

ASSESSING THE IMPACT OF FINANCIAL FRICTION AND INVESTMENTS ON ECONOMIC GROWTH AND DEVELOPMENT IN NIGERIA

By

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ABSTRACT

A key driver of economic growth and development across the globe is finance and financial system plays is crucial to promote this process. This study examined the relationship between financial friction, investments, and economic development in Nigeria over the period 1981-2024, with particular emphasis on the asymmetric effects of financial sector dynamics. Economic development is proxied by the growth rate of GDP per capita, while gross fixed capital formation (GFCF) represents investment, credit to the private sector (CPS) captures financial intermediation, and interest rate spread (INTR) serves as a proxy for financial friction. The study adopts a Nonlinear Autoregressive Distributed Lag (NARDL) modelling framework to account for possible asymmetries in the effects of financial friction by decomposing interest rate spread into positive and negative changes. Empirical findings reveal that while investment exerts a positive but statistically insignificant effect on economic development, credit to the private sector has a negative and significant impact, suggesting inefficiencies in credit allocation. The results further indicate that positive changes in interest rate spread are negative but insignificant, whereas negative changes (reductions in spread) have a positive and statistically significant effect on economic development, highlighting the growth-enhancing role of reduced financial friction. The interaction between financial friction and credit is negative and significant, implying that prevailing financial system inefficiencies further weaken the developmental impact of credit. The study concludes that improving the efficiency of financial intermediation and reducing financial frictions are critical to enhancing development outcomes. Consequently, it recommends targeted financial sector reforms aimed at lowering interest rate spreads, strengthening credit allocation mechanisms, and ensuring that investment is directed toward productive sectors capable of driving sustainable economic growth.

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1.0 INTRODUCTION

1.1 Background to the Study

The role of the financial system in promoting economic performance has long occupied a crucial position in economic theory and policy discourse. Classical and neoclassical perspectives stress the importance of efficient financial intermediation in savings mobilization, resource allocation, and investment facilitation, all of which are critical drivers of meaningful economic progress. In this regard, a well-functioning financial system improves capital accumulation, advances productivity, and nurtures sustainable development. However, in many developing economies, including Nigeria, the financial system is often characterized and burdened by structural imperfections known as financial frictions, which distort efficiency in the functioning of financial markets.

Financial frictions, which is a type of structural imperfection has been largely documented to obstruct easy access to finance for sustainable economic development. Adeleye, Osabuohien, and Adam, (2022) refers financial friction to as constraints such as information asymmetry, transaction costs, credit rationing, regulatory inefficiencies, and interest rate spreads that prevent financial markets from operating optimally. These frictions create a wedge between savers and investors, thereby reducing the efficiency of capital allocation. Globally, the literature has shown that financial frictions can significantly dampen economic growth by limiting access to finance, reducing investment efficiency, and increasing the cost of capital (Bernanke, Gertler, & Gilchrist, 1999; see also...).

The persistence of financial frictions in developing economies like Nigeria has been closely linked to structural and institutional weaknesses. These include inadequate regulatory frameworks, macroeconomic instability, and limited financial inclusion. Ozili (2022) notes that financial inclusion in Nigeria remains relatively low compared to global standards, with significant disparities across income groups and regions. Such limitations restrict the ability of households and firms to access financial services, thereby reducing savings mobilization and investment.

Empirical studies further highlighted that financial sector development in Nigeria has not consistently translated into real sector growth. For example, Alozieuwa, Oko and Alozie, (2026) found that while financial sector components such as banking and capital markets have expanded, their impact on economic growth remains uneven and sometimes weak. Similarly, evidence suggests that financial intermediation in Nigeria often favors short-term and less productive sectors, such as oil and speculative activities, at the expense of manufacturing and long-term investment Alozieuwa et al. (2026). This misallocation of financial resources underscores the presence of financial frictions that hinder economic performance.

In an attempt to properly manage these economic challenges and turn around the tide of economic downturns experienced in the 1980s, the Nigerian financial sector was among others considered for reformation, and a good number of measures were taken as part of reform policies of the Structural Adjustment Program in 1986 aimed at correcting the structural deficiencies in Nigerian financial system and the economy at large. These reforms, whose core target is financial liberalization, was aimed to improve financial deepening, enhance competition, and promote efficiency in the allocation of financial resources. Despite these efforts, evidence suggests that the Nigerian financial system continues to exhibit substantial frictions. For instance, high-interest rate spreads, limited access to credit, and weak financial inclusion remain persistent challenges (Ozili, 2022).

A major manifestation of financial friction in Nigeria is the high and volatile interest rate spread, which reflects inefficiencies in financial intermediation. High lending rates discourage borrowing and investment, while low deposit rates reduce incentives for savings. This creates a disincentive structure that limits capital formation and economic expansion. Empirical evidence suggests that interest rate spread, as a proxy for financial friction, has complex and sometimes adverse effects on economic outcomes, including income distribution and investment (Adeleye et al., 2022).

In addition, access to credit remains limited, particularly for small and medium-sized enterprises (SMEs), which are critical drivers of economic development. The inability of financial institutions to effectively channel funds to productive sectors results in suboptimal allocation of resources. As noted in the literature, financial institutions in Nigeria often prioritize short-term, high-return investments

over long-term productive investments, leading to a misalignment between financial development and economic growth.

Another critical issue is the persistence of low financial inclusion, which restricts the participation of a large segment of the population in the formal financial system. This not only limits savings mobilization but also reduces the overall efficiency of financial intermediation. Ozili (2022) highlights that financial inclusion in Nigeria remains below global averages, with significant disparities across demographic groups. This implies that a substantial portion of the population is excluded from accessing credit and other financial services, thereby constraining economic performance. Moreover, the volatility observed in key financial indicators, such as market capitalization and credit to the private sector, reflects instability in the financial system. Such volatility can undermine investor confidence, reduce capital inflows, and hinder long-term economic planning. Financial stress and instability have also been shown to influence macroeconomic variables such as exchange rates, further complicating the economic environment.

Despite the extensive body of literature on financial development and economic growth, there remains a gap in understanding the specific role of financial frictions in shaping economic outcomes in Nigeria. Most existing studies focus on financial development indicators without explicitly accounting for the distortions introduced by financial frictions. Furthermore, there is limited empirical evidence on the transmission mechanisms through which financial frictions affect economic performance. This study seeks to address these gaps by developing a comprehensive framework that integrates financial frictions into the analysis of economic performance in Nigeria, with particular emphasis on the role of investment as a transmission channel.

The remaining section of the paper is structured as follows. Section two covers literature review which looks at conceptual issues related to the study. It also covers empirical and theoretical issues. Section three deals with methodology and data estimation techniques. Section four deals with results and policy implication while the last section concludes the paper and suggest general policy guidelines for national economic progress.

2.0 LITERATURE REVIEW

This study sees financial friction as various imperfections within the financial system that hinder the efficient allocation of funds between savers and investors. These frictions arise from factors such as information asymmetry, transaction costs, regulatory constraints, and weak financial institutions, leading to a wedge between lending and deposit rates (often observed as interest rate spread). In practical terms, financial frictions restrict access to credit, increase the cost of borrowing, and distort investment decisions, thereby weakening the transmission of monetary policy and reducing overall economic efficiency. Within the context of developing economies like Nigeria, financial frictions are often reflected in high-interest rate spreads, limited financial inclusion, and inefficient credit allocation, all of which constrain productive economic activities.

Investment on the other hand refers to the accumulation of capital goods that improves the productive capacity of an economy over time. It is commonly proxied by gross fixed capital formation (GFCF), which includes expenditures on infrastructure, machinery, equipment, and other fixed assets. Investment serves as a critical transmission channel through which financial resources are converted into real economic output, linking financial sector performance to growth outcomes. Economic

performance on the other hand refers to the overall efficiency and effectiveness with which an economy utilizes its resources to generate output and improve the welfare of its population. It is typically measured using indicators such as GDP growth rate, GDP per capita growth, and productivity levels. In this study, economic performance is proxied by the growth rate of GDP per capita, capturing changes in average income and living standards over time. Economic performance reflects both short-run dynamics such as responses to shocks and policy changes and long-run structural progress.

The conceptual linkage amongst these variable stems from the argument that economic performance is strongly influenced by financial sector conditions, where reduced financial frictions and improved investment efficiency contribute to higher and more stable economic outcomes. In the presence of financial frictions, the level and efficiency of investment can be significantly reduced, as high borrowing costs and limited access to finance discourage capital formation. Thus, sustained and efficient investment is essential for driving productivity, technological advancement, and long-term economic development.

A number of studies linking the financial friction to economic performance has been conducted with mixed results. For instance, Adeleye, Osabuohien, & Adam (2020), examined the relationship between financial frictions, domestic credit, and income inequality in emerging economies, with a comparative focus on Nigeria and South Africa. The study adopted a robust methodological framework combining Instrumental Variable Generalized Method of Moments (IV-GMM) and threshold regression techniques to capture nonlinearities and address endogeneity concerns. Using time-series data for both countries, the analysis incorporated variables such as domestic credit to the private sector, measures of financial friction (proxied by interest rate spread), and income inequality indicators. The results indicate that financial frictions significantly worsen income inequality, particularly when credit access is limited or inefficiently allocated. However, beyond a certain threshold of financial development, the adverse effects diminish. The study recommends improving credit allocation efficiency and reducing financial frictions through policy reforms aimed at deepening financial inclusion and enhancing financial sector stability.

Gabaix (2020) examined the macroeconomic implications of financial frictions within a behavioral New Keynesian framework, focusing on how bounded rationality interacts with imperfect financial markets. Using a theoretical DSGE-based approach, the study models key variables such as output, inflation, interest rates, and financial constraints over simulated macroeconomic cycles. The results show that financial frictions significantly amplify economic shocks, especially when agents exhibit limited attention or imperfect expectations. This leads to persistent deviations from equilibrium and slower recovery from downturns. The study recommends incorporating behavioral considerations into monetary policy design and strengthening financial market transparency to reduce inefficiencies.

Mian, Straub, and Sufi (2020) investigated the role of household debt and financial frictions in shaping macroeconomic outcomes, particularly aggregate demand. Using panel data across advanced and emerging economies from 1960 to 2016, the study employs econometric techniques including panel regressions and instrumental variable estimation. Key variables include household debt, interest rates, output growth, and consumption. The findings reveal that high household debt, interacting with financial frictions, weakens aggregate demand and reduces economic growth over time. The authors

recommend policies that limit excessive household leverage and improve credit allocation efficiency to sustain long-term growth.

Schularick and Taylor (2020) analyzed the relationship between credit booms, financial frictions, and macroeconomic instability using a long-run historical dataset covering multiple countries from 1870 to 2015. The study adopts panel econometric techniques and crisis prediction models, focusing on variables such as credit growth, GDP, inflation, and financial crisis indicators. The results indicate that rapid credit expansion, when accompanied by weak financial regulation, significantly increases the likelihood of financial crises due to underlying frictions in credit markets. The study recommends stronger macro prudential regulation and monitoring of credit cycles to mitigate systemic risks.

Dell’Ariccia, Laeven and Marquez (2018), explored the relationship between financial frictions, foreign currency borrowing, and systemic risk, with a focus on emerging and developing economies. Using a theoretical and empirical framework often grounded in dynamic macro-financial models and panel data analysis, the study investigates how borrowing in foreign currencies amplifies vulnerabilities in the presence of financial frictions. Key variables include foreign currency-denominated debt, exchange rate movements, banking sector stability indicators, and measures of financial constraints. The results show that financial frictions intensify the risks associated with currency mismatches, increasing the likelihood of financial crises when exchange rate shocks occur. The study concludes that excessive reliance on foreign currency borrowing can destabilize financial systems under weak regulatory conditions. It recommends implementing macro-prudential policies, strengthening financial regulation, and limiting unhedged foreign currency exposures to reduce systemic risk.

Financial frictions and their implications for economic performance are well grounded in both classical and modern macroeconomic theory. The foundational contributions of Ronald McKinnon (1973) and Edward Shaw (1973) emphasize that financial repression - manifested through interest rate controls, credit ceilings, and restrictive policies - impede savings mobilization and efficient investment, thereby constraining growth. Their financial liberalization hypothesis posits that removing such distortions enhances financial deepening and promotes economic development. Building on this, Joseph Stiglitz and Andrew Weiss (1981) introduce the concept of credit rationing under asymmetric information, showing that even in liberalized systems, imperfections such as adverse selection and moral hazard can restrict access to finance. Similarly, Ben Bernanke, Mark Gertler, and Simon Gilchrist (1999) develop the financial accelerator framework, demonstrating how financial frictions amplify macroeconomic fluctuations by linking borrowers’ balance sheets to credit conditions. These theoretical perspectives collectively highlight that financial systems do not always function efficiently, and that frictions can significantly distort the transmission of savings into productive investment.

Furthermore, modern macroeconomic frameworks, such as the financial accelerator model, emphasize the role of financial frictions in amplifying economic fluctuations and constraining growth. These models demonstrate that imperfections in credit markets can lead to suboptimal investment decisions and lower economic output. In the context of developing economies such as Nigeria, these theoretical insights are further enriched by empirical and structural analyses that emphasize the role of institutional quality and financial market development. Studies by Ross Levine (2005) show that financial development - through improved intermediation, risk diversification, and

capital allocation - positively influences economic growth, but only when supported by strong institutions. However, Nigerian-focused studies, such as those by Peter Ozili (2022) and Adeleye et al. (2022), reveal that persistent financial frictions, including high-interest rate spreads, limited financial inclusion, and inefficient credit allocation, continue to weaken the finance–growth nexus. These realities align with endogenous growth theory, where investment - particularly gross fixed capital formation - serves as a critical transmission channel between financial sector performance and economic development. Consequently, integrating financial friction theory with investment-based growth models provides a more comprehensive framework for understanding Nigeria’s development challenges, as it captures both the direct and indirect effects of financial inefficiencies on long-term economic outcomes.

3.0 METHODOLOGY

3.1 The Model

Let consider the following simple production function to lay the real sector foundation.

$$Y_t = A_t k \delta_t^\alpha L_t^{1-\alpha}, \quad 0 < \alpha < 1 \quad 1,$$

Where Y_t is aggregate output (proxy for economic performance), A_t is the total factor productivity, K_t capital stock and L_t is labour. In per capita form, what we have is;

$$y_t = A_t k_t^\alpha \quad 2$$

Where $y_t = Y_t/L_t$ (output per capita), $k_t = K_t/L_t$ (capita per capita). This implies that economic performance depends critically on capital accumulation and that anything that disrupts capital formation (e.g., financial friction) will reduce economic performance.

$$w_t = (1 - \alpha) A_t k_t^\alpha \quad 3$$

By differentiating equation 1 with respect to labour, we find that wage rate is equal to the marginal product of labour.

Household behaviour will follow the Overlapping Generation Framework where each individual lives two periods. The young earns income, save some and consume the rest while the old consumes their savings. The following Utility function and Budget constraints illustrate this arrangement.

$$U = \ln(C_{1,t}) + \beta \ln(C_{2,t+1}) \quad 4$$

Constraint by;

$$C_{1,t} + S_t = w_t (\text{young}) \quad 4a$$

$$C_{2,t+1} = (1 + r_t^d) S_t (\text{old}) \quad 4b$$

Where β is the cost of patience (discount factor), S_t is savings while r_t^d is deposit interest rate.

Solving the household’s problem, by substituting into equation 4, we obtain the following;

$$U = \ln(w_t - S_t) + \beta \ln\{(1 + r_t^d)\} S_t \quad 5$$

The first order condition for this equation $S_t = \frac{\beta}{1+\beta} w_t$ implies that savings depends on income and time preference and that household supplies funds to the financial system.

But the financial system through financial intermediaries lend fund to investors and create a wedge (financial friction) between borrowing and savings.

$$r_t^i = r_t^d + \phi_t \quad \text{-----} 6$$

Where r_t^i is the lending rate, ϕ_t is the interest rate spread which captures the friction in the system. Investment on the other hand relates to savings, $I_t = \frac{S_t}{1+\phi_t}$ such that, when $\phi_t = 0$, perfect financial system, when $\phi_t = 0$, perfect financial system

Capital is accumulated through the following mechanism;

$$k_{t+1} = I_t = \frac{S_t}{1 + \phi_t} \quad \text{-----} 7$$

By substituting savings we obtain;

$$k_{t+1} = \frac{1}{1 + \phi_t} \cdot \frac{\beta}{1 + \beta} w_t \quad \text{-----} 8$$

Substituting for w_t in equation 7, we obtain;

$$k_{t+1} = \frac{(1 - \alpha)\beta}{(1 + \beta)(1 + \phi_t)} A_t k_t^\alpha \quad \text{-----} 9$$

which implies the $\frac{\partial k_{t+1}}{\partial \phi_t} < 0$, hence higher financial friction would reduce capital accumulation.

Equation 9 above shows that next period's capital stock depends positively on current output and savings behavior but is inversely affected by financial frictions, implying that higher interest rate spreads reduce the efficiency with which savings are transformed into productive capital. In order words, economic performance is driven by productivity and existing capital stock, but is dampened by financial frictions that weaken the transmission from output to future investment.

$$E_p = f(k_{t+1}) = \frac{(1 - \alpha)\beta}{(1 + \beta)(1 + \phi_t)} A_t k_t^\alpha \quad \text{-----} 10$$

Where E_p is the bridge variable for economic performance.

3.2 **Description and Sources of Data Collection**

This study employs time series data from 1981 to 2024 on Growth rate of GDP per capita GDPGR (Proxy for economic performance), Gross fixed capital formation GFCF (proxy for investment), Bank credit to private sector CSP, Market capitalization MCAP, Interest rate spread INTR, while Population/GDP (POP) is used to control for omitted variable biases in the model. Secondary sources such as Central Bank Statistical Bulletin and National Bureau of Statistics Annual Abstract of Statistics for various years were consulted for the data.

3.3 Estimation Technique and Model Specification

This study employs the Non-Linear Autoregressive Distributed Lag (NARDL) technique, developed by Shin et al (2011), which extends the Autoregressive Distributed Lag Model (ARDL) to inculcate capabilities to model both long-run and short-run symmetric/asymmetric relationships among variables. The dynamic error correction representation (ECM) based on the NARDL approach is estimated in a single step, enhancing the model's performance in small samples, particularly regarding the power of co-integration tests. Furthermore, asymmetric cumulative dynamic multipliers offer detailed and clear patterns of asymmetric dynamic adjustment and responses to both positive and negative shocks, leading to a new steady-state equilibrium after any disturbance to the system. To achieve its objective, the non-linear ARDL (NARDL) model was developed to jointly model and analyze short-run and long-run asymmetries by decomposing the explanatory variable into partial sums of positive and negative changes.

For analytical tractability, consider the following equation.

$$y_t = \beta^+ x_t^+ + \beta^- x_t^- + \epsilon \quad 3.11$$

Where y_t is the explained variable, x_t is $(k \times 1)$ vector of independent variables that has been decomposed into x_t^+ and x_t^- which serves as the positive and negative changes resulting from the decomposition process of the explanatory variables developed by Schrderet (2001). Thus, equation 3.11 can be modified to allow for the possible presence of long run asymmetric co-integration such that the model turns out to be the following nonlinear ARDL model.

$$y_t = \sum_{j=1}^p \vartheta_j y_{t-j} + \sum_{j=0}^q (\theta_j^+ x_{t-j}^+ + \theta_j^- x_{t-j}^-) + \mu \quad 3.12$$

Where ϑ is the long run autoregressive parameter, while θ_j^+ and θ_j^- are asymmetry distributed lag parameters for the regressors, while μ is the error term fully consistent with the BLUE properties of the OLS.

Subsequently, the nonlinear error correction can be modelled as follows.

$$\Delta y_t = \rho y_{t-1} + \theta_j^+ x_{t-j}^+ + \theta_j^- x_{t-j}^- + \sum_{j=1}^{p-1} \varphi_j \Delta y_{t-j} + \sum_{j=0}^{q-1} (\sigma_j^+ \Delta x_{t-j}^+ + \sigma_j^- \Delta x_{t-j}^-) + v_t \quad 3.13$$

$$= \rho \varepsilon_{t-1} + \sum_{j=1}^{p-1} \varphi_j \Delta y_{t-j} + \sum_{j=0}^{q-1} (\sigma_j^+ \Delta x_{t-j}^+ + \sigma_j^- \Delta x_{t-j}^-) + v_t \quad 3.14$$

From equation 3.11, $\varepsilon_t = y_t - \beta_j^+ x_t^+ + \beta_j^- x_t^-$ is the nonlinear error term where $\beta^+ = -\frac{\theta^+}{\rho}$ and $\beta^- = -\frac{\theta^-}{\rho}$ and they express the long run impact of the respective positive and negative changes in the explanatory variable on the dependent variable. $\rho \varepsilon_{t-1}$ is the error correction term. The fact that all the parameters in Equation (3.14) are linearly aligned to the dependent variable makes the model easy to be estimable using the standard OLS method. Furthermore, the NARDL model in a dynamic context (ECM) facilitates the simultaneous modeling of both long-run co-integration relationships and short-run dynamic adjustments between variables. In this framework, the null hypothesis of no long-run co-integrating relationship between the variables can be tested using the bounds testing

approach based on the F-test, regardless of whether the underlying variables are I (0) or I(1) (Pesaran et al., 2001).

Based on the above, we specify our model as follows:

$$GDPR_t = \beta_0 \varepsilon_{t-1} + \sum_{j=1}^{p-1} \sigma_1 GDPR_{t1-j} + \sum_{j=0}^{q-1} (\sigma_2 GFCF_2 + \sigma_3^+ INTR_{t3}^+ + \sigma_4^- INTR_{t4}^- + \sigma_5 CPS_{t5} + \sigma_6 INT_CPS_{t6} + \sigma_7 POP_{t7}) + v_t \quad 3.15$$

where *INT_CPS* is interactive term that captures how financial friction condition the effectiveness of credit to private sector in influencing economic development.

3.4 Analytical Framework

Time-series data, if left untreated, often exhibit drift away from their long-run mean, rendering them unreliable for sound policy analysis and implementation. To ensure that the empirical results are robust and suitable for policy guidance, several diagnostic and pre-estimation tests were carried out. First, the Augmented Dickey-Fuller (ADF) unit root test was employed to determine the stationarity properties of each variable and establish their respective orders of integration. Following this, the generic ARDL was implemented to allow for the NARDL which allows for the decomposition variable for asymmetric impact. The bound test which uses the F-statistic for testing cointegration was conducted to examine the existence of a long-run equilibrium relationship among the variables.

Upon confirming co-integration, the long and the short run dynamics was established followed by the Error Correction Model (ECM). The inclusion of the error correction term allows for the reconciliation of short-run dynamics with long-run equilibrium behaviour, thereby providing insight into the speed at which deviations from equilibrium are corrected. In addition, post-estimation diagnostic tests were conducted to validate the reliability of the model. The Breusch-Godfrey Serial Correlation LM test was used to check for the presence of autocorrelation in the residuals, ensuring that the model errors are independent. Model stability was assessed using the CUSUM test, while the Breusch-Pagan-Godfrey test was employed to detect the presence of heteroskedasticity. Collectively, these procedures enhance the credibility and policy relevance of the empirical findings.

4.0 RESULTS

4.1 Unit Root Test

Table 4.1a: Summary of Unit Root Test at Level

Method	Statistic	Prob.
ADF - Fisher Chi-square	24.8456	0.0056
ADF - Choi Z-stat	-0.1076	0.4572
Intermediate ADF test results at level		
Series	Prob.	Obs

ED	0.0000	Stationary
GFCF	0.3363	Non-stationary
INTR	0.3282	Non-stationary
CPS	0.8512	Non-stationary
POP	0.9998	Non-stationary

Table 4.1b: Summary of Unit Root Test at First Difference

Method	Statistic	Prob.
ADF - Fisher Chi-square	106.422	0.0000
ADF - Choi Z-stat	-8.31083	0.0000

Intermediate ADF test results at first difference

Series	Prob.	Obs
D(ED)	0.00000	Stationary
D(GFCF)	0.00010	Stationary
D(INTR)	0.00000	Stationary
D(CPS)	0.00080	Stationary
D(POP)	0.21320	Stationary

Source: Authors Computation using E-views 12

The stationarity properties of the variables were examined using the Augmented Dickey–Fuller (ADF) test, employing both the Fisher Chi-square and Choi Z-statistic approaches. Based on the reported p-values, the results in Table 1a show that only ED is stationary at levels, whereas GFCF, INTR, CPS, and POP exhibit non-stationarity. However, as presented in Table 1b, these variables become stationary after first differencing. This indicates that ED is integrated of order zero, $I(0)$, while GFCF, INTR, CPS, and POP are integrated of order one, $I(1)$.

Table 4.2: F-Bound Cointegration Test Result

Test Statistic	Value	Signif.	$I(0)$	$I(1)$
F-statistic k	6.279139	10%	2.33	3.25
	6	5%	2.63	3.62
		2.5%	2.9	3.94
		1%	2.27	4.39

Source: Authors Computation using E-views 12

Table 4.2 shows that the computed F-statistic of 6.279139 exceeds the upper bound critical value of 3.25 at the 5% significance level. This provides evidence of a long-run relationship among the variables included in the model. The finding aligns with previous studies such as Olulu-Briggs and Sunday-Goya (2023) and Kamasa, Mochiah, Doku, and Forson (2020), who also documented the existence of long-run linkages between financial sector development indicators and economic performance. Consequently, the null hypothesis of no cointegration is rejected, implying that financial sector reforms are significantly associated with economic development in Nigeria over the long run.

4.2 **Error Correction Test**

The result of the Error correction test is depicted in table 4.3 below.

Table 4.3: NARDL Short-run and Error Correction Model

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-10.5799	1.35523	-7.806743	0.000
Et	-0.95357	0.122519	-7.783009	0.000
R-squared	0.596358	Mean dependent var		-0.06381
Adjusted R-squared	0.586513	S.D. dependent var		1.069673
S.E. of regression	0.687831	Akaike info criterion		2.134848
Sum squared resid	19.39758	Schwarz criterion		2.216765
Log likelihood	-43.8992	Hannan-Quinn criter.		2.165057
F-statistic	60.57523	Durbin-Watson stat		2.131485
Prob(F-statistic)	0.0000			

Source: Authors Computation using E-views 12

From Table 4.3 above, it is observed that the coefficient of the error correction term (E_t) (-0.953) is negative and has a p-value that is less than 5 percent (< 0.05) which implies significance, which implies that only 0.95 percent of the deviation from the equilibrium is corrected in the next period.

4.3 **Model Estimation Results**

Table 4.4 below presents the results of the long-run NARDL regression.

Table 4.4: NARDL Long-run Regression Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
GFCF	1.0950	0.6533	1.6761	0.1029
INTR ⁺	-1.0501	0.5759	-1.8236	0.0770
INTR ⁻	-1.4928	0.4229	-3.5300	0.0012
CPS	-1.3104	0.3620	-3.6202	0.0009
INT_CPS	-0.4099	0.1531	-2.6778	0.0113
POP	-16.9580	22.1620	-0.7652	0.4494
@TREND	0.2423	0.0730	3.3174	0.0022

Source: Authors Computation using E-views 12

From Table 4.4 above, the estimated coefficient of gross fixed capital formation (GFCF), which serves as a proxy for investment, is positive (1.09), indicating that a unit increase in gross fixed capital formation is associated with about 1.09 percentage point improvements in the growth of per capita GDP thereby enhancing economic development. Conversely, financial friction, which is the decomposed interest rate spread, reveals important asymmetries. Positive changes in INTR (INTR⁺), representing increases in financial friction, carry a negative coefficient (-1.050), which implies that a unit increase in INTR reduces the rate at which GDP per capita grows by 1.05 percentage point for the period covered in the study.

On the other hand, negative changes in INTR (INTR⁻), representing reductions in financial friction, exhibit a larger negative and statistically significant coefficient (-1.492). Within the framework of NARDL, this result implies that a unit decrease in interest rate spreads are associated with about 1.9 percentage point increase in rate at which GDP per capital grows. Credit to the private sector (CPS) carries a negative and statistically significant coefficient (-0.1310), indicating that a unit increase in credit is associated with about 0.13 percentage point reductions in the rate at which GDP per capita grows.

The interaction term between financial friction and credit (INTR_CPS) is negative (-0.409) and statistically significant, indicating that financial friction amplifies the ineffectiveness and inefficiency of credit on economic development by about 0.40 percentage point. The control variable, population relative to GDP (POP), is negative (-16.95) but statistically insignificant. While the negative sign may suggest that population pressures dilute per capita income, the lack of significance indicates that this effect is not systematically established within the model.

4.4 **Post-Estimation Test Results**

Results of the Lagrange Multiplier Diagnostic tests are reported in table 4.5 below.

From Table 4.5 below, it is observed that the p-values attached to the LM tests statistic are all greater than 5 implying that the model does not suffer from serial correlation, heteroskedasticity, non-normality and incorrect functional form.

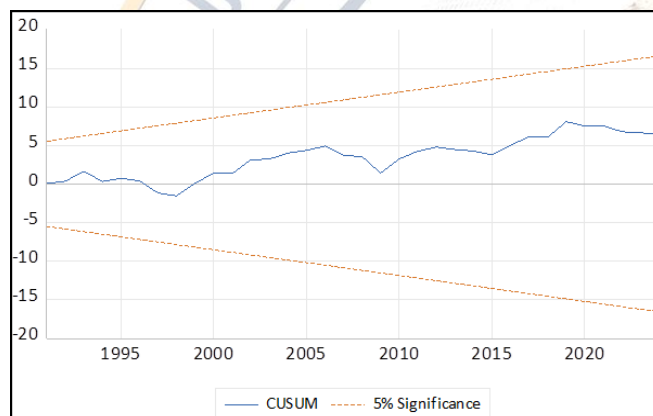
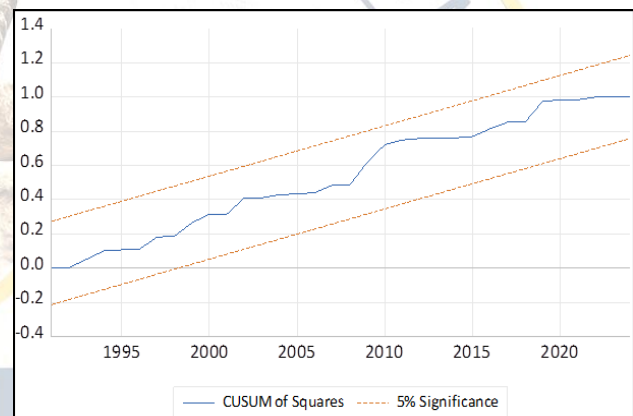
Table 4.5: Lagrange Multiplier Diagnostic Tests

LM Test	Test-Statistic	P-Value	Decision rule
1. Jarque-Bera test for Normality	1.649	0.4385	Do not reject H_0
2. Breusch-Godfrey serial correlation	0.3011	0.7421	Do not reject H_0
3. Breusch-Pagan-Godfrey Heteroskedasticity test	0.5061	0.8431	Do not reject H_0
4. Ramsey Reset test for Functional Form	1.6167	0.1155	Do not reject H_0

Source: Authors Computation using E-views 12

4.5 **Stability Test**

Results of CUSUM and CUSUM of squares plots are reported in figure 1 and 2 below.

**Figure1:** Cusum test**Figure 2:** Cusum of Square Test

From Figures 1 and 2 above, it is clear that the blue lines fall in between the two red lines implying that the stability of the formation.

4.6 **Discussion of Findings and Policy Implication**

The study reveals some of the noteworthy inefficiencies inherent in the Nigerian financial system. The Results present a coherent narrative that aligns with Nigeria's observed economic trajectory, where growth in GDP per capita has remained weak or deteriorating despite expansions in financial aggregates and investment levels. Although the positive sign attached to investment aligns with theoretical expectations that investment should enhance productive capacity and stimulate growth. However, the coefficient is statistically insignificant, suggesting that investment has not exerted a consistent or reliable influence on economic development in Nigeria. This might be a pointer to the fact that capital formation has all along been inefficiently allocated, poorly executed, or concentrated in low-impact sectors, thereby limiting its contribution to per capita income growth. In essence, the result supports the argument that the quality and productivity of investment, rather than its volume, are the binding constraints on development.

In the same vein, increases in interest rate spread ($INTR^+$) showed a sign that is consistent with theoretical expectations that higher borrowing costs and wider spreads hinder economic activity associated with economic development. However, this effect is statistically insignificant, suggesting that increases in financial friction do not systematically translate into worsening economic development outcomes. This may reflect the structural peculiarities of the Nigerian economy, where formal interest rate mechanisms are often weakly transmitted to the real sector due to the prevalence of informal financing, credit rationing, and policy inconsistencies. Furthermore, the magnitude of the coefficient of ($INTR^-$) (-1.492) suggests that the impact of easing financial friction is not only statistically significant but also economically substantial. It indicates that the Nigerian economy is responsive to improvements in financial conditions, even though such improvements may not occur frequently or consistently over time.

When contrasted with the negative but insignificant coefficient of positive changes in $INTR$ ($INTR^+$), an important asymmetry emerges. While increases in financial friction (widening spreads) do not exert a statistically strong effect on economic development, reductions in financial friction have a pronounced and beneficial impact. This asymmetry suggests that the Nigerian economy responds more to improvements in financial conditions than to deteriorations. One possible explanation is that economic agents are better able to exploit favorable financial conditions (e.g., lower borrowing costs) than they are constrained by unfavorable ones, possibly due to adaptive mechanisms such as reliance on informal finance during periods of high spreads.

The sign attached to credit to private sector contradicts conventional financial intermediation theory but is consistent with a growing body of evidence in developing economies where credit expansion does not necessarily translate into economic development for instance in Tijani, Dosumu, Muhammad-Gani, & Ajidani, (2026). In the Nigerian context, this may reflect misallocation of credit to consumption, speculative activities, or politically connected sectors, rather than productivity-enhancing investments. This significance of this coefficient underscores the argument that the financial system may, in fact, be growth-inhibiting rather than growth-enhancing under prevailing institutional conditions.

The behaviour of the interaction term ($INTR_CPS$) reinforces the notion that financial frictions amplify the adverse effects of credit on economic development. This suggests that when credit expansion occurs in an environment characterized by high borrowing costs and inefficiencies, its developmental impact is further weakened. The result highlights the complementary constraint imposed by financial frictions: not only do they directly affect economic outcomes, but they also undermine the effectiveness of financial intermediation.

5.0 CONCLUSION AND RECOMMENDATION

This study investigated the dynamic and asymmetric relationship between financial friction, investment, and economic development in Nigeria using a NARDL framework. The findings reveal that while key variables such as investment (GFCF) and financial friction (interest rate spread) conform partly to theoretical expectations, their impacts are largely shaped by structural inefficiencies within the Nigerian economy. In particular, the insignificance of investment suggests that capital formation has not translated into meaningful improvements in per capita income, reflecting persistent issues of misallocation, low productivity, and weak institutional support. Similarly, the asymmetric

decomposition of financial friction shows that increases in interest rate spread exert no significant effect, further underscoring the weak transmission of financial conditions to real sector outcomes.

More importantly, the results highlight that reductions in financial friction significantly promote economic development, confirming that improved financial conditions can stimulate growth when properly transmitted. However, the negative and significant impact of credit to the private sector, alongside the adverse interaction between credit and financial friction, indicates that the Nigerian financial system has not effectively fulfilled its intermediation role. Overall, the findings suggest that Nigeria's deteriorating economic development trajectory is less a function of insufficient financial resources and more a consequence of systemic inefficiencies, poor credit allocation, and institutional weaknesses that undermine the effectiveness of both investment and financial sector activities.

Based on the above, the study recommends the following policy response. First, policy efforts should prioritize reducing financial frictions within the Nigerian banking system. This can be achieved through measures aimed at narrowing interest rate spreads, such as enhancing competition in the financial sector, improving risk assessment frameworks, and strengthening regulatory oversight to reduce inefficiencies and excessive intermediation costs. By lowering the cost of borrowing, policymakers can stimulate productive investment and improve the transmission of financial resources to the real sector. However, such efforts must be complemented by reforms that ensure financial stability and prevent the mispricing of risk, which could otherwise negate the benefits of reduced spreads.

Second, there is a critical need to improve the quality and allocative efficiency of both investment and credit to the private sector. Government and financial institutions should channel resources toward high-productivity sectors such as manufacturing, agriculture, and technology, while minimizing the diversion of funds into speculative or consumption-driven activities. Strengthening institutional frameworks, enhancing transparency, and promoting accountability in project implementation will also be essential in ensuring that investment translates into tangible development outcomes. Additionally, improving financial literacy and deepening financial inclusion can help ensure that the benefits of financial sector reforms are broadly distributed, thereby fostering sustainable and inclusive economic development in Nigeria.

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