

Cost of Governance and Public Infrastructure Financing in Nigeria

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Abstract: This study examines the relationship between cost of governance and public infrastructure financing in Nigeria over the period 1990–2025. Rising governance costs have increasingly attracted policy concern in Nigeria due to the growing share of public resources devoted to recurrent expenditure while infrastructure deficits continue to widen. The study therefore investigates how key components of governance expenditure influence government investment in infrastructure development. Specifically, the study considers personnel cost, debt servicing expenditure, and administrative or overhead expenditure as proxies for the cost of governance, while capital expenditure on infrastructure serves as the dependent variable. The study adopts a time series research methodology and utilizes secondary data obtained from the Central Bank of Nigeria Statistical Bulletin and publications of the National Bureau of Statistics. The data were analyzed using both descriptive and econometric techniques. Trend analysis through line graphs was used to examine the behaviour of the variables over time, while descriptive statistics were employed to summarize their statistical properties. The stationarity of the series was tested using the Augmented Dickey-Fuller unit root test to avoid spurious regression results. The Autoregressive Distributed Lag (ARDL) modelling approach was then applied to examine the dynamic relationship between governance expenditure and infrastructure financing in both the short run and the long run. The empirical results reveal that components of governance expenditure exert significant dynamic effects on infrastructure financing in Nigeria. Personnel cost shows mixed but significant effects across different lag periods, indicating that rising wage bills can constrain infrastructure spending in some periods while adjustments occur over time. Administrative expenditure exhibits a positive relationship with infrastructure financing, whereas debt servicing expenditure shows a negative relationship, suggesting that rising debt obligations may reduce funds available for infrastructure development. The study concludes that the increasing cost of governance poses a challenge to sustainable infrastructure financing and recommends stronger fiscal discipline, improved expenditure management, and prioritization of capital investment in infrastructure to support long-term economic development.

Keywords: Cost of Governance; Public Infrastructure Financing; Personnel Expenditure; Debt Servicing Expenditure; Autoregressive Distributed Lag (ARDL) Model.

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Introduction

Public infrastructure is critical for economic growth, productivity enhancement, and inclusive development. Infrastructure such as transportation networks, electricity, water supply, and telecommunications lowers transaction costs, improves market access, and strengthens the competitiveness of domestic industries. In developing economies, infrastructure investment also promotes private sector participation and supports structural transformation (Calderón & Servén, 2014; Straub, 2011). Despite these benefits, many developing countries face fiscal constraints that limit their ability to finance critical infrastructure projects. In Nigeria, rising governance costs have increasingly diverted public resources away from capital investment, thereby constraining infrastructure development (Ogunleye & Saliu, 2022; World Bank, 2023). The cost of governance refers to expenditures incurred in maintaining government administrative structures, including personnel costs, operational expenses, remuneration of political

office holders, and the administration of ministries, departments, and agencies (MDAs) (Arowolo & Aluko, 2012). In Nigeria, this has become a major policy concern because a substantial proportion of government revenue is allocated to recurrent expenditure rather than productive capital projects (Adesopo, 2011; Omodero, 2020). The 2025 Federal Government budget of approximately ₦49.74 trillion illustrates this trend. Of this amount, ₦16.33 trillion was allocated to debt servicing, ₦14.12 trillion to recurrent non-debt expenditure, and only about ₦14.85 trillion to capital projects, indicating that debt obligations and administrative costs absorb a significant share of public resources (Budget Office of the Federation, 2025).

Rising debt obligations have further intensified fiscal pressures. In 2024, debt servicing accounted for approximately 69 percent of government revenue, significantly limiting fiscal space for development expenditure (International Monetary Fund, 2024;

World Bank, 2023). Similarly, projections for the 2026 federal budget indicate allocations of ₦15.52 trillion for debt servicing and ₦15.25 trillion for recurrent expenditure, further constraining infrastructure financing despite increased capital allocations (Budget Office of the Federation, 2026). These challenges are particularly concerning given Nigeria's substantial infrastructure deficit. Estimates suggest that the country requires about \$100 billion annually to meet its infrastructure needs and sustain economic growth (African Development Bank, 2024). Moreover, the infrastructure deficit is projected to reach \$2.3 trillion by 2043 if current investment levels remain inadequate (National Planning Commission, 2020). Infrastructure stock currently represents about 30 percent of GDP, far below the 70 percent benchmark considered necessary for emerging economies (Calderón & Servén, 2014; World Bank, 2023). Consequently, inadequate roads, unreliable electricity supply, and insufficient transportation systems continue to increase business costs and reduce productivity (Onyeiwu, 2015).

The expansion of government institutions and duplication of responsibilities across agencies have also contributed to rising governance costs and recurrent expenditure (Arowolo & Aluko, 2012; Omodero, 2020). From a macroeconomic perspective, excessive governance costs may crowd out infrastructure financing and weaken the developmental impact of public expenditure. Studies show that economies with higher capital expenditure ratios often achieve stronger growth outcomes than those dominated by recurrent spending (Iyoha, 2021; Ogunleye & Saliu, 2022). Given these concerns, this study examines the nexus between the cost of governance and public infrastructure financing in Nigeria.

Statement of the Problem

Infrastructure development is a fundamental requirement for economic growth, productivity enhancement, and structural transformation. Adequate infrastructure, including transportation networks, electricity supply, and communication systems, reduces production costs, facilitates trade, and improves economic competitiveness. Despite Nigeria's abundant resources and strategic position in Africa, the country continues to face a substantial infrastructure deficit. Available evidence suggests that Nigeria requires approximately \$100 billion annually to meet its infrastructure needs, while existing infrastructure stock accounts for only about 30 percent of Gross Domestic Product (GDP), far below the 70 percent benchmark considered necessary for emerging economies (Calderón & Servén, 2014; African Development Bank, 2024). This deficit has contributed to poor road networks, inadequate power supply, and weak transportation systems, thereby increasing business costs and constraining economic growth.

One of the key factors associated with inadequate infrastructure financing in Nigeria is the rising cost of governance. Government expenditure has increasingly been dominated by recurrent spending, including personnel costs, administrative overheads, and the maintenance of ministries, departments, and agencies (MDAs). Consequently, recurrent expenditure and debt servicing consume a significant proportion of public revenue, limiting resources available for capital investment and infrastructure development (World Bank, 2023; Omodero, 2020). The growing size of administrative structures and the proliferation of government agencies have further increased governance costs, raising concerns about expenditure efficiency and fiscal sustainability.

The dominance of recurrent expenditure within Nigeria's fiscal framework suggests a potential crowding-out effect on infrastructure financing. Excessive administrative spending may reduce the fiscal space required for capital investment in critical sectors, thereby undermining long-term economic growth and development (Arowolo & Aluko, 2012; Ogunleye & Saliu, 2022). Although previous studies have examined public expenditure and infrastructure development, limited attention has been given to the specific influence of governance costs on infrastructure financing. This study therefore addresses the problem of rising governance expenditure and inadequate infrastructure investment by examining whether increasing governance costs are constraining the government's ability to finance infrastructure development in Nigeria. The findings are expected to provide useful insights for fiscal policy reforms and improved public resource allocation.

Objective of the Paper

To examine the effect of the cost of governance on public infrastructure financing in Nigeria. Specifically, the paper intends to achieve the following:

- i. To examine the effect of recurrent government expenditure on public infrastructure financing in Nigeria.
- ii. To determine the impact of personnel expenditure on capital expenditure for infrastructure development in Nigeria.
- iii. To evaluate the relationship between public debt servicing obligations and public infrastructure financing in Nigeria.

Literature Review

Theoretical Framework

This study is anchored on Wagner's Law of Increasing State Activity, the Peacock-Wiseman Hypothesis, Public Choice Theory, and the Musgrave Theory of Public Expenditure Growth, which jointly explain public expenditure behavior and infrastructure financing dynamics. Wagner's Law argues that government expenditure increases with economic development due to rising demand for public services such as infrastructure, health, and education (Bird, 1971; Henrekson, 1993). In Nigeria, this expansion is evident in the growth of public institutions and spending. However, a large share is absorbed by recurrent administrative costs rather than capital investment, limiting infrastructure development outcomes. The Peacock-Wiseman Hypothesis explains expenditure growth as occurring in "displacement effects" triggered by crises such as economic downturns or security shocks. These events permanently raise government spending levels (Peacock & Wiseman, 1961). In Nigeria, oil price shocks, recessions, and the COVID-19 pandemic have increased public expenditure and debt, with limited subsequent reduction. This has sustained high recurrent spending and constrained fiscal space for infrastructure financing. Public Choice Theory emphasizes that political and bureaucratic actors often pursue self-interest, leading to expansion of government size and administrative spending (Buchanan & Tullock, 1962). In Nigeria, this is reflected in the proliferation of ministries and agencies and weak implementation of cost-reduction reforms, increasing the cost of governance and reducing funds available for infrastructure. Musgrave's Theory of Public Expenditure Growth highlights that developing economies should prioritize capital expenditure, particularly infrastructure, to support economic transformation (Musgrave, 1959). However, Nigeria's expenditure

pattern remains dominated by recurrent spending, weakening infrastructure development and long-term growth prospects.

Conceptual Clarification

Conceptual clarification is essential in this study as it defines the key variables and establishes a clear analytical basis for examining the relationship between governance costs and infrastructure financing in Nigeria. The main concepts considered include cost of governance, public infrastructure, and infrastructure financing.

Cost of Governance

Cost of governance refers to the total public expenditure incurred in maintaining political, administrative, and institutional structures of government while delivering public services. It includes personnel costs, administrative operations, institutional maintenance, and other recurrent obligations necessary for running government (Arowolo & Aluko, 2012). In Nigeria, it is largely reflected in the dominance of recurrent expenditure over capital spending. Recurrent expenditure covers salaries, wages, pensions, allowances, overhead costs, and debt servicing obligations (Omodero, 2020). Debt servicing, in particular, has become a major component of governance cost, placing additional pressure on fiscal resources. Administrative capital expenditure, such as office construction, vehicles, and equipment, also forms part of governance costs but may crowd out development-oriented spending when excessive. The expansion of ministries, departments, and agencies (MDAs) has further increased administrative expenditure, contributing to fiscal inefficiency and rising governance costs (Adesopo, 2011).

Public Infrastructure

Public infrastructure refers to the basic physical and institutional systems that support economic activity and social welfare. It includes physical infrastructure such as roads, power supply, water systems, ports, airports, and telecommunications, as well as social infrastructure such as education, healthcare, housing, and financial systems. These facilities enhance productivity, reduce transaction costs, and support economic growth (Calderón & Servén, 2014). In Nigeria, infrastructure deficits remain significant, with persistent challenges in power supply, transport systems, and urban development, which increase production costs and reduce competitiveness (Onyeiwu, 2015).

Infrastructure Financing

Infrastructure financing refers to the mobilization and allocation of financial resources for the development, operation, and maintenance of infrastructure projects. Traditionally, this has been driven by government budgetary allocations, particularly capital expenditure. However, Nigeria's rising governance costs and debt servicing obligations have constrained public funding capacity (World Bank, 2023). Consequently, alternative financing mechanisms such as public-private partnerships (PPPs), infrastructure bonds, concessional loans, and private sector participation have become increasingly important (Yescombe, 2018). Despite these approaches, Nigeria continues to experience a large infrastructure financing gap due to limited fiscal space, project inefficiencies, and governance challenges.

Empirical Review

Empirical studies on the relationship between governance costs and infrastructure financing, as well as broader fiscal

outcomes, reveal consistent evidence of rising administrative expenditure constraining development-oriented spending in Nigeria and similar developing economies. Titus et al. (2025) examined the relationship between high cost of governance and socio-economic development in Nigeria using a documentary research approach. Findings showed that corruption, inefficient resource management, and bureaucratic expansion drive governance costs, which in turn contribute to budget deficits and rising public debt. The study concluded that reducing corruption and streamlining government structures are necessary to improve development outcomes. Osam et al. (2022) analyzed the impact of national debt and cost of governance on Nigeria's economic growth using ex post facto design and data from 1999–2021. Employing GDP as the dependent variable, results revealed that both governance costs and debt servicing significantly reduce resources available for productive investment. The study recommended stronger fiscal discipline and improved public resource management.

Asuquo et al. (2021) investigated governance quality and public infrastructure procurement using OLS and Granger causality techniques. Results showed that corruption and debt burden negatively affect infrastructure procurement, while revenue improves infrastructure spending. The study emphasized the importance of governance quality in infrastructure financing efficiency. Ekeocha and Ikenna-Ononugbo (2017) examined the effect of governance costs on fiscal deficits in Nigerian states using dynamic panel GMM. Findings revealed that rising governance costs significantly increase fiscal deficits, with governments often financing recurrent expenditure through borrowing rather than capital investment. Okeke and Eme (2015) adopted a descriptive approach to examine the implications of high governance costs in Nigeria. The study found that proliferation of MDAs and rising recurrent expenditure crowd out capital investment, thereby limiting infrastructure development. Institutional rationalization was recommended.

Dabara et al. (2015) evaluated infrastructure financing strategies in Nigeria using secondary data. The study found that heavy reliance on government funding, coupled with budget constraints, has worsened infrastructure deficits. The authors recommended increased private sector participation through Public-Private Partnerships (PPP). Iyoha et al. (2015) analyzed the causes of high governance costs using data from CBN, NBS, and UNDP. Findings revealed that corruption, poor public financial management, and budgetary imbalance between recurrent and capital expenditure drive high governance costs, reducing infrastructure investment. Opawole and Jagboro (2015) examined budgetary financing challenges of infrastructure in Osun State using survey and factor analysis. Results showed that weak institutional coordination, inadequate funding, and lack of infrastructure data constrain effective infrastructure financing.

Methodology

This study adopts a time series research methodology to examine the relationship between cost of governance and public infrastructure financing in Nigeria. Time series methodology is appropriate because the study relies on macroeconomic data observed over a long period of time. Specifically, the study investigates how different components of governance expenditure influence infrastructure financing in Nigeria. The use of time series analysis allows the researcher to capture the dynamic behaviour of the variables over time and to establish both short-run and long-run

relationships among the variables. The study covers the period from 1990 to 2025, which provides sufficient observations to conduct robust econometric analysis.

Data

The study uses secondary data obtained from reliable official sources. The data were collected from publications of the Central Bank of Nigeria (CBN) Statistical Bulletin and the National Bureau of Statistics (NBS). These institutions are responsible for compiling and publishing macroeconomic data in Nigeria, making them credible sources for empirical research. The dataset covers the period from 1990 to 2025. Recurrent expenditure components are used as proxies for the cost of governance. These include personnel cost, debt servicing expenditure, and administrative or overhead expenditure. These variables capture the major administrative and operational expenses incurred by government in running its institutions. The dependent variable in the study is capital expenditure on infrastructure, which represents government investment in public infrastructure such as roads, power, water supply, transportation, and other developmental projects. The use of capital expenditure on infrastructure as the dependent variable allows the study to examine whether rising governance costs affect the ability of government to finance infrastructure development.

Data Analysis Techniques

The data collected for this study were analyzed using both descriptive and econometric techniques. First, line graphs were used to examine the trend and behaviour of the variables over time. Trend analysis helps to reveal the pattern of changes in governance costs and infrastructure financing across the study period. Second, descriptive statistics were employed to summarize the basic characteristics of the variables, including their mean, standard deviation, minimum, and maximum values. This provides insight into the distribution and variability of the data. Third, the stationarity properties of the time series variables were tested using the unit root test, specifically the Augmented Dickey-Fuller (ADF) test. The purpose of the unit root test is to determine whether the

variables are stationary at level or at first difference, which is necessary to avoid spurious regression results. Finally, the Autoregressive Distributed Lag (ARDL) modelling approach was employed to examine both the short-run and long-run relationships between cost of governance variables and infrastructure financing. The ARDL approach is suitable because it can be applied when variables are integrated at different orders, provided none of the variables is integrated of order two, I(2). In addition, ARDL is appropriate for small sample sizes and provides efficient estimates of both long-run equilibrium relationships and short-run dynamic adjustments.

Model Specification

The econometric model for the study is specified based on the relationship between cost of governance components and infrastructure financing in Nigeria. Capital expenditure on infrastructure is specified as the dependent variable, while personnel cost, debt servicing expenditure, and administrative/overhead expenditure are the explanatory variables.

The functional relationship of the model is expressed as:

$$IFR = f(PCS, DSE, ADM)$$

Where

- IFR = Capital expenditure on infrastructure
- PCS = Personnel cost
- DSE = Debt servicing expenditure
- ADM = Administrative/overhead expenditure

The econometric form of the model is specified as:

$$IFR_t = \beta_0 + \beta_1 PCS_t + \beta_2 DSE_t + \beta_3 ADM_t + \mu_t$$

Where

- β_0 = constant term
- $\beta_1 - \beta_3$ = parameters to be estimated
- μ = error term
- t = time period

The ARDL representation of the model is expressed as:

$$\Delta IFR_t = \alpha_0 + \sum_{i=1}^p \beta_i \Delta IFR_{t-i} + \sum_{j=0}^{q1} \delta_j \Delta PCS_{t-j} + \sum_{j=0}^{q2} \theta_j \Delta DSE_{t-j} + \sum_{j=0}^{q3} \phi_j \Delta ADM_{t-j} + \lambda ECM_{t-1} + \varepsilon_t$$

Where ECM represents the error correction term which captures the speed of adjustment from short-run disequilibrium to long-run equilibrium.

Description of Study Variables and A Priori Expectations

Variable	Description	Measurement	A Priori Expectation
IFR	Infrastructure Financing	Capital expenditure on infrastructure	Dependent Variable
PCS	Personnel Cost	Government expenditure on salaries, wages, allowances and pensions	Negative (-)
DSE	Debt Servicing Expenditure	Government payments for servicing domestic and external debt	Negative (-)
ADM	Administrative/Overhead Expenditure	Government spending on administration and operational costs	Negative (-)

A Priori Expectation Explanation

Personnel cost is expected to have a negative relationship with infrastructure financing because higher spending on salaries and allowances reduces the funds available for capital investment. Debt servicing expenditure is also expected to have a negative effect on infrastructure financing since increased debt obligations divert government revenue away from development projects. Similarly, administrative or overhead

expenditure is expected to negatively influence infrastructure financing because excessive administrative spending increases the cost of governance and limits the fiscal space for infrastructure development.

Results and Discussion

Trend Analysis

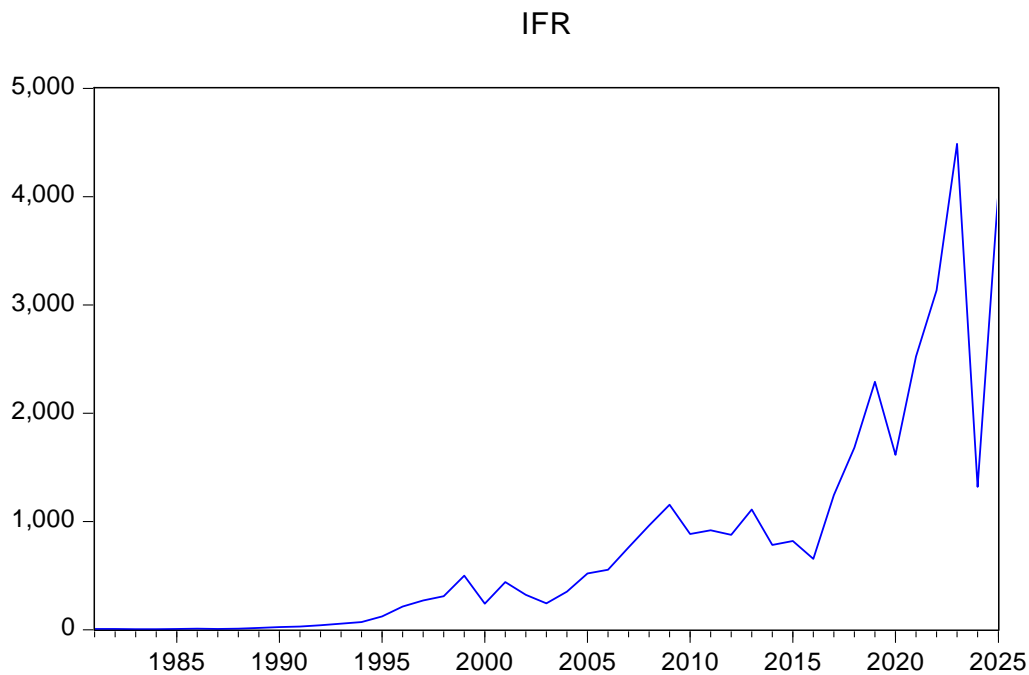


Figure 4.1: Trend of Infrastructure Financing (IFR) in Nigeria (1990–2025)

The figure shows the trend of infrastructure financing in Nigeria over the period 1990–2025. The trend indicates that infrastructure financing remained very low during the early 1990s, with only gradual increases throughout the late 1990s and early 2000s. A noticeable rise begins around the mid-2000s, reflecting increased government capital investment during that period. Between 2008 and 2015, infrastructure financing fluctuated moderately, indicating unstable capital expenditure on infrastructure. From around 2017 onward, the figure shows a sharp

upward trend, suggesting significant increases in infrastructure financing. However, the graph also reveals some volatility, including a sharp drop shortly before 2025 followed by a rapid recovery. Overall, the trend suggests that although infrastructure financing has increased significantly in recent years, it remains unstable and subject to fluctuations, which may reflect fiscal pressures, changing government priorities, and macroeconomic conditions in Nigeria.

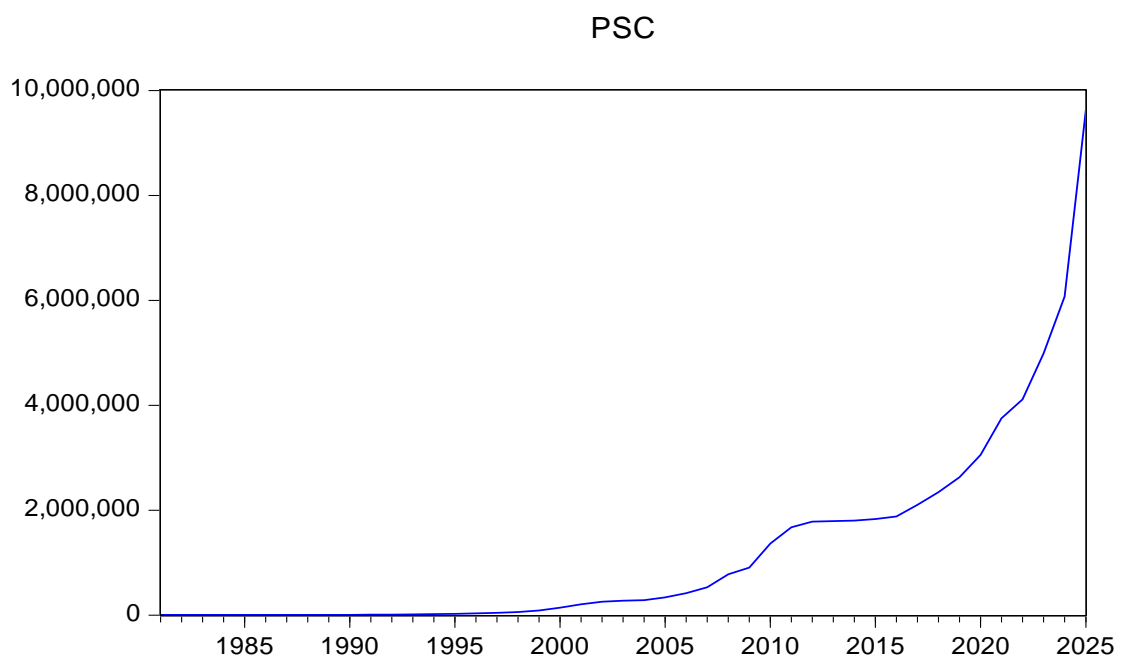


Figure 4.2: Trend of Personnel Cost (PSC) in Nigeria (1990–2025)

The trend of Personnel Cost (PSC), which represents government expenditure on salaries, wages, allowances, and pensions, shows a continuous upward movement throughout the study period. Personnel expenditure remained relatively low and stable during the 1980s and 1990s but began to increase steadily from the early 2000s. The growth became more pronounced after 2010, reflecting rising wage obligations, pension commitments,

and expansion of the public workforce. A particularly sharp increase is observed from 2020 onward, culminating in a dramatic surge by 2025. This pattern suggests that personnel-related expenses have become a major component of government expenditure, indicating increasing recurrent spending pressures that may constrain resources available for capital projects and other developmental investments.

ADE

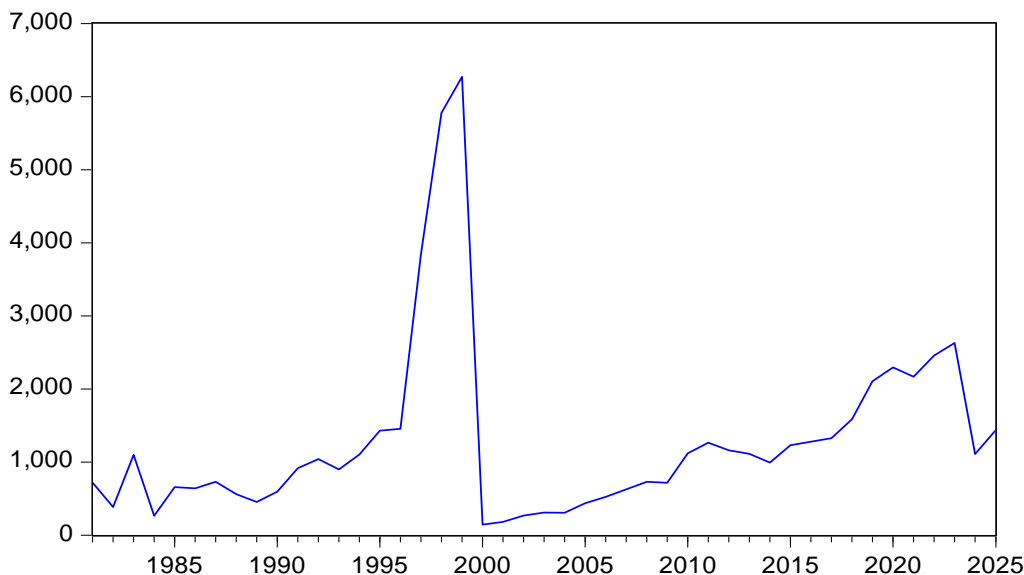


Figure 4.3: Trend of Administrative/Overhead Expenditure (ADE) in Nigeria (1990–2025)

The trend of Administrative/Overhead Expenditure (ADE), which represents government spending on administration and operational costs, shows considerable fluctuations over the study period. Expenditure remained relatively low and stable during the 1980s and early 1990s before increasing steadily in the mid-1990s and reaching a peak around 1999-2000. This sharp rise was followed by a dramatic decline in the early 2000s, after which

administrative expenditure gradually recovered and maintained a moderate upward trend. From 2010 onward, the expenditure increased steadily with some fluctuations, indicating rising operational and administrative costs of government. The overall pattern suggests that administrative spending has grown over time, reflecting increasing government operational activities and the higher cost of public administration.

DSE

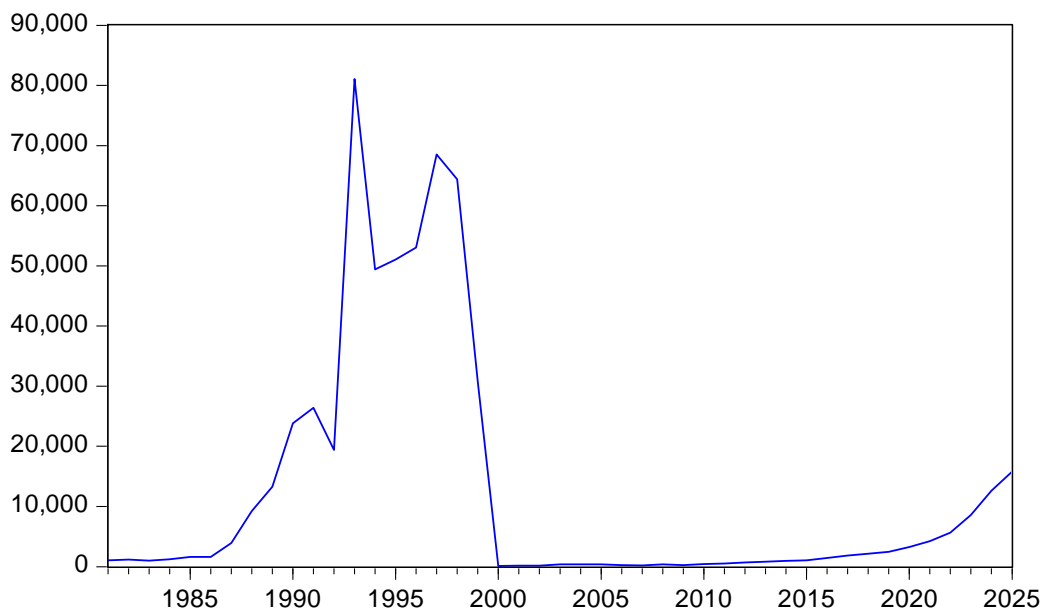


Figure 4.4: Trend of Debt Servicing Expenditure (DSE) in Nigeria (1990–2025)

The trend of Debt Servicing Expenditure (DSE), which represents government payments for servicing domestic and external debt, exhibits significant fluctuations over the study period. Debt servicing costs increased sharply during the late 1980s and 1990s, reaching peak levels in the mid-1990s, indicating a period of high debt burden and repayment obligations. However, a dramatic decline occurred around the early 2000s, after which debt servicing expenditure remained relatively low and stable for

several years. From the mid-2010s onward, the expenditure began to rise gradually, with a more noticeable increase after 2020, reflecting growing government borrowing and associated debt repayment commitments. The overall pattern suggests that while debt servicing pressures were substantially reduced in the early 2000s, they have re-emerged in recent years, posing increasing fiscal challenges and placing greater pressure on government finances.

Descriptive Statistics

Table 1: Descriptive Statistics of Infrastructure Financing and Cost of Governance Variables

	IFR	PSC	ADE	DSE
Mean	791.6162	1227164.	1296.066	12605.82
Median	438.7000	272393.9	1039.370	1631.590
Maximum	4486.210	9640000.	6270.500	81081.58
Minimum	4.100000	1516.300	144.5300	131.0500
Std. Dev.	1047.850	1950500.	1268.843	21091.20
Skewness	2.007860	2.396801	2.517589	1.894563
Kurtosis	6.776809	9.529962	9.649227	5.444352
Jarque-Bera	56.98181	123.0357	130.4348	38.12311
Probability	0.000000	0.000000	0.000000	0.000000
Sum	35622.73	55222399	58322.97	567261.8
Sum Sq. Dev.	48311556	1.67E+14	70838334	1.96E+10
Observations	45	45	45	45

Source: Author’s computation using E-views 12,

Table 1 presents the descriptive statistics of the variables used in the study. The results show that infrastructure financing (IFR) has an average value of 791.62, indicating moderate government investment in infrastructure over the period. Personnel cost (PSC) recorded the highest mean value, suggesting that a large portion of government expenditure is devoted to personnel-related expenses. Administrative expenditure (ADE) and debt servicing

expenditure (DSE) also show considerable variability, as indicated by their high standard deviations. The positive skewness values for all variables indicate that the distributions are right-skewed, while the high kurtosis values suggest that the data are leptokurtic. The Jarque–Bera statistics with probabilities of 0.000 imply that the variables are not normally distributed. The dataset contains 45 observations covering the period 1990–2025.

Unit Root Test Results

Table 2: Augmented Dickey–Fuller (ADF)

Variable	Test Form	ADF t-Statistic	Prob	5% Critical Value	Order of Integration	Decision
IFR	Second Diff	-14.6903	0.0000	-2.9369	I(2)	Stationary
PSC	Level	-8.1088	0.0000	-2.9369	I(0)	Stationary
ADE	First Diff	-6.3013	0.0000	-2.9314	I(1)	Stationary
DSE	First Diff	-7.5264	0.0000	-2.9314	I(1)	Stationary

Source: Author’s computation using E-views 12.

The table presents the Augmented Dickey–Fuller (ADF) unit root test results for the variables used in the study. The results show that personnel cost (PSC) is stationary at level, indicating that it is integrated of order zero, I(0). Administrative expenditure (ADE) and debt servicing expenditure (DSE) become stationary after first differencing, implying that they are integrated of order

one, I(1). Infrastructure financing (IFR) becomes stationary at the second difference, indicating integration of order two, I(2). Since the probability values for all variables are less than 0.05, the null hypothesis of a unit root is rejected at the 5% significance level. The results therefore confirm that the variables are stationary at different levels of integration.

Auto-Regressive Distributed Lag Results**Table 3: ARDL Estimation Results**

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
IFR(-1)	0.260544	0.182239	1.429682	0.1635
IFR(-2)	0.255320	0.373687	0.683246	0.4999
IFR(-3)	-0.897146	0.389440	-2.303684	0.0286
IFR(-4)	1.302861	0.403469	3.229148	0.0031
PSC	-0.000170	0.000382	-0.444955	0.6597
PSC(-1)	0.001161	0.001011	1.148445	0.2602
PSC(-2)	0.001140	0.001182	0.964724	0.3427
PSC(-3)	-0.004901	0.001149	-4.267267	0.0002
PSC(-4)	0.002955	0.000757	3.903016	0.0005
ADE	0.088756	0.051824	1.712641	0.0975
DSE	-0.002156	0.003418	-0.630882	0.5331
C	7.056149	116.8440	0.060389	0.9523
R-squared	0.928605	Mean dependent var		868.3110
Adjusted R-squared	0.901524	S.D. dependent var		1067.690
S.E. of regression	335.0506	Akaike info criterion		14.70553
Sum squared resid	3255509.	Schwarz criterion		15.20706
Log likelihood	-289.4634	Hannan-Quinn criter.		14.88816
F-statistic	34.28999	Durbin-Watson stat		1.767350
Prob(F-statistic)	0.000000			

Source: Author's computation using E-views 12.

The table presents the results of the Autoregressive Distributed Lag (ARDL) model used to examine the effect of cost of governance variables on infrastructure financing in Nigeria. The optimal model selected based on the Akaike Information Criterion (AIC) is ARDL(4,4,0,0), indicating four lags of the dependent variable (IFR) and four lags of personnel cost (PSC), while administrative expenditure (ADE) and debt servicing expenditure (DSE) enter the model contemporaneously. The results show that some lagged values of infrastructure financing significantly influence its current level. Specifically, IFR(-3) has a negative and statistically significant effect on current infrastructure financing ($p < 0.05$), while IFR(-4) has a positive and significant impact ($p < 0.01$). This suggests that past infrastructure spending plays an important role in determining present infrastructure investment patterns.

For the explanatory variables, personnel cost (PSC) shows mixed effects across different lags. While the current PSC is not statistically significant, PSC(-3) has a negative and significant effect on infrastructure financing, implying that increases in personnel expenditure in previous periods tend to reduce government investment in infrastructure. However, PSC(-4) shows a positive and significant relationship, indicating possible delayed fiscal adjustments in expenditure allocation. Administrative expenditure (ADE) shows a positive relationship with infrastructure financing, although it is only weakly significant at the 10 percent level. Debt servicing expenditure (DSE) exhibits a negative but statistically insignificant relationship with infrastructure financing, suggesting that higher debt obligations may reduce funds available for infrastructure investment, although the effect is not statistically strong in this model. The overall model is statistically robust.

The R-squared value of 0.9286 indicates that about 92.9 percent of the variation in infrastructure financing is explained by

the explanatory variables included in the model. The F-statistic is statistically significant (Prob = 0.0000), confirming that the model is jointly significant. The Durbin-Watson statistic of 1.77 suggests the absence of serious autocorrelation in the model. Overall, the results imply that components of the cost of governance, particularly personnel expenditure, have important dynamic effects on infrastructure financing in Nigeria.

Discussion of Findings

The findings from the ARDL results show that personnel cost has significant dynamic effects on infrastructure financing in Nigeria. In particular, the third lag of personnel cost exhibits a negative and statistically significant relationship with infrastructure financing, indicating that increases in personnel expenditure in previous periods tend to crowd out government spending on infrastructure. This outcome reflects the fiscal pressure created by the rising wage bill in the public sector, which often reduces the fiscal space available for capital projects. However, the fourth lag of personnel cost shows a positive and significant relationship with infrastructure financing, suggesting that government may attempt to rebalance expenditure allocations in subsequent periods after high personnel spending. This finding aligns with the study of Oyinlola and Adedeji (2019), who reported that excessive recurrent expenditure in Nigeria tends to reduce government investment in productive capital projects such as infrastructure. Similarly, Nurudeen and Usman (2010) found that high recurrent spending, particularly on wages and salaries, has historically limited capital development spending in Nigeria.

The result also shows that administrative expenditure has a positive relationship with infrastructure financing, although the effect is only weakly significant. This suggests that administrative spending may support government operations necessary for planning and executing infrastructure projects, even though

excessive administrative overhead can still reduce efficiency in public expenditure. This finding partially supports the work of Oladipo and Akinbobola (2011), who argued that government expenditure can stimulate economic activities when it supports productive sectors, including infrastructure development.

Debt servicing expenditure was found to have a negative but statistically insignificant relationship with infrastructure financing. This implies that while debt obligations may reduce fiscal resources available for infrastructure development, the effect may depend on the structure of government borrowing and fiscal management strategies. This finding is consistent with Adofu and Abula (2010), who noted that rising public debt servicing in Nigeria often limits the amount of funds available for development projects, especially infrastructure investment. The lagged values of infrastructure financing were also found to significantly influence current infrastructure investment, indicating persistence in government infrastructure spending patterns. This suggests that infrastructure financing decisions are strongly influenced by past expenditure commitments and ongoing projects. Overall, the findings support the argument that rising cost of governance, particularly personnel expenditure, can constrain infrastructure financing in Nigeria, thereby affecting long-term development and economic growth.

Conclusion

This study examined the effect of the cost of governance on public infrastructure financing in Nigeria using time series data from 1990 to 2025. The study specifically investigated how personnel cost, administrative expenditure, and debt servicing expenditure influence capital expenditure on infrastructure. The analysis employed descriptive statistics, unit root tests, and the Autoregressive Distributed Lag (ARDL) technique to examine the dynamic relationship among the variables. The empirical results reveal that components of the cost of governance exert significant influence on infrastructure financing in Nigeria. Personnel cost was found to have mixed but significant dynamic effects on infrastructure expenditure, suggesting that increases in the government wage bill can constrain resources available for infrastructure development in some periods while adjustments may occur in subsequent periods. Administrative expenditure shows a positive relationship with infrastructure financing, indicating that certain levels of administrative spending may support the implementation of infrastructure projects. Debt servicing expenditure, however, exhibits a negative relationship with infrastructure financing, implying that increasing debt obligations may reduce the fiscal capacity of government to invest in critical infrastructure. Overall, the findings suggest that the rising cost of governance in Nigeria poses a fiscal challenge to sustainable infrastructure financing. When a substantial portion of government revenue is committed to recurrent expenditures such as salaries, administrative costs, and debt servicing, fewer resources remain for capital investment in infrastructure. Consequently, improving fiscal discipline and prioritizing productive expenditure is essential for enhancing infrastructure development and supporting long-term economic growth. The paper recommends as follows:

- i. Government should implement reforms aimed at reducing the rising wage bill in the public sector through payroll audits, elimination of ghost workers, and improved workforce management. This will free up fiscal resources that can be redirected toward infrastructure development.

- ii. Administrative and overhead costs should be carefully monitored and reduced through improved budgeting and expenditure control mechanisms to ensure that excessive administrative spending does not crowd out infrastructure investment.
- iii. Government should adopt a sustainable debt management strategy to reduce the growing burden of debt servicing. Borrowing should be directed primarily toward productive infrastructure projects that can generate long-term economic benefits and improve the government's revenue capacity.
- iv. Fiscal policy should place greater emphasis on capital expenditure on infrastructure such as transportation, energy, and public utilities, since these investments stimulate economic growth and improve national productivity.
- v. Government should strengthen public financial management systems to ensure efficient allocation and utilization of public resources, thereby enhancing transparency and accountability in infrastructure financing.

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