

Domestic Debt Market and Public Investment Decision: Evidence from Nigeria

Dr Marshal Iwedi¹, Dr Felix Ibezim Ogbonna²,

¹Department of Finance, Faculty of Administration and Management, Rivers State University, Port Harcourt, Nigeria

²Department of Accounting, Faculty of Administration and Management, Rivers State University, Port Harcourt, Nigeria

Abstract: This study explores the relationship between Nigeria's domestic debt dynamics and public investment decisions, considering their implications for economic development and fiscal sustainability. Theoretical frameworks from Keynesian economics and the crowding-out hypothesis provide the foundation for understanding the relationship between domestic debt dynamics and public investment decisions. Empirical studies offer mixed findings, underscoring the need for context-specific analysis in Nigeria. Despite growing literature, significant gaps remain, including the lack of comprehensive studies specific to Nigeria's context and the neglect of sectoral differences in investment outcomes. Drawing on a robust financial time series methodology and secondary data from reputable sources, including the Central Bank of Nigeria, the study covers the period from 1986 to 2022. Key financial instruments such as Treasury Bonds, Treasury Bills, and Federal Government Bonds are examined as proxies for domestic debt, while public investment decisions are assessed through expenditures in the public transportation sector. The methodology employs unit root tests, co-integration analysis, Error Correction Models (ECM), and Granger Causality analysis to explore the relationship between domestic debt dynamics and public investment decisions. The results indicate significant influences of lagged Treasury Bills, lagged Federal Government Bonds, and the error correction mechanism on public transportation expenditure. However, the difference in lagged Treasury Bills does not appear to have a statistically significant effect. The model explains approximately 67.38% of the variation in public transportation expenditure, with no significant autocorrelation present in the model residuals. In conclusion, the study contributes to understanding the intricate relationship between domestic debt market dynamics and public investment decisions in Nigeria. It provides evidence-based insights that can inform policy interventions aimed at promoting fiscal sustainability and economic development.

Keywords: Domestic Debt Market, Public Investment Decision, Fiscal Sustainability, Economic Development, Nigeria

1. INTRODUCTION

The prudent management of domestic debt has long been recognized as a crucial aspect of fiscal policy, particularly for emerging economies like Nigeria. With a robust domestic debt market, governments can mobilize funds to finance public expenditures, including critical infrastructure projects and social welfare programs. However, the dynamic nature of domestic debt markets poses challenges and opportunities for policymakers, influencing the allocation of resources and shaping economic outcomes (Iwedi, 2020). Nigeria, endowed with vast natural resources and a sizable population, has seen

significant growth in its domestic debt market in recent years. According to World Bank data, Nigeria's domestic debt-to-GDP ratio rose from 8.5% in 2010 to 13.7% in 2020, reflecting increased government borrowing to meet development objectives and address fiscal deficits (World Bank, 2021). This surge in domestic debt has raised questions about its implications for public investment decision-making and overall economic stability.

Several factors underscore the importance of investigating this relationship. First, the efficient allocation of public resources is essential for fostering sustainable economic growth and

reducing poverty. Public investment in infrastructure, education, and healthcare can enhance productivity, promote inclusive development, and improve citizens' well-being (Okafor, 2019). However, the availability and cost of domestic financing can influence the government's ability to undertake such investments effectively. Second, the management of domestic debt entails trade-offs between short-term fiscal flexibility and long-term debt sustainability. Excessive reliance on domestic borrowing may crowd out private investment, increase borrowing costs, and expose the economy to risks of debt distress (Alesina et al., 2018). Understanding how public investment decisions interact with domestic debt dynamics is crucial for formulating sound fiscal policies that balance the need for investment with debt sustainability objectives. Lastly, Nigeria's economic landscape is characterized by structural challenges, including infrastructure deficits, revenue volatility, and governance issues. Effective debt management and investment planning are integral to overcoming these challenges and fostering inclusive growth (IMF, 2020). By examining the nexus between domestic debt market dynamics and public investment decisions, this study seeks to provide evidence-based insights that can inform policy interventions aimed at promoting fiscal sustainability and economic development in Nigeria.

The motivation behind this study stems from the need to understand the intricate relationship between domestic debt market dynamics and public investment decisions in Nigeria. Despite the growing literature on debt management and public finance, there remains a dearth of empirical evidence specific to Nigeria's context. This study aims to fill this gap by providing rigorous analysis and insights into how changes in the domestic debt market affect the government's investment choices and, consequently, economic development outcomes.

2. LITERATURE REVIEW

2.1 Theoretical Framework

The theoretical underpinnings of the relationship between domestic debt market dynamics and public investment decisions are grounded in several economic theories. Keynesian economics suggests that government spending, particularly on public investment, can stimulate economic growth and employment during periods of slack demand (Keynes, 1936). According to this perspective, access to domestic debt financing allows governments to smooth expenditure over time, thereby facilitating investment in infrastructure, education, and healthcare (Barro, 1979). However, the crowding-out

hypothesis posits that increased government borrowing can lead to higher interest rates, crowding out private investment and reducing the efficiency of capital allocation (Ricardo, 1817). Therefore, the optimal level of domestic debt depends on factors such as interest rates, economic growth, and fiscal sustainability (Blanchard et al., 1990).

2.2 Review of Empirical Studies

Empirical studies investigating the relationship between domestic debt dynamics and public investment decisions offer mixed findings, reflecting the diverse experiences of countries and varying methodologies employed. For instance, Celasun & Kang (2007) find evidence of a positive relationship between domestic debt accumulation and public investment in a sample of developing countries, suggesting that governments use debt financing to fund productive infrastructure projects. Similarly, Ahmed et al. (2018) analyze data from a panel of African countries and find that domestic debt significantly influences public investment, with higher debt levels associated with increased investment spending.

Conversely, other studies suggest potential adverse effects of domestic debt on public investment. Checherita-Westphal & Rother (2012) argue that high levels of domestic debt can lead to fiscal dominance, where monetary policy is subordinated to fiscal objectives, potentially constraining public investment and economic growth. Similarly, Ali and Ahmad (2020) find evidence of a negative relationship between domestic debt and public investment efficiency in Pakistan, highlighting the importance of debt sustainability considerations in investment planning. In their study, Kocha, Iwedi, & Sarakiri (2021) explored the complex relationship between public debt and capital formation in Sub-Saharan Africa (SSA) from 2000 to 2008. They used the pooled mean group estimation approach to meticulously analyze three key debt variables: external debt stock, debt service on external debt, and interest payment on external debt. The findings of the study, based on the overhang theory, revealed an interesting and nuanced narrative. Initially, the study found that an increase in external debt stock and higher interest payments on external debts had only a minimal impact on capital formation in the short term. However, in the long run, these factors had a significantly adverse effect, indicating a serious negative correlation. Additionally, the study uncovered an intriguing aspect of the relationship: the burden of servicing debt. Contrary to initial expectations, the burden of servicing debt was found to have a positive effect on gross fixed capital formation in the long term. This surprising

revelation highlights a counterintuitive yet potentially crucial aspect of fiscal strategies employed by SSA countries. Despite facing substantial debt service obligations resulting from their significant external debt, these nations have shown commendable commitment to directing resources toward critical infrastructure projects. These investments are essential for driving sustained economic growth and serve as a testament to the resilience and strategic acumen of SSA nations in the face of fiscal challenges.

2.3 Gaps in the Literature

Despite the growing body of literature on domestic debt management and public investment, several gaps remain to be addressed. First, there is a lack of comprehensive studies specifically focusing on the Nigerian context. While existing research provides valuable insights from other countries and regions, Nigeria's unique economic, political, and institutional characteristics warrant a dedicated examination of the relationship between domestic debt dynamics and public investment decisions. Second, many empirical studies adopt aggregate measures of public investment, overlooking sectoral differences and heterogeneity in investment outcomes. A more nuanced analysis that considers the composition and effectiveness of public investment across sectors could provide deeper insights into the impact of domestic debt on economic development. Furthermore, the existing literature often neglects to account for potential endogeneity and reverse causality between domestic debt and public investment. Endogeneity issues arise when changes in debt levels are influenced by investment decisions, making it challenging to establish causal relationships. Future research could employ advanced econometric techniques, such as instrumental variable estimation or panel data methods, to address these methodological challenges and obtain more robust estimates of the relationship between domestic debt and public investment.

3. METHODOLOGY

3.1 Data

This research study utilizes a robust financial time series methodology to investigate the relationship between the domestic debt market and public investment decisions. The methodology relies on secondary data from reputable sources, including the Central Bank of Nigeria's (CBN) Statistical Bulletin, the National Bureau of Statistics (NBS), and the Debt Management Office (DMO). The dataset used in this study covers the period from 1986 to 2022, providing a comprehensive temporal perspective for analysis. The study

focuses on key financial instruments such as Treasury Bonds, Treasury Bills, and Federal Government Bonds, which serve as proxies for domestic debt. Additionally, public investment decisions are assessed by examining expenditures in the crucial sector of public transportation. This sector is a vital component of a nation's infrastructure development efforts and provides insightful indicators for the study's objectives.

3.2 Data Estimation Techniques

In time series analysis, it is essential to determine the stationarity of the variables under investigation. Stationarity is a critical assumption that validates standard estimation and testing techniques. To assess stationarity, a unit root test is conducted on the dataset. This step ensures the reliability and accuracy of subsequent analyses. After evaluating stationarity, the study proceeds to test for co-integration among the variables of interest. Co-integration analysis uncovers long-term relationships and dynamics among non-stationary time series data. Once co-integration is established, an Error Correction Model (ECM) is estimated. The ECM allows for the examination of short-term dynamics and the speed of adjustment towards long-term equilibrium relationships. Furthermore, the study employs Granger Causality analysis to explore the causal relationships between domestic debt and public investment decisions. Granger Causality analysis provides insights into the directionality and magnitude of causality between the variables, shedding light on the interplay between domestic debt market dynamics and public investment decisions.

3.3 Model Specification

To examine the relationship between domestic debt market and public investment decision in Nigeria, this study develops the following econometric model, denoted as 1, based on the formulated hypotheses.:

$$PTE_t = f(TBD_t, TBL_t, FGB_t) \quad (1)$$

Equation 2 presents the estimable version of equation (1)

$$PTE_t = \alpha_0 + \beta_1 TBD_t + \beta_2 TBL_t + \beta_3 FGB_t + \mu \quad (2)$$

Where:

PTE = Public Transportation Expenditures

TBD = Treasury Bonds

TBL = Treasury Bills

FGB = Federal Government Bonds

α = Constant/Intercept

$\beta_1 - \beta_3$ = Estimation Parameters

3.4 Descriptions of Variables

Dependent Variable	Proxy	Symbol	Definition
Public Infrastructural Development financing	Public Transportation Expenditures	PTE	This proxy represents the amount of government spending allocated to projects related to the construction, maintenance, and improvement of public infrastructure such as roads, bridges, railways, airports, and public transit systems such as buses, trains, trams, and subways.
Independent Variables	Proxy	Symbol	Definition
Domestic Debt Markets	Treasury Bonds	TBD	Treasury Bonds: Treasury bonds represent long-term debt securities issued by the government to raise capital. These bonds typically have maturities ranging from 10 to 30 years, and their yields are influenced by market conditions and government policies. Analyzing treasury bond data provides insights into the long-term borrowing patterns and debt sustainability strategies of the Nigerian government.
	Treasury Bills	TBL	Treasury Bills: Treasury bills (T-bills) are short-term debt instruments issued by the government with maturities ranging from a few days to one year. They serve as a means for the government to raise short-term funds from the money market. Monitoring T-bill issuance and yields offers valuable information about the government's short-term borrowing requirements and liquidity management practices.
	Federal Government of Nigeria (FGN) Bonds	FGB	FGN Bonds: Federal Government of Nigeria (FGN) Bonds are debt securities issued by the Nigerian government to finance budget deficits and capital projects. These bonds are typically long-term in nature and are traded in the capital markets. Examining FGN bond issuance, yields, and market demand provides insights into investor sentiment, government debt servicing costs, and overall debt sustainability.

4. RESULTS AND DISCUSSIONS

4.1 Trend Analysis

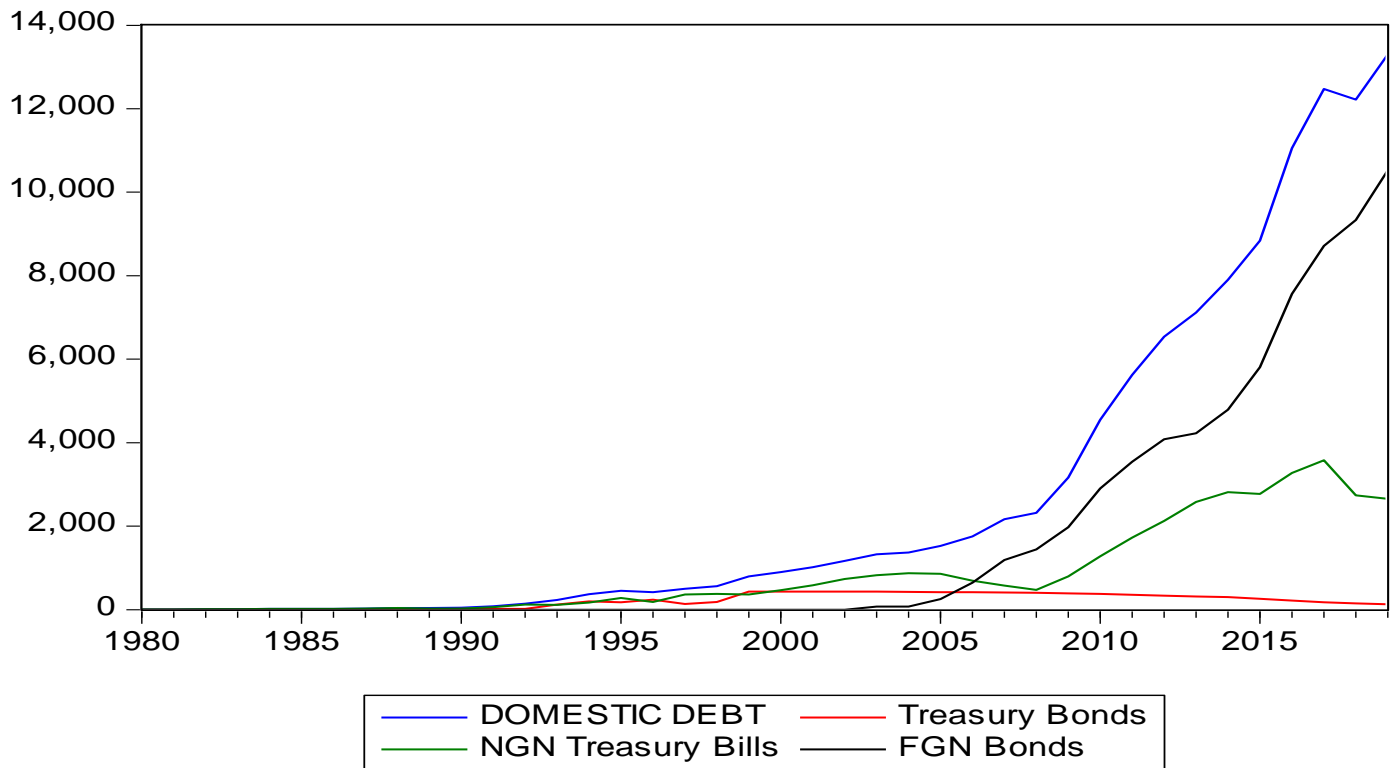


Figure 1. Trends of Domestic Debt Markets in Nigeria from 1986 to 2022

Figure 1 provides an overview of Nigeria's domestic debt from 1986 to 2022, highlighting the historical pattern and evolution of different debt instruments such as Treasury Bonds, NGN Treasury Bills, FGN Bonds, and the total domestic debt. These instruments represent the various ways in which the Nigerian government borrows money from the domestic market (Omodero, 2019).

During the period examined, Treasury Bonds remained at zero between 1980 and 1988, while NGN Treasury Bills experienced a gradual increase. This suggests that the government primarily relied on Treasury Bills for domestic borrowing during this time. However, in 1989, Treasury Bonds were introduced, indicating a diversification in the government's borrowing instruments. FGN Bonds remained unused throughout the entire period, suggesting they may not have been utilized for domestic debt until after 2002.

The total domestic debt demonstrated a consistent upward trend over the years, although with some fluctuations. It increased from 2.89 billion Naira in 1980 to 13.3 trillion Naira in 2019. In the 1980s, the total domestic debt remained relatively low,

staying below 100 billion Naira until the late 1980s. However, from the late 1980s through the 1990s, there was a significant increase in domestic debt, exceeding 700 billion Naira by the end of the decade. Domestic debt continued to rise in the 2000s, surpassing 1 trillion Naira by 2003 and doubling by the end of the decade. In the 2010s, there was a substantial acceleration in domestic debt, with the total exceeding 4 trillion Naira by 2011 and reaching over 13 trillion Naira by 2019.

These trends reflect the government's borrowing and financing strategies over the years. The substantial increase in domestic debt, particularly in the 2010s, may indicate the government's need for additional funds to finance projects and budget deficits. However, it's important to consider the economic implications of this growth, including interest payments and the potential impact on private sector borrowing. Additionally, inflation and the changing value of the Naira should be taken into account when assessing the real impact of domestic debt. A comprehensive analysis, including the ratio of domestic debt to GDP and interest rate trends, is necessary to fully understand the implications of this debt trend.

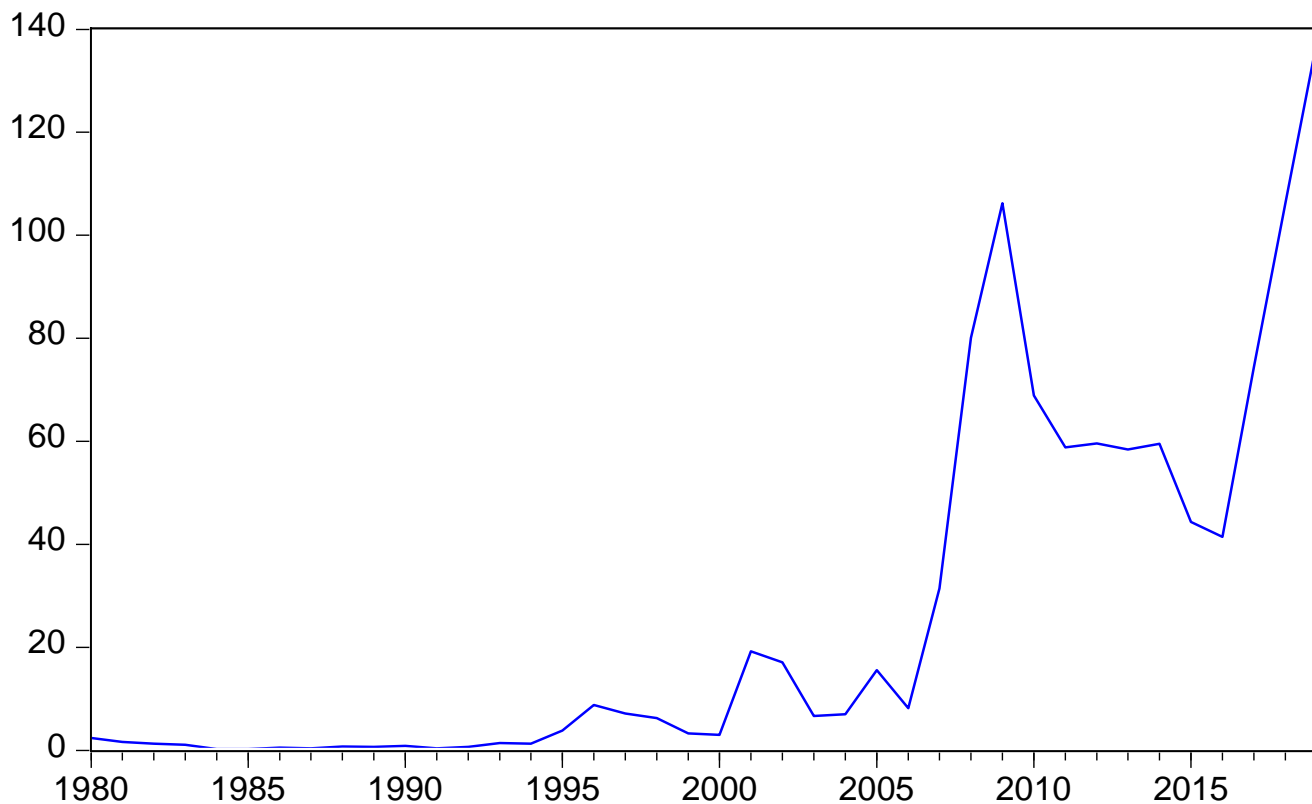


Figure 2. Trend of Public Transport Sector Expenditure in Nigeria

The data provided depicts the trend of Public Transport Expenditure in Nigeria spanning from 1980 to 2019, as illustrated in Figure 2. This variable represents the government's financial allocation towards transportation-related projects and infrastructure development, offering valuable insights into the nation's commitment to enhancing its transportation sector over time.

Throughout the analyzed period, Public Transport Expenditure exhibited varying levels, indicating fluctuations in government investment in transportation infrastructure. Notably, from 1985 to 1996, expenditures remained relatively modest, ranging from 0.24 billion Naira to 8.82 billion Naira. However, beginning in 1997, there was a discernible uptick in spending, culminating in a significant increase to 80.10 billion Naira by 2008. This period witnessed substantial government investment aimed at bolstering transportation infrastructure, indicative of a concerted effort to address infrastructural deficits. The late 2000s and early 2010s witnessed a continuation of elevated spending on transportation, with expenditures peaking at 137.60 billion Naira in 2019. This sustained commitment underscores the government's recognition of the pivotal role transportation plays in fostering economic growth, facilitating

trade, and enhancing connectivity throughout the nation (Asiri & Odularu, 2020).

The trend in Public Transport Expenditure reflects a strategic emphasis on improving transportation infrastructure to enhance mobility, reduce transportation costs, and broaden access to markets and services. However, it is imperative for policymakers to ensure that allocated funds are utilized efficiently and effectively, with a keen focus on priority areas that yield the most substantial impact on economic development. Moreover, further analysis, including a detailed breakdown of specific transportation projects and their regional distribution, would provide a more comprehensive understanding of the transportation development landscape in Nigeria. Such insights are invaluable for policymakers seeking to optimize resource allocation and maximize the socio-economic benefits derived from transportation infrastructure investments. In essence, comprehending the fluctuations in Public Transport Expenditure trends in Nigeria from 1986 to 2022 is paramount for policymakers, as a well-developed transportation sector serves as a cornerstone for fostering economic growth, enhancing connectivity, and driving overall national development.

Table 1: ADF Unit Root Test

Variable	ADF	MacKinnon at 1%	MacKinnon at 5%	Order of Integration	Conclusion
Unit Root Test at Level					
PTE	-2.077359	-3.626784	-2.945842	1(0)	Not stationary
TBD	-0.862817	-3.724070	-2.986225	1(0)	Not stationary
TBL	-1.516616	-3.626784	-2.945842	1(0)	Not stationary
FGB	-1.426149	-3.626784	-2.945842	1(0)	Not stationary
Unit Root Test at Difference					
PTE	-6.514581	-3.653730	-2.957110	1(1)	Stationary
TBD	-6.634891	-3.699871	-2.976263	1(1)	Stationary
TBL	-11.50359	-2.951125	-2.951125	1(1)	Stationary
FGB	-5.879933	-3.661661	-2.960411	1(1)	Stationary

Source: E-Views 9.0

Table 1 presents the results of the unit root test, which assesses the stationarity properties of the variables under investigation. The criterion used is the Augmented Dickey Fuller (ADF) test, where the test statistic must exceed the critical value at a certain level of significance to confirm the presence of stationarity.

Based on the unit root values for the variables, the conclusion drawn from these results is that the variables are non-stationary at the level but become stationary after differencing once. Stationarity at the first difference suggests that the series are more suitable for analysis and modeling in this form.

Table 2. Johansen's Co-Integration Results

Series: PTE TBD TBL FGB

Lags interval (in first differences): 1 to 1

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.585691	60.70756	47.85613	0.0020
At most 1 *	0.410312	29.86754	29.79707	0.0491
At most 2	0.194846	11.38189	15.49471	0.1891
At most 3	0.102799	3.796646	3.841466	0.0513
Unrestricted Cointegration Rank Test (Maximum Eigenvalue)				
Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.585691	30.84002	27.58434	0.0184
At most 1	0.410312	18.48565	21.13162	0.1127
At most 2	0.194846	7.585243	14.26460	0.4224
At most 3	0.102799	3.796646	3.841466	0.0513

Source: E-Views 9.0

The Johansen's Co-Integration results presented in Table 2 indicate the presence of co-integration relationships among the variables analyzed. Co-integration suggests a long-term equilibrium relationship between the variables, implying that they move together in the long run despite short-term fluctuations.

For unrestricted cointegration rank test (Trace), the test examines the number of co-integrating equations (CE) in the

model. The hypothesis of no co-integration (None) is rejected, as the trace statistic (60.70756) exceeds the critical value (47.85613) at the 0.05 significance level, with a p-value of 0.0020. The hypothesis of at most one co-integration equation is also rejected, as the trace statistic (29.86754) surpasses the critical value (29.79707) at the 0.05 significance level, with a p-value of 0.0491. These results indicate the presence of at least one co-integration relationship among the variables. While for

unrestricted cointegration rank test (Maximum Eigenvalue), this test determines the maximum number of co-integrating equations in the model. The hypothesis of no co-integration (None) is rejected, as the maximum eigenvalue (30.84002) exceeds the critical value (27.58434) at the 0.05 significance level, with a p-value of 0.0184. However, the hypothesis of at most one co-integration equation cannot be rejected at the 0.05 significance level, as the maximum eigenvalue (18.48565) is lower than the critical value (21.13162), with a p-value of

0.1127. These results further support the presence of at least one co-integration relationship among the variables. In summary, both the Trace and Maximum Eigenvalue tests indicate the existence of at least one co-integration relationship among the variables. This suggests a long-term equilibrium relationship, implying that changes in one variable will have a lasting impact on the others. Further analysis is warranted to explore the specific nature of these relationships and their implications for the variables under consideration

Table 3. Pairwise Granger Causality Tests

Null Hypothesis:	Obs	F-Statistic	Prob.
TBD does not Granger Cause PTE	35	3.43663	0.0453
PTE does not Granger Cause TBD		1.87561	0.1708
TBL does not Granger Cause PTE	35	1.20725	0.3131
PTE does not Granger Cause TBL		0.81558	0.4520
FGB does not Granger Cause PTE	35	0.56989	0.5716
PTE does not Granger Cause FGB		2.32881	0.1148

Source: E-Views 9.0

Table 3 presents the results of the pairwise Granger causality tests, which examine the causal relationship between Treasury Bonds (TBD), Treasury Bills (TBL), Federal Government Bonds (FGB), and Public Transport Expenditure (PTE). The results indicate that Treasury Bonds (TBD) Granger cause Public Transport Expenditure (PTE), suggesting that changes in

TBD precede and predict changes in PTE. However, there is no evidence of Granger causality between PTE and TBL or FGB, indicating no causal relationship between these variables. In summary, there is a unidirectional causality from TBD to PTE, while no causality exists between PTE and TBL or FGB.

Table 4. Parsimonious Error Correction Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(TBD(-1))	-0.013072	0.007043	-1.856002	0.0733
TBL(-1)	0.008559	0.001232	6.949270	0.0000
FGB(-1)	0.066875	0.025037	2.671060	0.0121
C	0.608845	7.567408	0.080456	0.9364
ECM(-1)	0.528697	0.208866	2.531278	0.0168
R-squared	0.673777	Mean dependent var		32.94971
Adjusted R-squared	0.630281	S.D. dependent var		36.16798
S.E. of regression	21.99177	Akaike info criterion		9.150777
Sum squared resid	14509.14	Schwarz criterion		9.372970
Log likelihood	-155.1386	Hannan-Quinn criter.		9.227478
F-statistic	15.49043	Durbin-Watson stat		1.458675
Prob(F-statistic)	0.000001			

Source: E-Views 9.0

The results from the parsimonious error correction model suggest several significant findings:

Treasury Bills (TBL): The coefficient for TBL (-1) is 0.008559 with a standard error of 0.001232. This indicates that a one-unit increase in the lagged Treasury Bills is associated with an increase of approximately 0.8559 units in the dependent variable, holding other variables constant. The t-statistic of 6.949270 suggests that this coefficient is statistically significant at the 1% level, implying a strong relationship between lagged Treasury Bills and the dependent variable.

Federal Government Bonds (FGB): The coefficient for FGB (-1) is 0.066875 with a standard error of 0.025037. This indicates that a one-unit increase in the lagged Federal Government Bonds is associated with an increase of approximately 6.6875 units in the dependent variable, holding other variables constant. The t-statistic of 2.671060 suggests that this coefficient is statistically significant at the 5% level, indicating a significant relationship between lagged Federal Government Bonds and the dependent variable.

Treasury Bills Difference (D(TBD (-1))): The coefficient for D(TBD(-1)) is -0.013072 with a standard error of 0.007043. This indicates that a one-unit increase in the difference of lagged Treasury Bills is associated with a decrease of approximately 1.3072 units in the dependent variable, holding other variables constant. Although the coefficient is negative, the t-statistic of -1.856002 suggests that this variable is not statistically significant at the conventional levels (p-value > 0.05).

Error Correction Mechanism (ECM): The coefficient for ECM (-1) is 0.528697 with a standard error of 0.208866. This coefficient represents the speed of adjustment towards the long-term equilibrium relationship between the variables. The positive coefficient suggests that the system corrects about 52.87% of any deviation from the long-term equilibrium in the previous period. The t-statistic of 2.531278 indicates that this coefficient is statistically significant at the 5% level, suggesting a significant short-term adjustment process towards equilibrium.

Overall, the model explains approximately 67.38% of the variation in the public investment decision, with an adjusted R-squared of 0.630281. The F-statistic of 15.49043 is highly significant (p-value < 0.0001), indicating that the overall model is statistically significant. Additionally, the Durbin-Watson statistic of 1.458675 suggests that there is no significant autocorrelation present in the model residuals. In summary, the results suggest that lagged Treasury Bills, lagged Federal Government Bonds, and the error correction mechanism

significantly influence the public transportation expenditure in Nigeria. However, the difference in lagged Treasury Bills does not appear to have a statistically significant effect. The model overall provides a good fit to the data and demonstrates the importance of lagged financial variables and the error correction mechanism in explaining the variation in public transportation expenditure.

5. CONCLUSION

From the extensive analysis conducted on the trends of domestic debt dynamics and public infrastructure sector expenditure in Nigeria from 1986 to 2022, several noteworthy conclusions emerge:

The historical evolution of Nigeria's domestic debt market, encompassing Treasury Bonds, NGN Treasury Bills, FGN Bonds, and total domestic debt. Notably, Treasury Bills were predominant until the late 1980s when Treasury Bonds were introduced, signifying diversification in borrowing instruments. The total domestic debt exhibited consistent growth, surpassing 13 trillion Naira by 2019. This upward trend reflects the government's borrowing strategies to finance projects and address budget deficits. However, the economic implications, including interest payments and inflation, warrant careful consideration. Expenditure levels fluctuated over time, with notable increases observed from 1997 onwards. The late 2000s and early 2010s witnessed significant investment in transportation infrastructure, underscoring the government's recognition of its importance for economic growth, trade facilitation, and connectivity. While increased spending reflects strategic emphasis, efficient utilization of allocated funds and targeted investments in priority areas are imperative for optimal socio-economic impact.

The unit root test results in Table 1 indicate that the variables are non-stationary at the level but become stationary after differencing once. Co-integration analysis in Table 2 confirms the presence of at least one co-integration relationship among the variables, suggesting a long-term equilibrium relationship despite short-term fluctuations. This underscores the interconnectedness of the variables and their shared long-term dynamics. Table 3 presents the Granger causality test results, revealing that Treasury Bills (TBD) Granger cause Public Transport Expenditure (PTE), implying a predictive relationship between the two variables. However, no evidence of causality is observed between PTE and Treasury Bills or Federal Government Bonds (FGB). This suggests a unidirectional influence from TBD to PTE, highlighting the

importance of Treasury Bills in predicting public transport expenditure dynamics. The results from the parsimonious error correction model (Table 4) indicate several significant findings. Both lagged Treasury Bills and Federal Government Bonds significantly influence public transportation expenditure in Nigeria. However, the difference in lagged Treasury Bills does not appear to have a statistically significant effect. The error correction mechanism suggests a significant short-term adjustment process towards equilibrium, emphasizing the dynamic nature of the relationship between financial variables and public transport expenditure.

The findings underscore the intricate relationship between domestic debt dynamics and public transport sector expenditure in Nigeria. The government's borrowing strategies and financial market dynamics significantly influence public investment decisions, particularly in transportation infrastructure. Efficient allocation of resources and targeted investments are crucial for maximizing socio-economic benefits and fostering sustainable development. Policymakers must consider these insights to formulate effective strategies for infrastructure development and economic growth. The paper recommends as follows:

1. Enhance Transparency and Accountability: Ensure transparent budgetary allocation and expenditure

tracking mechanisms to promote efficient resource utilization and accountability in public infrastructure investments.

2. Strengthen Fiscal Discipline: Implement measures to maintain fiscal discipline and debt sustainability, including prudent borrowing practices and debt management strategies to mitigate risks associated with rising domestic debt levels.
3. Prioritize Infrastructure Investments: Direct resources towards priority areas in transportation infrastructure, focusing on projects with high socio-economic returns and regional development needs.
4. Promote Public-Private Partnerships (PPPs): Foster collaboration between the public and private sectors to leverage expertise and resources for infrastructure development, enhancing project efficiency and delivery.
5. Conduct Regular Monitoring and Evaluation: Establish robust monitoring and evaluation frameworks to assess the effectiveness and impact of public investment decisions, facilitating evidence-based policymaking and adaptive planning.

REFERENCES

1. Ahmed, S., Asongu, S., & Tchamyou, V. S. (2018). The Impact of Domestic and Cross-border Investments on Economic Growth in Africa. African Governance and Development Institute Working Paper No. 18/028.
2. Alesina, A., Barbiero, O., Favero, C., Giavazzi, F., & Paradisi, M. (2018). The effects of fiscal consolidations: Theory and evidence. *Journal of Economic Literature*, 56(3), 987-1042.
3. Ali, M., & Ahmad, N. (2020). Domestic Debt and Public Investment: An Empirical Analysis of Pakistan. *South Asian Studies*, 35(1), 83-99.
4. Asiri, M. A., & Odularu, G. (2020). Trade facilitation and logistics performance in Saudi Arabia: lessons and policy directions for Nigeria in the Digital Age. Doi:10.1007/978-3-030-34552-5-3
5. Barro, R. J. (1979). On the Determination of the Public Debt. *Journal of Political Economy*, 87(5), 940-971.
6. Blanchard, O. J., & Fischer, S. (1990). *Lectures on Macroeconomics*. MIT Press.
7. Celasun, O., & Kang, S. H. (2007). Fiscal Sustainability in African HIPC Countries: A Policy Dilemma? IMF Working Paper No. 07/204.
8. Checherita-Westphal, C., & Rother, P. (2012). The Impact of High and Growing Government Debt on Economic Growth: An Empirical Investigation for the Euro Area. European Central Bank Working Paper No. 1450.
9. International Monetary Fund. (2020). Nigeria: Selected Issues. IMF Country Report No. 20/155. Washington, DC: IMF.
10. Iwedi, M., (2020). Granger causality analysis between domestic debt and inflation in Nigeria.

Journal of Development Economics and Finance
1(1), 135-149

11. Keynes, J. M. (1936). *The General Theory of Employment, Interest and Money*. Macmillan.
12. Kocho, C. N., Iwedi, M., & Sarakiri, J. (2021). The dynamic impact of public external debt on capital formation in Sub-Saharan Africa: The pooled mean group approach. *Journal of Contemporary Research in Business, Economics and Finance*, 3(4), 144–157. <https://doi.org/10.33094/26410265.2021.34.144.157>
13. Okafor, G. (2019). Infrastructure and economic development: A review of the Nigerian situation. *International Journal of Social Science and Economic Research*, 4(10), 6708-6725.
14. Omodero, C. O. (2019). Domestic debt and private sector credit in Nigeria: An empirical investigation. *Acta Universitatis Danubius. Economica*, 15(6), 188-207.
15. Ricardo, D. (1817). *Principles of Political Economy and Taxation*. John Murray.
16. World Bank. (2021). World Development Indicators. Retrieved from <https://databank.worldbank.org/source/world-development-indicators>.