Financial Development and Economic Growth in Nigeria: A Dynamic Simulation Using Dynamic ARDL

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Abstract- ***This study employs annual time series data over the period of (1980-2021) to re-access the relationship between financial development and economic growth in Nigeria using a Novel Dynamic Autoregressive Distributed Lag (DYARDL) simulation, which allows for an examination of both short- and long-term dynamics. The study confirms a long-run relationship between financial development and economic growth, as established through the bounds test for cointegration. The overall results reveal that an increase in financial development (FD) leads to a rise in GDP in the long run and the short run, with financial markets index (FMI) playing a more significant role in driving growth than financial institutions index (FII). The error correction term (ECT) of -0.27 in the ARDL model and -0.24 in the DYARDL model further confirm a robust adjustment toward equilibrium. However, banking sector expansion (FII) does not significantly impact growth, possibly due to risks associated with excessive lending and financial instability. The study also simulates the asymmetric effects of financial development shocks on economic growth, and found that positive shocks in capital markets spur growth, while negative shocks adversely affect GDP. These findings highlight the importance of financial market stability and efficient capital allocation in fostering economic growth.***

Indexed Terms- ***Dynamic ARDL Simulation; financial development index, counterfactual shocks, financial institutions, financial markets***

I. INTRODUCTION

The nexus between financial development and economic growth has remained one of the most actively debated and empirically scrutinized areas in economics. The theoretical basis for a positive relationship is well-established: a developed financial system fosters efficient capital allocation, mobilizes savings, manages risk effectively, and stimulates technological progress, all of which contribute to economic expansion (Arestis et al., 2001). However, the existing empirical evidence is not that straight forward. The nature, magnitude, and even direction of this relationship is often contingent on a variety of factors, including the specific methodology employed, the choice of financial development indicators, the level of institutional development, and the characteristics of the countries under investigation (Alexiou et al., 2018; Asteriou & Spanos, 2021; Quito et al., 2025).

Nigeria, as one of the largest economies in Sub-Saharan Africa, presents a particularly interesting case study. The Nigerian financial system has experienced substantial transformations in recent decades, including deregulation, privatization, and increased integration with global financial markets (Olawale, 2024). These changes warrant a thorough investigation into how they have impacted Nigeria's economic path. While previous studies have examined the finance-growth nexus in Nigeria (e.g., Olawale, 2024), questions remain regarding the nexus between diverse financial development indicators and economic growth. Specifically, the role of methodological choices and potential non-linear(asymmetry) relationships with the selected indicators require careful consideration. In addition, the persistence of the finance-growth debate and the mixed evidence in the literature highlight the need for further research, particularly within a country-specific context like Nigeria.

The finance-growth literature is replete with examples of how methodological choices can influence the results. Studies have used time-series analysis with the

ARDL estimator (Olawale, 2024; Barradas, 2020), dynamic panel analysis (Asteriou & Spanos, 2021; Alexiou et al, 2018), Panel FMOLS/DOLS (Öncel et al., 2024), PLS-GMM (Adewumi, 2024) and Spatial panel analysis (Minh Ha & Ngoc, 2025). Each of the estimation techniques have their peculiar characteristics and the adoption and usage have policy implications. Furthermore, traditional cross-country econometric techniques may not fully capture the dynamic of a country-specific relationship (Alexiou et al., 2018; Minh Ha & Ngoc, 2025; Quito et al., 2025). Therefore, a country-specific study of this nature requires econometrics techniques that will yield insights into the dynamics of the economy.

Additionally, there is a variety of variables that have been adopted as a measure or proxy for financial development. Some studies have used money supply, credit, financial value added, and stock market capitalization (Barradas, 2020). Some have adopted indicators of banking depth, and market liquidity (Arestis et al., 2001; Öncel et al, 2024) agricultural credit (Magazzino & Santeramo, 2024), index of ICT adoption (Saada, 2025), and financial access (Adewumi, 2024). The choice of indicators has implications for the interpretation of the study and its impact on policy direction.

Furthermore, the results that are obtainable are also subject to the nature of the countries in the study. The use of countries that are developed or emerging or in a post-recession position have implications for the analysis. For example, using OECD countries may show that credit boosts productivity (Magazzino & Santeramo, 2024). Using countries that are indebted may show a dependence of financial inclusion on infrastructure and literacy (Adewumi, 2024). Using industrialized countries may reveal that financial fragility offsets growth benefits of development (Fan et al., 2024). Therefore, there is need for a context specific analysis to be carried out.

Recently, the growing evidence indicates that the finance-growth nexus is not linear and may be influenced by external shocks, such as financial crises (Abdu et al., 2023; Asteriou & Spanos, 2019; Asteriou & Spanos, 2021; Fan et al., 2024). Therefore, it is essential to employ dynamic modeling techniques that can accommodate non-linearities and the potential for feedback effects. The dynamic ARDL simulation approach adopted in this study will help us to visualized the nonlinearity(asymmetry) itself in addition to a more robust understanding of the feedback effects between financial development and economic growth in Nigeria.

The study aims to re-examine the relationship between financial development and economic growth in Nigeria. Unlike most of previous research, this study attempts to carefully used a comprehensive set of financial development indicators, covering both banking sector and stock market activities, in a both broader and disaggregated form. Additionally, it conducts policy simulations to analyze the effects of counterfactual financial sector's expansion/contraction and provide policy recommendations for the concern authorities. Accordingly, this research contributes to the literature by employing a Dynamic Autoregressive Distributed Lag (ARDL) simulation approach, which accommodates both short- and long-run relationships, handles variables with different integration orders, and assesses policy impacts dynamically.

II. LITERATURE REVIEW

This literature review examines the various aspects of the relationship between financial development and economic growth, drawing upon a diverse range of empirical studies conducted across various countries and regions. The review synthesizes findings related to the role of financial institutions and markets, the impact of financial crises, the influence of institutional quality, and the differential effects observed in developed versus developing economies.

2.1 The Role of Financial Institutions and Markets

Early research emphasized the positive contribution of financial development to economic growth. Arestis et al. (2001), examining developed economies, found that while both banking and stock markets contribute to growth, the banking sector exerts a more substantial influence. However, this finding is challenged by Barradas (2020), whose time-series analysis for Portugal reveals a negative linear relationship between the banking system and growth, while the stock market exhibits a positive relationship. This suggests that the specific characteristics of the financial system, such as

its structure and depth, may significantly influence the nature of the finance-growth relationship. Furthermore, Barradas (2020) highlights the presence of non-linearities, with banking exhibiting a concave quadratic relationship and stock markets showing a convex quadratic relationship, indicating diminishing returns and increasing benefits, respectively.

Quito et al. (2025) provide further insights into the differential roles of financial institutions and markets. Their panel cointegration analysis of developed and developing economies reveals that banking development plays a more significant role in promoting growth in developing economies, while stock markets are more influential in developed economies. This underscores the importance of considering the level of economic development when evaluating the impact of financial sector development. In the West African context, Ogagaoghene (2025) corroborates this finding, demonstrating that banking sector development drives growth more than stock markets, while institutional quality enhances the finance-growth linkage. This regional focus reinforces the need for context-specific analyses.

2.2 The Impact of Financial Crises

The global financial crisis of 2008 prompted a re-evaluation of the finance-growth nexus. Alexiou et al. (2018) reassess the relationship and discover that the benefits of financial sector development were reversed in the aftermath of the crisis. Moreover, they identify a threshold effect, suggesting that excessive financial development can become detrimental to growth. Asteriou and Spanos (2019) further investigate the impact of the crisis within the European Union, finding that the finance-growth link breaks down during crisis periods, and that banking shocks persist in the post-crisis environment. In a subsequent study, Asteriou and Spanos (2021) delve into the crisis transmission mechanisms, revealing that the banking sector harms growth through household/private debt and non-performing loans, while stock markets lose their positive linkage in the post-crisis era. These studies highlight the vulnerabilities of financial systems and the potential for instability to undermine economic growth.

Fan et al. (2024) provide additional evidence of the detrimental effects of financial fragility. Their analysis of OECD countries demonstrates that financial fragility offsets the growth benefits of financial development. This emphasizes the importance of maintaining financial stability and mitigating systemic risks to ensure that financial development contributes positively to economic growth.

2.3 The Role of Institutional Quality

Several studies emphasize the critical role of institutional quality in shaping the finance-growth nexus. Omotola et al. (2024) find that financial development amplifies growth only in the presence of strong governance in West African nations. In the absence of robust institutions, the benefits of financial development are negated. Maune (2025) extends this analysis to Sub-Saharan Africa, demonstrating that governance quality amplifies the growth benefits of financial development and trade, and that remittances enhance growth only when governance is strong. Saeed et al. (2025) further highlight the importance of institutional quality, finding that ICT enhances the growth benefits of financial development only with strong governance, and that governance quality moderates ICT's impact on the finance-growth nexus in developing countries.

Souibgui (2025), through a case study of New Zealand, finds that governance quality enhances growth while mitigating the environmental costs of financial development. These studies underscore the importance of fostering strong institutions, promoting good governance, and ensuring regulatory effectiveness to maximize the benefits of financial development and minimize its potential risks.

2.4 Financial Inclusion and Development

Adewumi (2024) specifically examines the impact of financial inclusion on economic growth in Heavily Indebted Poor Countries (HIPCs). The study reveals that financial inclusion increases growth, but that the effects depend on infrastructure and literacy. This highlights the importance of addressing structural barriers to financial access and promoting complementary investments in education and infrastructure to ensure that financial inclusion translates into sustainable economic growth.

2.5 Innovation and Technological Impacts

Saada (2025) compares the impacts of financial innovation and market capitalization on economic growth across developed and emerging markets. The study finds that fintech innovation drives growth in emerging markets, while market capitalization dominates in developed economies. This suggests that emerging markets can leverage fintech to leapfrog traditional financial sector development pathways and achieve faster economic growth. Similarly, Öncel et al. (2024) find that financial development, measured by credit and stock market turnover, and exports synergistically drive growth in Commonwealth of Independent States.

2.6 Sector-Specific Effects

Magazzino and Santeramo (2024) focus on the relationship between credit access, agricultural productivity, and economic growth across different income groups. Their findings reveal that credit boosts productivity only in OECD countries, while developing nations rely more on technology for agricultural growth. This underscores the importance of tailoring financial sector policies to the specific needs and characteristics of different sectors and economies.

Spatial Considerations

Minh Ha and Ngoc (2025) introduce a spatial dimension to the analysis, examining the spatial relationships between financial development, energy consumption, and economic growth in emerging markets. Their study reveals that financial development positively affects growth but increases energy consumption, and that spatial effects show regional disparities in growth benefits. This highlights the importance of considering regional spillovers and environmental sustainability when formulating financial sector policies.

Ngcobo et al. (2025) analyze the effect of financial market capitalization on economic growth and unemployment in South Africa. The findings indicate that stock market expansion reduces unemployment in both the long and short run, highlighting the potential of financial markets to address social challenges.

2.7 Conclusion

This literature review highlights the complex and context-dependent nature of the finance-growth nexus. While financial development can contribute positively to economic growth, its impact is contingent on various factors, including the structure of the financial system, the presence of financial crises, the quality of institutions, the level of economic development, and the specific characteristics of different sectors and regions.

III. METHODOLOGY AND DATA

Using data from the period 1980–2021 (selected based on data availability), this study exploits three distinct measures representing financial development: the Financial Development Index (FD)—a broad, multidimensional measure combining both the Financial Institution Index (FII) and the Financial Market Index (FMI)—along with the decomposed indicators for financial institutions and financial markets separately, as proposed by Svirydzenka (2016) (see also Asteriou & Spanos, 2021).

The Financial Institution Index captures the role of banks, insurance companies, mutual funds, and pension funds, while the Financial Market Index focuses on stock and bond markets. In calculating these indices, the IMF incorporates three key dimensions:

a) Depth: Financial institutions: Private-sector credit to GDP, pension fund assets to GDP, mutual fund assets to GDP, insurance premiums (life and non-life) to GDP; Financial markets: Stock market capitalization to GDP, stocks traded to GDP, international debt securities of government to GDP, total debt securities of financial corporations to GDP, and total debt securities of non-financial corporations to GDP.

b) Access: Financial institutions: Bank branches per 100,000 adults and ATMs per 100,000 adults; Financial markets: Percentage of market capitalization outside the top 10 largest companies and the total number of debt issuers (domestic and external,

including both financial and non-financial corporations).

c) Efficiency: Banking sector: Net interest margin, lending-deposit spread, non-interest income to total income, overhead costs to total assets, return on assets, and return on equity; Financial markets: Stock market turnover ratio (stocks traded relative to market capitalization).

Additional variables considered in this study include GDP per capita as dependent variable, which serves as a measure of economic growth. To align this variable with the analysis and reduce measurement discrepancies, its logarithmic transformation (LGDP) is applied. Furthermore, the study incorporates the inflation rate (calculated as the log difference of the Consumer Price Index (CPI)) and the official interest rate. A detailed overview of these variables, along with their descriptions, is presented in Table 1.

Table 1: Data Type and Source

Variable	Description	Source
GPD	GDP Per Capita	World bank
FD	Financial development index	International Monetary Fund
FII	Financial institutions index	International Monetary Fund
FMI	Financial markets index	International Monetary Fund
INF	Log difference of cpi	World bank
INT	Official lending rate	World bank

3.1 The Model

Based the relationship under investigation, and the variables involves the simple functional form of the model is given in Equation (1)

$$LGDP_t = \alpha + \beta' FIN_t + \varphi' CON_t + U_t \qquad 1$$

The dependent variable, economic growth, is represented by GDP per capita in constant 2010 US dollars. FIN is a matrix comprising three financial development variables, specifically the financial development indices (FD, FII, and FMI and all are expected to have positive effect on growth) as outlined in Table 1. CON represents the matrix of control variables, including inflation and interest rate, which serve as indicators of economic uncertainty and monetary policy, respectively. Both control variables are expected to have a negative impact on economic growth.

3.2 Econometric modelling

This study utilizes the innovative Dynamic Autoregressive Distributed Lag (DYARDL) approach, introduced by Jordan and Philips (2018), to explore the dynamic relationships among the variables. The dynamic ARDL Simulations algorithm is particularly effective for testing cointegration and examining both long- and short-run equilibrium relationships in levels and differences. A key advantage of this method is its visualization interface, which allows for the assessment of potential counterfactual changes in a selected variable under the ceteris paribus assumption. Consequently, the dynamic ARDL Simulations technique serves as advanced time series methods that enhance policy formulation Traditional ARDL models in error correction mode (ECM) face limitations due to multiple lags, lagging effects, and data anomalies, making it difficult to analyze the short- and long-term impacts of changes in independent variables (Jordan and Philips, 2018).

This study employs the ARDL bounds test for cointegration accommodates variables with different orders of integration, such as I(0) and I(1), this distinguishing it from traditional cointegration tests such as Engle-Granger two-step method and Johansen test (Pesaran et al. 2001). Similar to the DYARDL technique, the ARDL method is particularly suitable for small sample sizes, as it mitigates biases and produces robust results. Additionally, the ARDL model enables the simultaneous estimation of both long-term and short-term parameters, making it a reliable and effective tool for analyzing long-run relationships and deriving meaningful policy

implications from empirical data. Following the Pesaran et al. (2001), the modified ARDL model, based on variables of interest, is expressed in Equation (2) as follows:

$$D.LGDP_t = \alpha_0 + \partial_1 LGDP_{t-1} + \partial_i FIN_{t-1} + \partial_i INF_{t-1} + \partial_i INT_{t-1} + \sum_{i=1}^{p} \varphi_1 D.LGDP_{t-i} + \sum_{i=0}^{p} \varphi_2 D.FIN_{t-i+} + \sum_{i=1}^{p} \varphi_1 D.INF_{t-i} + \sum_{i=1}^{p} \varphi_1 D.INT_{t-i} + U_t \quad 2$$

In Equation (2), the long-term and short-term coefficients are represented by ∂i and φ_2, respectively. The first difference operator is denoted by D, while p indicates the maximum lag length. To ensure a well-specified and parsimonious model, the optimal lag length is selected based on appropriate information criteria, with the results presented in Table 3.

The bounds testing approach involves formulating a hypothesis test to determine whether a long-run equilibrium relationship exists among the variables. This test compares the null hypothesis of no cointegration (∂1=∂2=∂3=∂4=0) against the alternative hypothesis, which suggests the presence of cointegration (∂1≠∂2≠∂3≠∂4≠0). The decision to accept or reject the null hypothesis is based on the f- and t-statistics. In this study, the approximate p-values provided by Kripfganz & Schneider (2020) are employed, with the results reported in Table 4.

The innovative DYARDL simulation approach requires that the series have a maximum integration order of I(1), meaning the variables must be either I(0) or I(1) but not I(2) (Jordan & Philips, 2018). To estimate the parameter vector of a multivariate Gaussian distribution, the study employs a simulation approach with 5000 replications within the DYARDL error correction term framework. The DYARDL simulation in its error correction representation is given in Equation (3).

$$D.LGDP_t = \alpha_0 + \partial_1 LGDP_{t-1} + \partial_2 FIN_{t-1} + \partial_3 INF_{t-1} + \partial_4 INT_{t-1} + \varphi_1 D.LGDP_{t-i} + \varphi_2 D.FIN_{t-i+} + \varphi_3 D.INT_{t-i} + \emptyset ect(t-1) + U_t \quad 3$$

The term ECTt−1 represents the error correction term, while ∅ denotes its estimated value, which is expected to be negative and statistically significant. The long-term coefficients are represented by ∂_i, whereas the short-term coefficients are denoted by φ_i:. The residual term, Ut, accounts for random fluctuations within the model.

To ensure the validity and reliability of the model, various diagnostic tests are conducted, including Cameron and Trivedi's (White's test) for heteroscedasticity, skewness/kurtosis tests for normality, and the Breusch–Godfrey Lagrange Multiplier (LM) test for serial correlation. The results of these tests are presented at the bottom of Table 6. Additionally, the model's parameter stability is assessed using the Cumulative Sum (CUSUM) test through recursive and OLS CUSUM plots, with the findings illustrated in Figure 1.

IV. RESULTS DISCUSSION

Table 2 shows the unit root result of each variable using the ADF and PP tests. The result suggests that all variables except inflation rate are stationary at the first difference I(1) Therefore, the requirement of not including I(2) variables has been met up.

Table 2: Unit root Test

Variable	ADF	PP
Model	I	II
GPD	−0.763	−0.553
FD	−2.067	−1.069
FII	−1.153	−2.453
FMI	−0.494	−1.116
INF	−9.404***	−8.676***
INT	−0.794	−0.981
GPD	−6.707***	−8.809***
D.FD	−5.323***	−4.111***
D.FII	−8.101***	−6.123***
D.FMI	−3.237**	−4.545**
D.INF	−4.961***	−4.975***
D.INT	−10.453***	−9.343***

Source: Author's Computation; Note. ***, ** denote significance at 1% and 5% level respectively.

The Autoregressive Distributed Lag (ARDL) technique enables the use of different lag intervals for the explanatory variables. Table 3 presents the results from various criteria used to determine the optimal lag length. For our model, the minimum lag length, which is also supported by all other information criteria, is reported in Table 3.

Table 3: Lag Selection Criteria

Lag	LogL	LR	FPE	AIC	SC	HQ
0	−28.950	NA	0.0001	2.354	2.544	2.412
1	−0.376	38.580	10.942	3.17e-06	−12.327	41.036
2	5.56E-06	−0.320*	−11.843*	0.869*	-1.522*	-7.807
3	1.178	−0.540	−1.296	23.938	4.37E-06	70.149

Source: Author's Computation; Note. * denote significance at 10% level.

The results of the bounds test for cointegration are presented in Table 4, confirming a long-term relationship between LGDP and certain I(1) independent variables. This conclusion is based on the F- and t-statistics exceeding their respective upper bound critical values at a 10% significance level, consistent with Kripfganz and Schneider (2020). Their linear regression model provides a reliable critical value for the bounds test, particularly in small sample settings.

With the long-run relationship established, the robustness of the estimates is ensured by employing both the ARDL and DYARDL models to specifically assess the impact of financial development on economic growth over time. The results of the ARDL and DYARDL estimations are reported in Tables 5 and 6, respectively. Both methods yield consistent coefficient signs, though their magnitudes differ.

The analysis begins with the estimation of the ARDL model, followed by comprehensive diagnostic tests, all of which the model successfully passes (see Table 5 and Figure 1). Additionally, the statistically significant negative error correction term (ECT) of -0.27 suggests a 27% adjustment rate toward equilibrium, further validating the model's reliability.

Subsequently, the DYARDL model is estimated, with the results presented in Table 6. The DYARDL technique is particularly notable for its ability to accurately evaluate the direction, magnitude, and both short- and long-term dynamics of the relationships under investigation.

Table 4: Bound Test for Cointegration ARDL(2, 0, 0, 0)

Test stat			10%			5%			1%			P-val	
	Value	I0		I1	I0		I1	I0		I1	I0		I1
F-Stats	4.65*	2.91		4.05	3.55		4.82	5.03		6.61	0.032		0.06
T-stat	4.11*	-2.57		-3.46	-2.91		-3.84	-3.60		-4.61	0.062		0.05

Source: Author's Computation. Not:. I(0) and I(1) are critical values for significance levels of 10%, 5%, and 1%. P-value shows critical and approximate p-values (Kripfganz & Schneider, 2020). * denotes significance at a 10% level.

Table 5: ARDL (1, 0, 0, 0), Dependent Variable LGDP

Variables		
Model	I	II
Long-run		
FD	15.34**(0.010)	
FII		-5.74(0.550)
FMI		13.762*(0.06)
INF	0.148(0.393)	0.389(0.383)
INT	-0.024(0.322)	-0.027(0.417)
Short-run		
DLGDP	0.260(0.110)	0.137(0.512)
FD	4.157**(0.054)	
FII		-1.661(0.398)
FMI		2.942**(0.014)
INF	0.039(0.377)	0.009(0.830)
INT	-0.006(0.235)	-0.008(0.136)
ECM	-0.27**(0.028)	-0.241*(0.056)
Diagnostic statistics test	Prob > X^2	Prob > X^2
Cameron and Trivedi's (White's test)	0.357	0.654
Breusch–Godfrey LM test	0.599	0.776
Skewness and kurtosis tests for normality	0.704	0.894

Source: Author's Computation. Note. and denote significance at 1% and 5% level, respectively, p-values in bracket. Hints: Cameron and Trivedi's (White's test) (Homoscedastic); Breusch–Godfrey LM test (No serial correlation; Skewness and kurtosis tests for normality (Residuals are normal)

The results from Table 5 indicate that Model I include the aggregated Financial Development index (FD), which encompasses both financial institutions (the banking sector) and financial markets (the capital market). In contrast, Model II features the disaggregated indices, namely the Financial Institution Index (FII) and the Financial Market Index (FMI) (see Asteriou & Spanos, 2021).

A unit increase in FD, as shown in Model I, leads to a 0.1534% rise in LGDP in the long run and a 0.0415% increase in the short run, with both coefficients being statistically significant at the 5% level (henceforth, a response is measured as $\frac{\beta_i}{100}$% since we are working with Log-lin model). These findings confirm the positive impact of financial development (FD) on economic growth, which appears to be largely driven by the substantial positive effect of the stock market (FMI). However, the results also suggest that financial institutions (FII) do not have a significant impact on economic growth. One possible explanation is that an expansion in credit availability may introduce idiosyncratic or even systemic risks in the banking sector, especially when excessive private and corporate lending leads to insolvency (Asteriou & Spanos, 2021).

These findings align with previous studies, including Barradas (2020), Beck & Levine (2004), Demirgüç-Kunt & Maksimovic (1998), King & Levine (1993), and Levine et al. (2000). However, the results, particularly for FD, contradict the findings of Aghion et al. (2005), Alexiou et al. (2018), Allen et al. (2012), Arcand et al. (2015), and Cecchetti & Kharroubi (2012).

Regarding the control variables, inflation (IFL) exhibits a positive but statistically insignificant effect in both the short and long run across both models. Meanwhile, the official interest rate (INT) shows a negative effect in both time horizons, with consistent results across Model I and Model II.

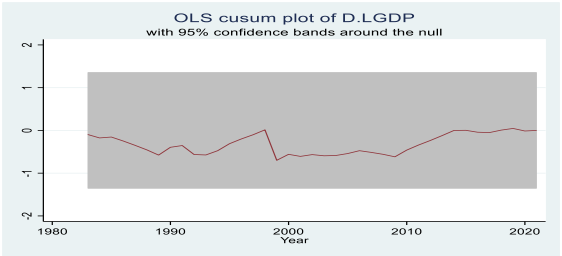


Figure 1. OLS CUSUM plots of D. LGDP with 95% confidence bands around the null.

The results of the DYARDL estimation are presented in Table 6. The negative and statistically significant error correction term (ECT) of -0.24 indicates a 24% adjustment rate toward long-run equilibrium. The DYARDL technique stands out for its ability to precisely evaluate the direction, magnitude, and both

short- and long-term, as well as time-varying, dynamics of the relationships under study.

The findings align with the ARDL results in Table 5 in terms of coefficient signs, though there are slight differences in parameter magnitudes. In Model I, where the broad financial development index (FD) is used, a unit increase in FD leads to a 0.0 462% rise in LGDP in the long run and a 0.0471% increase in the short run. As observed in Table 6, the growth-enhancing impact of FD is largely attributed to the performance of the capital market (Asteriou & Spanos, 2019; Olawale, 2024; Saada, 2025), though this finding strongly contradicts those of Ogagaoghene (2025) and Quito et al. (2025).

Further insights are drawn from Model II in Table 6, where the disaggregated financial development indices are analyzed. The Financial Institution Index (FII) exhibits negative and statistically insignificant coefficients in both the short and long run, supporting the findings of Asteriou & Spanos (2021), King & Levine (1993), and Levine et al. (2000). However, the overall results for FD contradict those reported by Aghion et al. (2005), Alexiou et al. (2018), Allen et al. (2012), Arcand et al. (2015), and Cecchetti & Kharroubi (2012). Meanwhile, the Financial Market Index (FMI) yields positive and statistically significant coefficients, although these findings are inconsistent with those of Arestis et al. (2001).

Table 6: Dynamic ARDL (1, 0. 0, 0, 0) , Dependent Variable LGDP

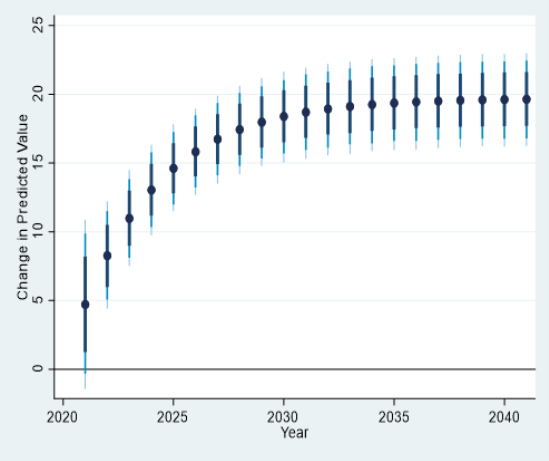
Variable		
	Model I	Model II
ECT(t-1)	-0.236**(0.055)	-0.152**(0.02)
Long-run		
FD	4.618*(0.061)	
FII		-0.072(0.97)
FMI		3.170*(0.019)
INF	0.076(0.284)	0.0413 (0.575)
INT	-0.013***(0.007)	-0.009*(0.042)
Short-run		
FD	4.714**(0.029)	
FII		-5.085(0.146)
FMI		5.642*(0.018)
INF	.041(0.381)	0.0182(0.703)
INT	-.012**(0.010)	-0.012***(0.002)

Source: Author's Computation; p-value in parenthesis
Note: *, **, and*** denote significance at 1% and 5% level, respectively.

To assess the varying impacts of financial development (FD), we utilized DYARDL simulations. This approach involved applying both positive and negative percentage counterfactual shocks to FD over the period 2020–2040. Figure 2, Panels A and B, illustrate the asymmetric effects of these changes on LGDP.

The results reveal that a 1% increase or decrease in FD significantly influences LGDP, starting from the second period onward. Additionally, the findings suggest that a positive standard deviation shock to FD leads to an increase in LGDP, whereas a negative shock results in a decline. This pattern holds for both short- and long-term horizons.

PANEL A POSITIVE SHOCH(+1)



PANEL B NEGATIVE SHOCH(-1)

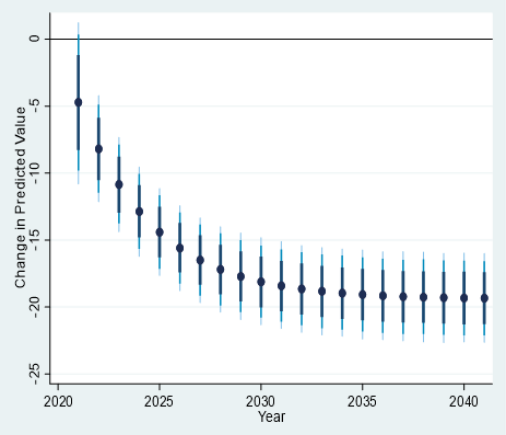
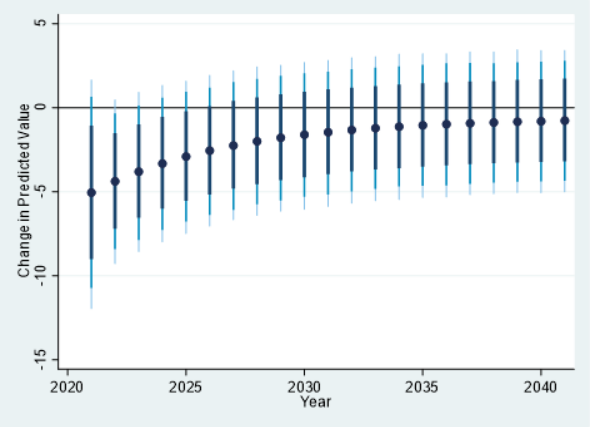


Figure 2. The graphs display the effect of FD on LGDP with +1 and =1 standard deviation shocks Based on Model I. The dark blue to light blue line denotes a confidence range of 75%, 90% and 95%. The dots signify the average forecasted value.

Expanding the analysis, we utilized the disaggregated indices FII and FMI. As shown in Figure 3, the impact of a counterfactual positive shock (Panel A) and a negative shock (Panel B) to FII is largely insignificant and predominantly falls within the negative range. This highlights the adverse effect of FII (banking sector expansion) on Nigeria's economic growth over the entire time horizon.

PANEL A POSITIVE SHOCH(+1) FII



PANEL B NEGATIVE SCHOCK(-1) FII

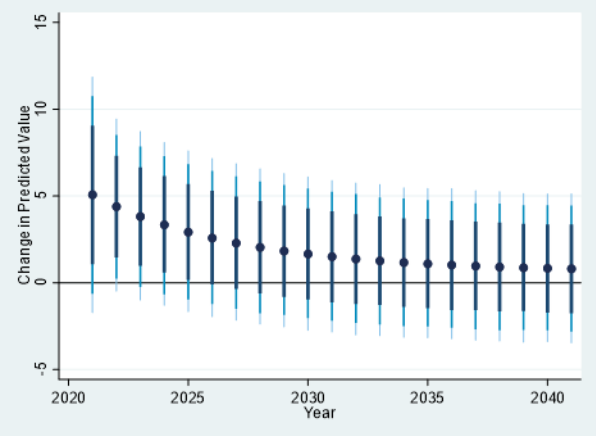
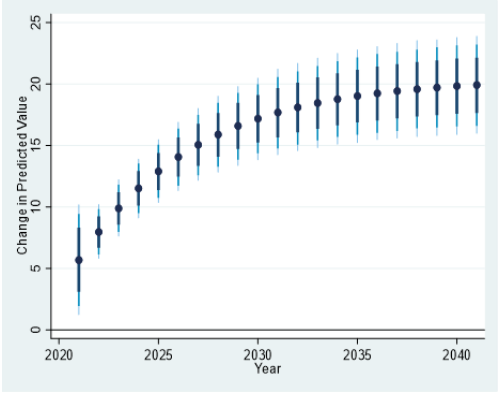


Figure 3. The graphs display the effect of FII on LGDP with +1 and =1 standard deviation shocks Based on Model II. The dark blue to light blue line denotes a confidence range of 75%, 90% and 95%. The dots signify the average forecasted value.

Figure 4 illustrates the dynamic responses of LGDP to both positive and negative shocks in FMI. Specifically, a positive shock to FMI leads to long-term economic growth, whereas a negative shock results in a contraction of LGDP in Nigeria.

These findings suggest that growth in the Nigerian financial market translates into overall economic growth, while the banking sector remains highly fragile. This fragility may stem from the interconnected and interdependent nature of the banking system, where financial distress in a few banks can quickly spread across the entire sector and the broader economy. Consequently, a negative shock could trigger a banking crisis with prolonged effects.

PANEL A POSITIVE SHOCH(+1)



PANEL B NEGATIVE SHOCK(-1)

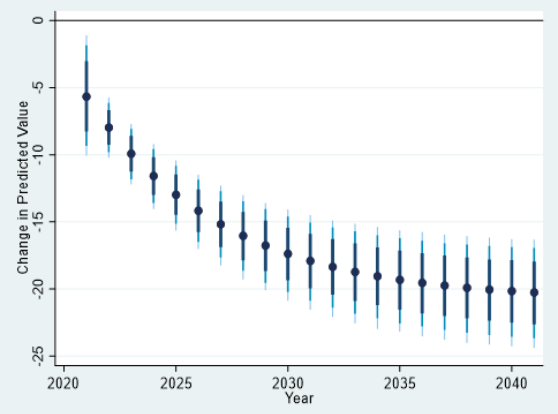


Figure 4. The graphs display the effect of FMI on LGDP with +1 and -1 standard deviation shocks Based on Model II. The dark blue to light blue line denotes a confidence range of 75%, 90% and 95%. The dots signify the average forecasted value.

V. CONCLUSION AND POLICY IMPLICATION

This study provides new empirical evidence on the impact of financial development on economic growth in Nigeria, emphasizing the role of financial markets over financial institutions. The ARDL and DYARDL models confirm that financial market expansion contributes positively to economic growth, while the banking sector's influence remains statistically insignificant. The disaggregated analysis reveals that financial institutions may pose systemic risks, potentially offsetting their growth-enhancing effects. The dynamic simulations further demonstrate that financial development exerts asymmetric effects on GDP, with positive shocks stimulating long-term growth and negative shocks leading to economic contractions. These results align with some previous studies while contradicting others, emphasizing the need for context-specific financial policies. Given the fragile nature of the banking sector in Nigeria, policy measures should focus on strengthening financial regulation, improving risk management, and ensuring that financial development translates into sustainable economic growth.

The study's findings suggest key policy measures for enhancing financial development and economic growth in Nigeria. Given the significant role of financial markets (FMI) in driving economic growth, policymakers should prioritize capital market reforms by improving transparency, strengthening regulatory frameworks, and attracting investments to deepen and enhance financial market efficiency. The banking sector’s limited or negative impact on growth highlights vulnerabilities that require urgent attention. Strengthening credit risk management, financial supervision, and macroprudential regulations is essential to reducing systemic risks and ensuring financial stability. A balanced approach is needed to expand financial services while maintaining prudent lending practices. Additionally, the study’s dynamic simulations show that negative financial shocks can significantly harm economic growth. To mitigate these effects, the government should implement financial safety nets, liquidity buffers, and crisis management frameworks to stabilize the economy during downturns. Policymakers should also promote financial inclusion by improving access to credit for SMEs, enhancing financial literacy, and fostering digital financial services.

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