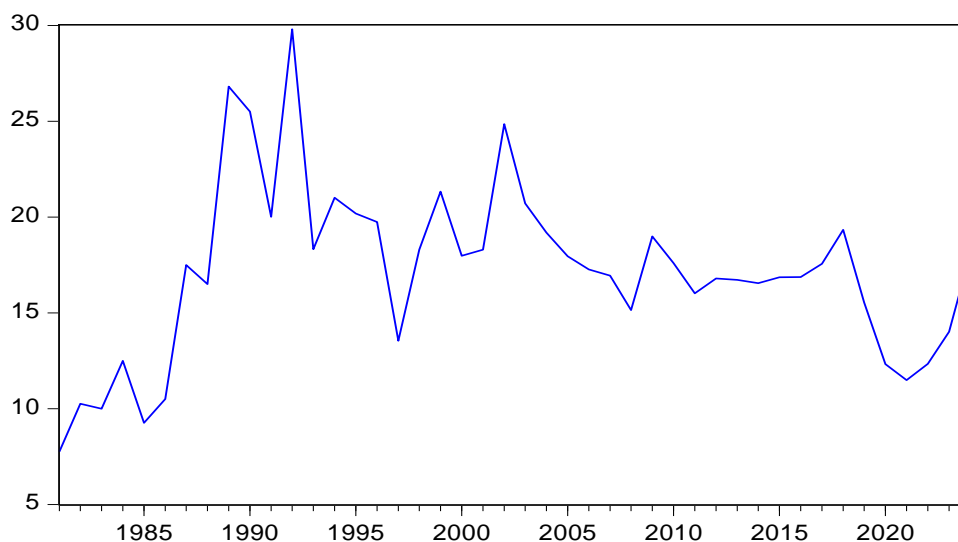


Figure 4.3 Trend of Interest Rate (INT)

The interest rate (INT) displays a fluctuating pattern over the years, reflecting periodic monetary policy adjustments. Periods of relatively high interest rates may increase borrowing costs for private investors and, when combined with rising domestic debt, could potentially constrain private sector access to finance.

Descriptive Statistics Results

Table 4.1: Descriptive Statistics of Crowding-Out Effect of Domestic Debt on Private Infrastructure Financing

	CPS	DDD	INT	GDP
Mean	9685.961	6665.139	17.13841	51837.69
Median	1013.515	1247.840	17.38000	12529.21
Maximum	64884.78	70409.86	29.80000	304480.0
Minimum	8.570000	11.19000	7.750000	139.3100
Std. Dev.	15133.04	13578.63	4.565442	73126.32
Skewness	1.924916	3.394599	0.335229	1.663579
Kurtosis	6.478323	14.95275	3.564243	5.264963
Jarque-Bera	49.35322	346.4295	1.407786	29.70007
Probability	0.000000	0.000000	0.494656	0.000000

Sum	426182.3	293266.1	754.0900	2280858.
Sum Sq. Dev.	9.85E+09	7.93E+09	896.2602	2.30E+11
Observations	44	44	44	44

Source: E-view 13.0 Output

Table 4.1 presents the descriptive statistics of the variables. CPS and DDD have high mean values and large standard deviations, indicating significant growth and variability over the study period. INT shows relatively moderate variation, suggesting more stability compared to the other variables. The positive skewness values indicate that the variables are skewed to the right. The Jarque–Bera results show that CPS, DDD, and GDP are not normally distributed, while INT appears normally distributed since its probability value exceeds 0.05.

Table 4.3: Summary of Unit Root Test for ARDL Bounds Test

Variable	ADF at Level	ADF at First Difference	5% Critical Value	Probability	Order of Integration
CPS	Non-stationary	-7.367289	-2.935001	0.0000	I(1)
DDD	Non-stationary	-6.214531	-2.935001	0.0000	I(1)
INT	Non-stationary	-9.602774	-2.933158	0.0000	I(1)
GDP	Non-stationary	-5.873642	-2.957110	0.0000	I(1)

Source: E-view 13.0 Output

Table 4.3 shows that all variables are non-stationary at level but become stationary after first differencing, as their ADF statistics are more negative than the 5% critical values and their probabilities are below 0.05. This indicates that the variables are integrated of order one, I(1). Since none of the variables is integrated of order two, the data satisfy the requirement for applying the ARDL bounds testing approach.

Table 4.4: ARDL Estimation Results for the Impact of Domestic Debt on Credit to the Private Sector

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
CPS(-1)	0.120204	0.268898	0.447024	0.6586
CPS(-2)	-0.057845	0.228569	-0.253073	0.8022
CPS(-3)	-0.277363	0.230490	-1.203358	0.2397
DDD	0.461077	0.067950	6.785582	0.0000
DDD(-1)	-0.021498	0.126067	-0.170531	0.8659
DDD(-2)	-0.298686	0.549753	-0.543309	0.5915
DDD(-3)	0.711324	0.650188	1.094028	0.2840
DDD(-4)	-1.204653	0.509286	-2.365375	0.0258
INT	-18.56649	33.51853	-0.553917	0.5844
GDP	-0.035696	0.072139	-0.494826	0.6249
GDP(-1)	-0.021109	0.103346	-0.204252	0.8397
GDP(-2)	0.139617	0.078570	1.776991	0.0873
GDP(-3)	0.220363	0.115531	1.907400	0.0676
C	-24.64520	684.0252	-0.036030	0.9715
R-squared	0.998482	Mean dependent var		10653.47
Adjusted R-squared	0.997723	S.D. dependent var		15554.29
S.E. of regression	742.2327	Akaike info criterion		16.32642
Sum squared resid	14323643	Schwarz criterion		16.91753
Log likelihood	-312.5284	Hannan-Quinn criter.		16.54015
F-statistic	1315.473	Durbin-Watson stat		1.568652
Prob(F-statistic)	0.000000			

*Note: p-values and any subsequent tests do not account for model selection.

Source: E-view 13.0 Output

The ARDL estimation results presented above examine the relationship between credit to the private sector (CPS) and key macroeconomic variables including domestic debt (DDD), interest rate (INT), and gross domestic product (GDP) in Nigeria over the period 1985–2024. The optimal model selected using the Akaike

Information Criterion (AIC) is ARDL (3,4,0,3), indicating three lags of the dependent variable (CPS), four lags of domestic debt, no lag for interest rate, and three lags for GDP. The coefficient of the current domestic debt (DDD) is 0.461077 and statistically significant at the 1% level ($p = 0.0000$). This implies that an increase in government domestic borrowing is associated with a

significant increase in credit to the private sector in the short run. This result suggests that domestic debt expansion may initially stimulate financial market activity and increase the availability of funds within the financial system.

However, the fourth lag of domestic debt (DDD(-4)) has a negative and statistically significant coefficient (-1.204653, $p = 0.0258$). This indicates that while domestic debt may initially coincide with increases in private sector credit, its prolonged accumulation eventually reduces credit availability to the private sector. This outcome is consistent with the crowding-out hypothesis, which suggests that excessive government borrowing from the domestic financial market competes with the private sector for available funds, thereby limiting private infrastructure financing over time. The coefficients of the lagged values of CPS are statistically insignificant, suggesting that past levels of private sector credit do not strongly influence its current level within the specified lag structure. This indicates that the dynamics of private sector credit are more strongly influenced by macroeconomic conditions rather than its own past values.

The interest rate (INT) variable has a negative coefficient (-18.56649), although it is not statistically significant. The negative sign implies that higher interest rates may discourage borrowing by private investors, particularly in infrastructure financing where projects typically require long-term and large-scale funding. Nevertheless, the lack of statistical significance indicates that interest rate fluctuations alone may not sufficiently explain variations in private sector credit within the study period. Similarly, the coefficients of GDP and its lagged values show mixed signs and are largely statistically insignificant, although GDP(-2) and GDP(-3) exhibit weak positive effects at the 10% significance level. This suggests that improvements in economic activity may have a lagged positive influence on credit to the private sector, reflecting the tendency for financial institutions to expand lending when economic conditions improve.

The overall performance of the ARDL model is strong. The R-squared value of 0.998482 indicates that approximately 99.8% of the variation in credit to the private sector is explained by the explanatory variables included in the model. The adjusted R-squared of 0.997723 further confirms the high explanatory power of the model after adjusting for the number of regressors. The F-statistic of 1315.473 with a probability value of 0.0000 indicates that the model is statistically significant overall. The Durbin Watson statistic of 1.568652 suggests the absence of serious autocorrelation problems in the residuals, implying that the model estimates are reasonably reliable. Overall, the ARDL results provide important insights for the study Crowding-Out Effect of Domestic Debt on Private Infrastructure Financing in Nigeria. The findings indicate that although domestic debt may initially coincide with increases in private sector credit, its sustained expansion over time can reduce the availability of financial resources to the private sector, thereby supporting the argument that excessive government borrowing from domestic financial markets can crowd out private investment, particularly in capital-intensive sectors such as infrastructure.

Discussion of Findings

The findings of this study provide empirical evidence on the relationship between domestic debt and private sector financing in Nigeria, particularly within the context of the crowding-out hypothesis. The ARDL results reveal that current domestic debt

has a positive and statistically significant effect on credit to the private sector in the short run, while one of its lagged values shows a significant negative effect. This suggests that although government borrowing may initially expand liquidity within the financial system, sustained domestic borrowing can eventually reduce the availability of funds for private sector investment, thereby supporting the theoretical argument of crowding-out. The positive short-run relationship between domestic debt and credit to the private sector aligns with studies that argue that government borrowing can deepen financial markets and stimulate banking sector activities in the short term. For example, Emran and Farazi (2009) observed that moderate levels of domestic debt may improve financial intermediation and temporarily expand credit supply. Similarly, Christensen (2005) found that domestic debt in developing economies can contribute to financial sector development when managed prudently. These findings support the initial positive effect observed in this study.

However, the negative and significant lagged effect of domestic debt provides stronger evidence in support of the crowding-out hypothesis. This outcome suggests that as government borrowing increases over time, it competes with the private sector for limited financial resources in the domestic capital market. Consequently, financial institutions may prefer lending to the government due to lower risk and attractive returns, thereby reducing the amount of credit available for private investment, including infrastructure financing. This finding is consistent with the studies of Abbas and Christensen (2010) and Adofu and Abula (2010), who reported that excessive government borrowing in developing economies can crowd out private sector investment. Furthermore, the negative coefficient of interest rate suggests that higher borrowing costs may discourage private sector access to credit, although the effect is not statistically significant in this study. This finding is broadly consistent with conventional monetary theory, which suggests that higher interest rates can reduce private investment by increasing the cost of capital. Similar observations were reported by Iyoha (1999) and Ajayi and Oke (2012), who found that high lending rates can constrain private sector borrowing in Nigeria.

The results also show that gross domestic product (GDP) has a weak and largely insignificant effect on private sector credit, although some lagged values exhibit positive signs. This suggests that improvements in economic activity may influence private sector financing only gradually over time. This finding partially aligns with studies such as Beck, Demirgüç-Kunt, and Levine (2000), who argued that economic growth can stimulate financial sector development and expand credit availability, although the effect may depend on institutional and financial market conditions. Overall, the findings of this study provide mixed but insightful evidence. While moderate domestic debt may initially stimulate financial activity, excessive government borrowing from domestic sources can ultimately crowd out private sector financing, particularly in capital-intensive sectors such as infrastructure. This result reinforces concerns that persistent reliance on domestic borrowing by the government may limit the financial resources available for private sector-led infrastructure development in Nigeria.

Conclusion

This paper examined the crowding-out effect of domestic debt on private infrastructure financing in Nigeria using annual

data covering the period 1985–2024. The study specifically investigated how government domestic borrowing influences credit to the private sector, while controlling for key macroeconomic variables such as interest rate and gross domestic product. The analysis employed the Autoregressive Distributed Lag (ARDL) approach, which is suitable for examining both short-run and dynamic relationships among the variables. The empirical results indicate that domestic debt has a significant influence on credit to the private sector. In the short run, the current value of domestic debt shows a positive and significant relationship with private sector credit, suggesting that moderate government borrowing may initially stimulate financial sector activities and increase liquidity within the banking system. However, the lagged effect of domestic debt was found to be negative and statistically significant, indicating that sustained increases in government domestic borrowing may eventually reduce the availability of financial resources to the private sector.

This finding provides empirical support for the crowding-out hypothesis, which suggests that when the government borrows heavily from the domestic financial market, it competes with the private sector for limited loanable funds. As a result, financial institutions may prefer lending to the government due to lower risk and guaranteed returns, thereby limiting access to credit for private investors, including those involved in infrastructure development. Furthermore, the results show that interest rate exerts a negative but statistically insignificant effect on private sector credit, implying that higher borrowing costs may discourage private investment, although its direct influence on private sector financing appears limited within the study period. Similarly, economic growth, represented by GDP, shows weak but positive lagged effects on credit to the private sector, suggesting that improvements in economic activity may gradually enhance financial sector lending capacity. Overall, the findings suggest that while domestic debt can play a role in financing government expenditure, excessive reliance on domestic borrowing may constrain private sector access to finance, particularly for large-scale and capital-intensive infrastructure projects. Consequently, effective debt management and balanced fiscal policies are essential to ensure that government borrowing does not undermine private sector participation in infrastructure financing in Nigeria. Based on the findings of this study, the following recommendations are proposed:

- i. The government should maintain prudent domestic borrowing levels to prevent excessive competition with the private sector for financial resources in the domestic capital market.
- ii. The government should encourage public–private partnerships (PPPs), infrastructure bonds, and foreign investment to reduce overreliance on domestic debt for infrastructure financing.
- iii. Strengthening the domestic capital market will expand the pool of loanable funds and reduce the likelihood that government borrowing will crowd out private sector investment.
- iv. Monetary authorities should pursue policies that maintain stable lending rates to encourage private sector borrowing for productive investments, including infrastructure projects.
- v. Improved fiscal management and transparent debt policies will enhance investor confidence and ensure that

government borrowing supports rather than constrains private sector development.

- vi. Policies that provide incentives such as tax reliefs, guarantees, and regulatory support should be implemented to attract greater private sector involvement in infrastructure financing.

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