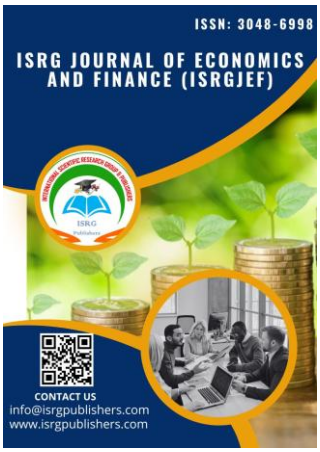
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IMPACT OF FINANCIAL DEEPENING ON EONOMIC GROWTH IN NIGERIA

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Abstract

This study examined the effect of financial deepening on economic growth in Nigeria over the period 1981–2025. Specifically, it investigated the effects of broad money supply, private-sector credit, domestic savings, stock market capitalisation and interest rate on economic growth. Annual time-series data were analysed using the Autoregressive Distributed Lag (ARDL) technique. The unit root results revealed a mixture of I(0) and I(1) variables, justifying the application of the ARDL approach. The bounds test confirmed the existence of a long-run relationship among the variables. The long-run estimates revealed that broad money supply, domestic savings and stock market capitalisation had negative and statistically significant effects on economic growth, with coefficients of −2.461, −0.212 and −0.665, respectively. Conversely, private-sector credit exerted a positive and statistically significant effect on economic growth, with a coefficient of 1.873, while interest rate had a negative but statistically insignificant effect. The findings suggest that the expansion of monetary aggregates, domestic savings and stock market capitalisation has not translated into improved productive capacity, whereas private-sector credit remains an important channel through which financial deepening promotes economic growth in Nigeria. The study concludes that the growth-enhancing potential of financial deepening depends largely on the efficiency of financial intermediation and the productive allocation of financial resources. Consequently, the study recommends that the Central Bank of Nigeria should strengthen credit delivery to productive private-sector activities, improve the management of monetary expansion, and promote the conversion of domestic savings into productive investments. It further recommends that the Securities and Exchange Commission and the Nigerian Exchange should strengthen capital-market regulation, transparency and investor protection while encouraging productive firms to access long-term financing.

Keywords: Financial deepening, economic growth & ARDL.

1. INTRODUCTION

Economic growth is a major objective of every economy, reflecting the expansion of productive capacity and improvement in overall economic performance. The financial system plays a critical role in achieving this objective through the mobilisation of savings, allocation of financial resources to productive investments, facilitation of transactions and management of financial risks. A well-developed financial system enhances access to finance,

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promotes investment and strengthens the capacity of businesses to contribute to economic output. Consequently, financial deepening has become an important policy consideration, particularly in developing economies where limited access to financial resources often constrains productive activities and economic expansion.

Financial deepening refers to the expansion and development of financial institutions, markets, instruments and services, which improves the mobilisation of savings and the allocation of funds for productive investment. It facilitates the transfer of financial resources from surplus economic units to deficit units, thereby supporting business expansion, capital accumulation and economic growth (Matthew et al., 2021). In this regard, broad money supply, credit to the private sector, stock market capitalisation and gross savings are important indicators of financial deepening. Broad money supply reflects the availability of liquidity within the economy, while credit to the private sector indicates the extent to which financial institutions provide funds for private investment and business activities. Similarly, stock market capitalisation represents the development of the capital market and its capacity to mobilise long-term funds, whereas gross savings reflects the economy's capacity to generate resources that can be channelled into investment. These indicators collectively provide a broader understanding of financial intermediation and its potential contribution to economic growth (Andohol & Gisaor, 2018).

In Nigeria, the financial sector has undergone several reforms aimed at improving financial intermediation, strengthening institutional capacity and stimulating economic growth. These reforms have included interest rate deregulation, banking consolidation and financial inclusion initiatives. Despite these efforts, the Nigerian economy continues to experience unstable and relatively modest growth, alongside persistent poverty, unemployment and structural challenges. The country's economic performance has been affected by oil-price fluctuations, foreign exchange vulnerabilities and macroeconomic instability. Although real GDP growth improved to approximately 3.87 per cent in 2024, the persistence of these challenges raises concerns about the extent to which financial sector development has translated into sustained economic expansion (African Development Bank, 2025).

Furthermore, the depth of Nigeria's financial system remains a concern, particularly regarding the availability of credit to private-sector operators and the capacity of the capital market to provide long-term investment finance. Limited access to formal financial services among micro, small and medium-scale enterprises and rural households constrains productive investment and entrepreneurship. In addition, the concentration of bank lending in selected sectors, non-performing loans, inflationary pressures and exchange-rate volatility may weaken the efficiency of financial intermediation. The relatively low levels of private-sector credit and stock market capitalisation in relation to GDP further raise questions about the effectiveness of financial deepening in supporting productive activities and economic growth in Nigeria (CBN, 2024; World Bank, 2025a, 2025b).

The theoretical relationship between financial deepening and economic growth is supported by the financial liberalisation hypothesis advanced by McKinnon (1973) and Shaw (1973). The hypothesis posits that financial repression discourages savings mobilisation and restricts the availability of funds for productive investment, whereas financial liberalisation promotes savings, investment and capital accumulation. However, the empirical relationship between financial deepening and economic growth in Nigeria remains inconclusive. Previous studies have reported positive and negative relationships, as well as statistically significant and insignificant effects (Anachedo & Osakwe, 2023; Emmanuel & Vivian, 2022; Victoria et al., 2021; Nwakobi et al., 2019; Okafor & Lilian, 2022). These mixed findings suggest that the growth effects of financial deepening may depend on the indicators employed and the prevailing institutional and macroeconomic conditions.

Against this background, this study examines the effect of financial deepening on economic growth in Nigeria, focusing on broad money supply as a percentage of GDP, credit to the private sector as a percentage of GDP, stock market capitalisation as a percentage of GDP, and gross savings as a percentage of GDP. By examining these indicators separately, the study seeks to provide evidence on their respective contributions to economic growth and offer policy insights into strengthening financial intermediation and promoting sustainable economic expansion in Nigeria.

2. LITERATURE REVIEW AND THEORETICAL FRAMEWORK

2.1.1 Economic Growth

Economic growth is generally understood as an increase in the production of goods and services in an economy over a given period. Roser (2021) described it as an increase in the production of economic goods and services compared with a previous period, usually measured using gross domestic product (GDP) or gross national product (GNP). For meaningful assessment, economic growth is commonly expressed in real terms, which account for changes in the general price level and provide a more accurate indication of changes in actual output.

Similarly, Kuznets (2019) conceptualised economic growth as a long-term increase in an economy's capacity to supply a growing variety of goods to its population. He emphasised that this capacity depends on technological advancement and the institutional and ideological adjustments required to support the effective application of new technologies. This perspective suggests that economic growth extends beyond an increase in output to include improvements in productive capacity, technological development and the institutional conditions that facilitate economic transformation.

From a broader development perspective, Anne (2023) described economic growth as the transformation of low-income economies into modern industrial economies, involving quantitative improvements in economic activities. Prabha (2021) explained that economic growth is commonly determined by physical capital, human capital, labour and technological progress. An increase in the quantity and quality of these productive factors enhances an economy's capacity to generate output. The author further emphasised that sustainable economic growth requires improvements in infrastructure and the social, political and institutional conditions necessary to facilitate structural transformation. Such improvements can promote employment, raise incomes, reduce poverty and improve living standards.

Drawing from these conceptual perspectives, this study views economic growth as the rate of increase in the inflation-adjusted market value of goods and services produced within an economy over a specified period, conventionally measured by the annual percentage change in real gross domestic product (GDP). This

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definition provides the basis for examining economic growth in relation to financial deepening in Nigeria, since improvements in financial intermediation may influence the mobilisation of savings, availability of investment funds and productive activities that contribute to aggregate output.

2.1.2 Financial Deepening

Financial deepening is a multidimensional concept that describes the expansion and development of a financial system through increased provision of financial services, improved access to financial resources and a wider range of financial products. Deema and Buthiena (2016) described financial deepening as the increased provision of financial services to different levels of society, implying greater financial liquidity and opportunities for economic growth and expansion. From this perspective, financial deepening is an important objective of financial sector reforms, particularly in developing economies, where limited access to financial services may constrain productive activities.

Similarly, Ngerebo and Lucky (2016) viewed financial deepening as an increase in the supply of financial assets and the development of the financial sector, which stimulate economic development through the real sector. This suggests that financial deepening involves not only an increase in the volume of financial resources but also improvements in the capacity of financial institutions and markets to mobilise and allocate funds efficiently. Era (2015) further explained that financial deepening involves improving the depth, liquidity, efficiency and volume of financial institutions and markets, while diversifying domestic sources of finance and extending access to banking and other financial services.

Financial deepening is commonly assessed using indicators that measure the size and development of the financial sector relative to the economy. These indicators are broadly classified into bank-based and stock market-based measures. Bank-based indicators include broad money supply as a percentage of GDP, private-sector credit as a percentage of GDP and bank assets as a percentage of GDP, while stock market capitalisation as a percentage of GDP is a major stock market-based measure. The ratio of private-sector credit to GDP is particularly important because it captures the extent to which deposit money banks provide credit to the private sector relative to the size of the economy. The World Bank (2012) identified this measure as an important indicator of financial access and inclusion.

The importance of financial deepening to economic growth lies in its capacity to mobilise savings, improve information sharing, enhance the allocation of financial resources and facilitate risk management and diversification. Sahay, Cihak, N'Diaye and Barajas (2015) argued that a well-developed financial system supports economic growth by strengthening financial intermediation and promoting real-sector activities. They further observed that deep and liquid financial systems with diversified financial instruments are generally better positioned to absorb economic shocks than shallow financial systems. This highlights the contribution of financial deepening not only to economic expansion but also to financial stability.

The Rural Finance and Investment Learning Centre (2017) also emphasised that financial deepening involves expanding the availability of financial services and improving access among different socioeconomic groups. According to the Centre, a developed financial system facilitates access to external finance for emerging entrepreneurs and small businesses that may otherwise be constrained by dependence on internal resources or relationship-based banking. Improved access to finance can encourage entrepreneurship, strengthen competition, expand productive activities and enhance productivity. However, the Centre also cautioned that wider access to formal finance may generate unintended forms of informal financial intermediation, suggesting the need to assess the effectiveness of financial deepening initiatives carefully. Similarly, Arundhati (2022) associated financial deepening with ensuring timely and adequate access to affordable financial services and credit, particularly for vulnerable and low-income groups.

Drawing from these perspectives, this study conceptualises financial deepening as the expansion and improvement of financial institutions, markets and services through increased financial liquidity, savings mobilisation, credit provision and access to investment opportunities. Accordingly, the study examines financial deepening through four indicators: broad money supply as a percentage of GDP, credit to the private sector as a percentage of GDP, stock market capitalisation as a percentage of GDP and gross savings as a percentage of GDP. These indicators provide the basis for assessing the extent to which financial sector development contributes to economic growth in Nigeria.

2.2 Theoretical Framework

The theoretical foundation of this study is the McKinnon–Shaw Financial Liberalisation Theory, independently developed by McKinnon (1973) and Shaw (1973). The theory explains the relationship between financial sector development and economic growth, emphasising the adverse effects of financial repression and the importance of liberalising financial markets to promote savings mobilisation, investment and productive resource allocation. It argues that restrictive financial policies, such as interest rate controls, credit ceilings and other regulations that suppress the returns on financial assets, discourage savings, constrain investment and ultimately impede economic growth (Capannelli, Lee & Petri, 2009).

McKinnon and Shaw posit that financial liberalisation, particularly through the adoption of market-determined real interest rates, encourages savings by increasing the returns on financial assets. Higher savings expand the pool of funds available for investment, while improved financial intermediation facilitates the allocation of these resources to productive economic activities. McKinnon (1973) further argued that money serves as a conduit for capital accumulation in developing economies rather than merely competing with other investment assets. Consequently, an increase in the real return on money can stimulate savings and investment propensities, thereby supporting economic expansion (Rehman & Gill, 2013).

Shaw (1973) advanced the debt-intermediation hypothesis, which explains how financial liberalisation promotes economic growth through the expansion of financial intermediation between savers and investors. According to this argument, higher real interest rates encourage savings and increase the supply of credit available for investment. An expanded and more efficient financial system consequently improves the volume and average productivity of investment, facilitating capital accumulation and economic growth. The relationships can be expressed as:

$I = I(r)$ ……(1)

$S = S(r,g)$ …… (2)

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Where:

I = Investment;

S = Savings;

r = Real interest rate; and

g = Economic growth rate.

The framework suggests that savings increase with the real interest rate and economic growth rate, while investment is influenced by the real interest rate. More broadly, financial liberalisation is expected to strengthen financial intermediation, expand credit availability, improve investment efficiency and facilitate the adoption of more productive technologies. McKinnon and Shaw therefore advocate market-determined interest rates, reduced credit controls, greater competition in the banking sector, the elimination of directed credit programmes and improved integration of formal and informal financial markets as important conditions for financial sector development (Serieux, 2008).

The McKinnon–Shaw theory provides a suitable foundation for examining the effect of financial deepening on economic growth in Nigeria. Its central argument is that the expansion and efficiency of the financial system promote savings mobilisation, credit provision, investment and productive resource allocation, which ultimately contribute to economic growth. This proposition relates directly to the four financial deepening indicators adopted in this study. First, broad money supply as a percentage of GDP reflects the availability of liquidity and financial resources within the economy, consistent with the theory's emphasis on monetary development and financial intermediation. Second, credit to the private sector as a percentage of GDP represents the extent to which financial institutions channel funds to private economic activities, reflecting Shaw's debt-intermediation hypothesis. Third, stock market capitalisation as a percentage of GDP captures the development of the capital market and its potential to mobilise long-term investment funds. Fourth, gross savings as a percentage of GDP reflects the economy's capacity to mobilise financial resources for capital accumulation and investment, which is central to the McKinnon–Shaw argument.

2.3 Empirical Review

The empirical review examines previous studies on financial deepening and economic growth, focusing on their methodologies and findings. Anachedo and Osakwe (2023) examined the effect of financial deepening on economic growth in Nigeria from 1985 to 2021 using the Ordinary Least Squares (OLS) regression and Granger causality tests. The findings revealed that credit to the private sector and market capitalisation had positive relationships with economic growth, while money supply and insurance premiums exerted negative and significant effects on growth.

Similarly, Ayadi (2021) examined the relationship between financial development, savings and economic growth in Nigeria from 1981 to 2015 using kernel quantile regression, OLS and ARDL techniques. The findings revealed that domestic credit to the financial sector and private sector positively influenced economic growth, while broad money supply had a negative but significant effect. Savings also contributed positively to growth, although its effect varied across growth levels, indicating a threshold effect.

In the same vein, Emmanuel and Vivian (2022) examined the effect of financial deepening on economic growth in Nigeria from 1986 to 2020 using the ARDL and Error Correction Mechanism techniques. The findings revealed that money supply, market capitalisation and liquid liabilities positively influenced economic growth, while credit to the private sector and lending rates had no significant effect.

Moreover, Okafor and Lilian (2022) examined the effect of financial deepening on economic growth in Nigeria from 1982 to 2019 using unit root and cointegration tests. The findings revealed that money supply, credit to the private sector and gross domestic savings all exerted positive and significant effects on economic growth, indicating the importance of financial deepening in promoting economic performance.

Likewise, Ibekwe, Ibekwe and Atueyi (2021) investigated the effect of financial deepening on the Nigerian economy from 1981 to 2019 using OLS, unit root, cointegration and error correction techniques. The findings revealed that credit to the private sector, money supply and national savings had positive and significant effects on economic growth, while market capitalisation exerted a negative but insignificant effect.

Still for a different perspective, Babarinde (2020) examined the effects of foreign direct investment and financial deepening on economic growth in Nigeria from 1981 to 2018 using the ARDL model and Granger causality test. The findings revealed that FDI positively and significantly influenced economic growth in both the short and long run. Broad money supply had a positive and significant long-run effect but a negative and insignificant short-run effect, while private sector credit had a negative and insignificant long-run effect. The study also established unidirectional causality from FDI to economic growth and from economic growth to financial deepening indicators, supporting the demand-following hypothesis.

Furthermore, Johnson, Fidelis, Nnamdi and Oyakhiromhe (2023) examined the effect of financial deepening on real economic growth in Nigeria from 1987 to 2019 using the OLS regression technique. The findings revealed that money supply and private sector credit had positive and significant effects on real GDP, while total savings exerted a negative but significant effect. Stock market capitalisation also had a positive but insignificant effect on economic growth.

In a related study, Okonkwo, Isu and Ogbulu (2021) examined the effect of financial deepening on economic growth in Nigeria from 1986 to 2017 using OLS, cointegration and Granger causality techniques. The findings revealed that money supply had a positive but insignificant effect on economic growth, while lagged private sector credit exerted a negative and significant effect. The study also established causal relationships between financial deepening indicators and economic growth, highlighting the role of financial intermediation in stimulating economic activities.

On other hand, Ugwu and Awa (2021) examined the responsiveness of Nigerian economic growth to financial deepening from 1985 to 2020 using the Error Correction Model (ECM). The findings revealed that deposit money bank deposits had a positive and significant effect on economic growth, while private sector credit and deposit money bank assets exerted negative and significant effects. Specifically, a unit increase in bank deposits raised economic growth by 4.92 units, whereas private sector credit and bank assets reduced growth by 0.92 and 1.83 units, respectively. Inflation also had a negative and significant relationship with economic growth.

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In related study, Divine, Omankhanle and Ehimare (2020) examined the effect of financial deepening on Nigeria's economic growth from 1981 to 2018 using the Autoregressive Distributed Lag (ARDL) approach. The findings established a long-run relationship between financial deepening and economic growth, although none of the explanatory variables was statistically significant. Money supply had a positive relationship with economic growth, while private sector credit and commercial bank time and savings deposits were negatively related to growth.

In a similar vein, Lamessa, Debeli and Mekonnen (2022) examined the relationship between domestic savings and real GDP per capita growth in Ethiopia from 1981 to 2017 using the ARDL approach and Granger causality test. The findings revealed that domestic savings had a negative and significant effect on GDP per capita growth in the short run but an insignificant effect in the long run. Conversely, GDP per capita growth positively influenced domestic savings in both the short and long run. The study also established bidirectional causality between domestic savings and GDP per capita growth.

A 2026 study by Abhishek, Sushanta and Kunal (2026) examined 132 countries over 1961–2017 and distinguished between productivity-growth transitions and savings transitions. The study found that productivity-growth transitions produced sustained increases in savings, whereas savings transitions did not generate sustained growth effects. This suggests that the traditional assumption that higher savings necessarily precede and cause higher economic growth may not always hold; instead, productivity improvements can themselves generate higher savings.

A Nigerian study by Agama and Onum (2025) examined the effect of sustainable financial services on poverty reduction using annual Nigerian data from 1990–2023, with real GDP serving as the outcome measure and gross savings among the explanatory variables. Using the Autoregressive Distributed Lag (ARDL) approach, the study reported that gross savings had a positive and statistically significant effect on real GDP in both the short and long run. The finding suggests that domestic financial mobilisation can provide resources for investment and productive activities, thereby supporting economic performance in Nigeria.

Meanwhile, Baafi and Asiedu (2025) investigated the effects of remittances, savings, education and digital financial technology on economic growth in 23 Sub-Saharan African countries over the period 1974–2020, using the System Generalized Method of Moments (System GMM) estimator. Savings were measured as a percentage of GDP. The study found that savings exerted a positive and statistically significant effect on economic growth. The study further found that the interaction between remittances and savings was positively associated with economic growth, suggesting that savings can become more growth-enhancing when supported by additional sources of finance. The study attributed the positive relationship to the ability of savings to facilitate capital accumulation and investment.

3. METHODOLOGY

The study adopted ex post facto research design to examine the effect of financial deepening on economic growth in Nigeria. The data were obtained from secondary sources, mainly the periodic publications of the Central Bank of Nigeria (CBN) and National Bureau of Statistics (NBS), published journals and news dailies over a 45-year period from 1981 to 2025. The study employed Augmented Dickey Fuller Test (ADF) for unit root tests. Autoregressive distributed lag Bound Test (ARDL) was also employed for long-run and short-run effect analysis while threshold regression was used to determine optimal threshold for the various financial deepening ratios consistent with economic growth in Nigeria.

The study adopts the McKinnon–Shaw (1973) financial liberalisation framework, which posits that financial liberalisation promotes economic growth through increased savings, improved financial intermediation and greater private investment. Based on this theoretical foundation, the study adapts the model of Anachedo and Osakwe (2023), which examines the relationship between economic growth and financial deepening using broad money supply, private-sector credit, stock market capitalisation and insurance premiums. The present study modifies the model by incorporating interest rate, consistent with the McKinnon–Shaw proposition that market-determined interest rates encourage savings mobilisation and efficient investment allocation. The model therefore examines the effect of financial deepening on economic growth in Nigeria, with particular emphasis on the selected financial indicators and interest rate. *The mathematical function is written as:*

GDPR= f(PSC/GDP, M_2/GDP,MCAP/GDP,SVG/GDP,INT)…(3)

The stochastic form of the model specification is as thus;

$GDPR_{it} = \beta_0 + \beta_1 CPS/GDP_{it} + \beta_2 M_2/GDP_{it} + \beta_3 MCAP/GDP_{it} + \beta_4 SVG/GDP_{it} + \beta_5 INTi t + \varepsilon_{it}$..... (4)

The ARDL model distinguishes between short- and long-run coefficients and can be reliably used on short sample periods. In fact, Pesaran and Shin (1998) illustrate that even if the sample size is small, the long-run parameters are super-consistent while the short-run parameters are √ T consistent. Thus, equation (3) is formulated into an ARDL (p,q1,q2,q3,q4, q5) equation where p represents the lags of the dependent variable and q represents the lags of the independent variables. The ARDL equation is represented as follows:

$$Log(GDPR) = \vartheta_0 + \sum_{i=1}^{p} \vartheta_1 GDPR_{t\ \ t-1} + \sum_{i=0}^{q} \vartheta_2 CPS/GDP_{t-1} + \sum_{i=0}^{q} \vartheta_3 M2/GDP_{t-1} + \sum_{i=0}^{q} \vartheta_4 MCAP/GDP_{t-1} + \sum_{i=0}^{q} \vartheta_5 SVG/GDP_{t-1} + \sum_{i=0}^{q} \vartheta_6 INT_{t-1} + \sum_{i=1}^{p} \beta_1 \Delta(GDPR)_{t-1} + \sum_{i=0}^{q} \beta_2 \Delta(CPS/GDP)_{t-1} + \sum_{i=0}^{q} \beta_3 \Delta(M2/GDP)_{t-1} + \sum_{i=0}^{q} \beta_4 \Delta(MCAP/GDP)_{t-1} + \sum_{i=0}^{q} \beta_5 \Delta(SVG/GDP)_{t-1} + \sum_{i=0}^{q} \beta_6 INT_{t-i} + \varepsilon_t \ldots\ldots\ldots\

Where;

GDPR= Gross Domestic Product Rate, proxied for Economic Growth Rate

CPS/GDP = Ratio of Private Sector Credit to Gross Domestic Product

M_2/GDP = Ratio of Broad Money Supply to Gross Domestic Product

MCAP/GDP=Ratio of Market Capitalization to Gross Domestic Product

SVG/GDP= Ratio of Gross Savings to Gross Domestic Product

INT= Interest Rate

θ_0 = intercept or constant term;

$\theta_1, \theta_2, \theta_3, \theta_4$ and θ_5 = long-coefficients

$\beta_1, \beta_2, \beta_3, \beta_4$ and β_5 = short-run Coefficients

εt = Error term with the assumption of zero mean and constant variance.

4. FINDINGS AND DISCUSSION

4.1 Unit Root Test Result

The variables of the study were subjected to unit root tests using the Augmented Dickey-Fuller (ADF) test to determine the stationarity properties of the series. The results of the tests are presented in table 1.

Table 1: ADF Unit Root Test Result

Variables	ADF Test Statistic	1% Critical Value	5% Critical Value	10% Critical Value	Prob.	Order of Integration
ΔGDPR	-4.451363	-3.588509	-2.929734	-2.603064	0.0009	I(0)
ΔM2/GDP	-6.423934	-3.592462	-2.931404	-2.603944	0.0000	I(1)
ΔCPS/GDP	-6.050118	-3.596616	-2.933158	-2.604867	0.0000	I(1)
ΔSVG	-2.952281	-3.588509	-2.929734	-2.603064	0.0475	I(0)
ΔMCAP	-3.920827	-3.588509	-2.929734	-2.603064	0.0041	I(0)
ΔINT	-2.969652	-3.588509	-2.929734	-2.603064	0.0457	I(0)

Source: Author's Computation using E-Views 9.0 Version (2026)

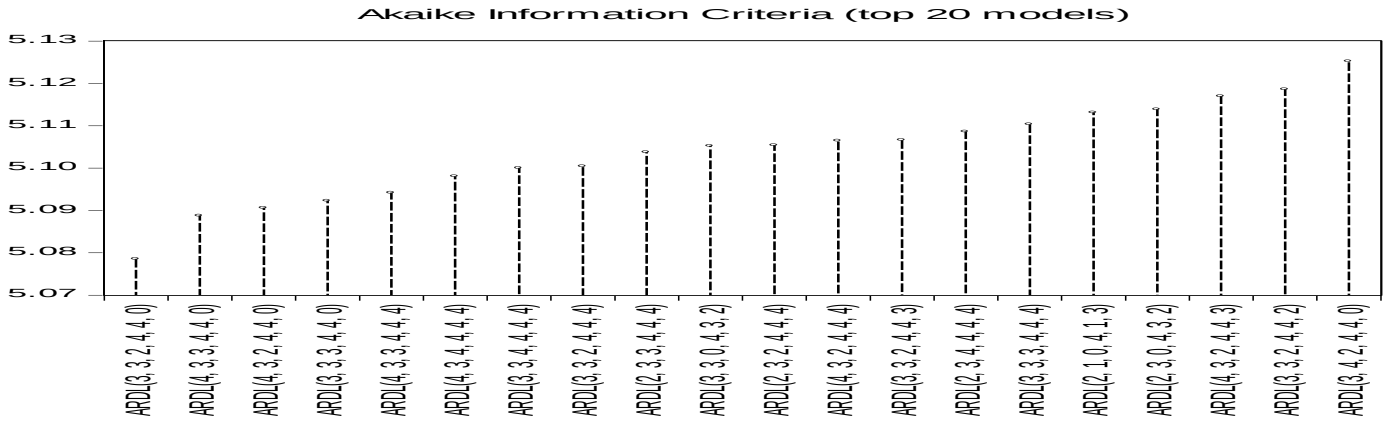
The Augmented Dickey-Fuller (ADF) unit-root test revealed that the variables exhibit mixed orders of integration, with GDPR/GDP, SVG/GDP, MCAP/GDP and INT being stationary at level, I(0), while M2/GDP and CPS/GDP are stationary at first difference, I(1). Since none of the variables is integrated of order two, I(2), the results justify the application of the ARDL technique. Furthermore, ARDL is appropriate given the mixed integration orders and relatively small sample of 45 annual observations covering 1981–2025. It therefore provides a suitable framework for examining the short-run and long-run relationships among financial deepening, interest rate and economic growth in Nigeria, including testing for long-run cointegration through the bounds-testing procedure.

4.2 Analysis of the ARDL Estimated Model

The estimated results of the Autoregressive Distribution lag (ARDL) model are presented and interpreted in this section. It begins with ARDL optimal lag selection criteria follows by Bounds Test to Co-integration, long-run and short-run coefficients.

4.2.1 ARDL Optimal Lag Selection

Akaike Information Criterion (AIC) was used to select the optimal lag for the ARDL models estimation. The graph of the optimal model selection summary is presented in figure 1.



Source: Author's Computation using E-Views 9.0 Version (2026)

Figure 1: AIC Graph Showing Optimal Model Selection Summary

Figure 1 shows top 20 ARDL model specifications were considered. The ARDL of (3, 3, 2, 4,4, 0) specifications was finally selected as the best model. It was also observed how well some other specifications performed in terms of minimizing AIC.

4.2.2 ARDL Bounds Test

The ARDL bounds test was conducted to determine whether there is a long-run (cointegrating) relationship between economic growth and the financial deepening variables in Nigeria. The ARDL

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Bound test result is presented in table 2.

Table 2: ARDL Bound Test to Co-integration

Test Statistic	**Value**	**K**
F-statistic	6.495023	5
Critical Value Bounds		
Significance	**I0 Bound**	**I1 Bound**
10%	2.26	3.35
5%	2.62	3.79
2.5%	2.96	4.18
1%	3.41	4.68

Source: Author's Computation using E-Views 9.0 Version (2026)

The ARDL bounds test produced an F-statistic of 6.495023, exceeding the 5% upper-bound critical value of 3.79. This leads to the rejection of the null hypothesis of no long-run relationship, confirming the existence of cointegration between economic growth and financial deepening in Nigeria. The finding justifies the estimation of both short-run and long-run ARDL coefficients.

4.2.3 ARDL Long Run Coefficients

Following confirmation of a long-run relationship among the variables, the ARDL long-run coefficients were estimated to determine the direction, magnitude and statistical significance of the effects of financial deepening indicators on economic growth in Nigeria, measured by the GDP growth rate (GDPR) and the results are presented in table 3.

Table 3 ARDL Long Run Coefficients

Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
M2/GDP	-2.460544	0.721664	-3.409544	0.0029
CPS/GDP	1.873420	0.677111	2.766783	0.0123
SVG/GDP	-0.212037	0.070581	-3.004151	0.0073
MCAP/GDP	-0.664518	0.202651	-3.279125	0.0039
INT	-0.136744	0.160727	-0.850787	0.4055
C	39.701669	7.633118	5.201239	0.0001

Source: Author's Computation using E-Views 9.0 Version (2026)

The long-run ARDL results reveal that broad money supply (M2/GDP), domestic savings (SVG/GDP) and stock market capitalisation (MCAP/GDP) have negative and statistically significant effects on economic growth in Nigeria, with coefficients of −2.461, −0.212 and −0.665, respectively. In contrast, private sector credit (CPS/GDP) has a positive and significant effect, with a coefficient of 1.873, indicating its contribution to long-run economic growth. Interest rate also has a negative coefficient (−0.137), but its effect is statistically insignificant. Overall, the findings suggest that private sector credit promotes long-run growth, while increases in money supply, savings and market capitalisation have not translated into improved economic performance over the study period.

4.2.4 ARDL Short-Run Coefficients

ARDL estimation revealed short-run coefficients to establish the short-run dynamics and to ascertain the speed of converges to the long-run equilibrium as shown in table 4.

Table 4: ARDL Short-Run Dynamics

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(GDPR/GDP(-1))	-0.153101	0.158476	-0.966085	0.3461
D(GDPR/GDP(-2))	0.205968	0.133363	1.544419	0.1390
D(M2/GDP)	-1.037076	0.550490	-1.883916	0.0750
D(M2/GDP(-1))	0.365448	0.535731	0.682149	0.5034
D(M2/GDP(-2))	1.299363	0.428080	3.035326	0.0068
D(CPS/GDP)	0.666177	0.474276	1.404618	0.1763

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D(CPS/GDP(-1))	-0.870698	0.416969	-2.088162	0.0505
D(SVG/GDP)	-0.246174	0.079482	-3.097233	0.0059
D(SVG/GDP(-1))	-0.053035	0.109601	-0.483894	0.6340
D(SVG/GDP(-2))	0.078054	0.101513	0.768903	0.4514
D(SVG/GDP(-3))	0.156800	0.083908	1.868709	0.0772
D(MCAP/GDP)	0.178377	0.102652	1.737686	0.0984
D(MCAP/GDP(-1))	-0.032703	0.147975	-0.221000	0.8274
D(MCAP/GDP(-2))	0.206988	0.152440	1.357832	0.1904
D(MCAP/GDP(-3))	0.347605	0.141702	2.453066	0.0240
D(INT/GDP)	-0.123857	0.138681	-0.893110	0.3830
CointEq(-1)	-0.905758	0.172330	-5.255941	0.0000

Source: Author's Computation using E-Views 9.0 Version (2026)

The short-run ARDL results indicate that the effects of financial deepening on economic growth in Nigeria vary across indicators and adjustment periods. Broad money supply (M2/GDP) has a negative and weakly significant contemporaneous effect but a positive and significant effect after two periods. Private sector credit (CPS/GDP) has a positive but insignificant immediate effect, while its first lag has a negative and marginally insignificant effect. Domestic savings (SVG/GDP) exert a negative and significant immediate effect, but their third lag has a positive effect significant at the 10% level. Similarly, stock market capitalisation (MCAP/GDP) has a positive effect significant at the 10% level in the current period and a positive, significant effect after three periods. Interest rate and the lagged values of economic growth have no statistically significant short-run effects. Importantly, the negative and highly significant error correction term of −0.905758 confirms the stability of the long-run relationship, indicating that approximately 90.58% of short-run disequilibrium is corrected within one year.

4.2.5 Wald Statistic Test

To examine the joint short-run effects of financial deepening on economic growth in Nigeria, the Wald test was conducted, and the results are presented in Table 5.

Table 5: Wald Statistic Test for lag Combine Short-Run Effect

Null Hypothesis	Chi-Square	Probability
C(3)=C(4)=C(5)=0	6.508526	0.0893
C(6)=C(7)=0	11.89532	0.0026
C(8)=C(9)=C(10)=C(11)=0	14.24549	0.0066
C(12)=C(13)=C(14)=C(15)=0	14.69665	0.0054

Source: Author's Computation using E-Views 9.0 Version (2026)

The short-run joint significance test reveals that broad money supply (M2/GDP) does not significantly influence economic growth, as its selected lag coefficients are jointly insignificant at the 5% level. In contrast, private sector credit (CPS/GDP), gross savings (SVG/GDP) and stock market capitalisation (MCAP/GDP) have statistically significant joint effects on economic growth, indicating their collective importance in explaining short-run growth dynamics in Nigeria.

4.3 Diagnostic Test Estimates

The study employed post-estimation test to diagnose the residuals of the estimated ARDL model for valid and reliable outcomes. The test of serial correlation, Heteroskedasticity, Stability and normality test were conducted and the results presented in table 6.

Table 6: Diagnostic Test Results

Test	Null Hypothesis	F-statistics	Prob. Value
Beusch Godfrey Serial Correlation LM Test	No Serial correlation (Autocorretion)	0.461911	0.6378
Breusch-Pagan Godfrey	No Hetroscedasticity	0.939894	0.5574
Ramsey Reset	No Misspecification Error	0.197888	0.6617
Jarque-Bera	Residuals are normally distributed	2.502288	0.2862

Source: Author's Computation using E-Views 9.0 Version (2026)

The diagnostic test results confirm that the estimated model satisfies the major regression assumptions. The Breusch-Godfrey serial correlation test (p = 0.6378) indicates no serial correlation,

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while the heteroscedasticity test (p = 0.5574) confirms constant variance of the residuals. The Ramsey RESET test (p = 0.6617) suggests that the model is correctly specified, and the Jarque-Bera test (p = 0.2862) confirms that the residuals are normally distributed. Overall, the results indicate that the model is statistically reliable and suitable for drawing inferences.

4.4 Discussion of Finding

The ARDL long-run result revealed that M2/GDP has a negative and statistically significant effect on economic growth in Nigeria at the 5% level, indicating that an increase in broad money supply relative to GDP is associated with a decline in long-run economic performance. This suggests that monetary expansion has not translated into corresponding productive investment, possibly due to inefficient financial intermediation, poor credit allocation, inflationary pressures and the diversion of financial resources towards consumption and speculative activities. The finding implies that the growth benefits of financial deepening depend not merely on increased money supply but on the efficient mobilisation and allocation of funds to productive sectors. This result is consistent with Anachedo and Osakwe (2023) and Ayadi (2021), who reported negative and significant effects of broad money on economic growth. However, it contradicts Emmanuel and Vivian (2022), Okafor and Lilian (2022), Ibekwe et al. (2021) and Babarinde (2020), who reported positive effects of money supply on economic growth.

On the contrary, the ARDL long-run result revealed that private-sector credit relative to GDP (CPS/GDP) has a positive and statistically significant effect on economic growth in Nigeria. This indicates that increased credit availability promotes productive investment by enabling firms to expand production, acquire equipment, adopt technology and create employment, thereby stimulating economic growth. The finding highlights the importance of efficient financial intermediation and policies that improve private-sector access to credit. It corroborates Johnson, Fidelis, Nnamdi and Oyakhiromhe (2023) as well as Okafor and Lilian (2022), who reported positive and significant effects of private-sector credit on economic growth. However, it differs from Emmanuel and Vivian (2022) and Okonkwo, Isu and Ogbulu (2021), who found positive but insignificant effects, as well as Ugwu and Awa (2021) as well as Divine, Omankhanle and Ehimare (2020), who reported negative relationships.

The ARDL long-run result further revealed that, stock market capitalisation relative to GDP (MCAP/GDP) has a negative and statistically significant effect on economic growth in Nigeria. This suggests that the expansion of the stock market has not translated into corresponding productive investment and increased output, possibly due to speculative activities, market volatility, limited access to capital-market financing and the concentration of market capitalisation among a few firms. The finding indicates that stock-market size alone does not guarantee economic growth; rather, its contribution depends on the efficient mobilisation and allocation of funds to productive activities. This result is consistent with Ibekwe and Atueyi (2021), who reported a negative relationship between market capitalisation and economic growth in Nigeria. However, it contradicts Anachedo and Osakwe (2023), Emmanuel and Vivian (2022), and Johnson et al. (2023), who found a positive relationship between market capitalisation and economic growth.

Similarly, the ARDL long-run result revealed that, gross savings relative to GDP (SVG/GDP) has a negative and statistically significant effect on economic growth in Nigeria, suggesting that increased savings have not translated into higher productive investment and output. This may reflect inefficient financial intermediation, limited investment opportunities, precautionary saving behaviour and the diversion of savings into government securities or other less productive activities. The finding implies that the growth benefits of savings depend on their effective mobilisation and allocation to productive investments rather than their volume alone. It agrees with Lamessa, Debeli and Mekonnen (2022) and Abhishek, Sushanta and Kunal (2026), whose findings question the assumption that higher savings necessarily stimulate sustained economic growth. However, it differs from Baafi and Asiedu (2025) and Agama and Onum (2025), who reported positive and statistically significant effects of savings on economic growth.

5. CONCLUSION AND RECOMMENDATIONS

The study concludes that financial deepening has a significant long-run relationship with economic growth in Nigeria, although its effects vary across indicators. While private-sector credit promotes economic growth, broad money supply, domestic savings and stock market capitalisation have negative significant effects, whereas interest rate has a negative but insignificant effect. The study therefore emphasises the need for efficient financial intermediation and the productive allocation of financial resources to stimulate sustainable economic growth. Based on these findings, the following recommendations are made:

1. The Central Bank of Nigeria and other financial regulatory institutions should encourage deposit money banks and other financial institutions to expand access to affordable credit for productive private-sector activities, particularly agriculture, manufacturing, small and medium-scale enterprises. This recommendation is based on the positive and significant effect of private-sector credit on economic growth.
2. The Central Bank of Nigeria should ensure that increases in broad money supply are supported by effective monetary management and directed towards productive economic activities. Appropriate monetary policy measures should be adopted to minimise excess liquidity and inflationary pressures while encouraging investment in sectors that expand domestic production.
3. Financial institutions should develop attractive savings and investment products and strengthen mechanisms for converting mobilised savings into long-term productive investments. Greater emphasis should be placed on financing businesses, infrastructure, agriculture and industrial development to address the negative relationship between gross savings and economic growth.
4. The Securities and Exchange Commission and the Nigerian Exchange should strengthen market transparency, investor protection and regulatory oversight to reduce speculative activities and improve investor confidence. They should also encourage more firms, particularly productive enterprises, to access the capital market for long-term financing, ensuring that

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growth in market capitalisation translates into real investment and output expansion.

References

1. Abhishek, K., Sushanta, M. & Kunal, S.(2026). Does productivity growth boost savings? Causal evidence from transition episodes. *Oxford Economic Papers*, 78(2), 511–539.
2. African Development Bank (2025). Nigeria economic outlook. *Available at: https://www.afdb.org/en/countries-west-africa-nigeria/nigeria-economic-outlook*
3. Agama, O., & Onum, F. O. (2025). *The impact of sustainable financial services on poverty reduction in Nigeria*.
4. Anachedo, C. K. & Osakwe, C. I. (2023). Effects of financial deepening on economic growth; the Nigerian perspective. *African Banking and Finance Review Journal (ABFRJ), 1(1),40-55.*
5. Anachedo, C. K. & Osakwe, C. I. (2023). Effects of financial deepening on economic growth; the Nigerian perspective. *African Banking and Finance Review Journal (ABFRJ), 1(1),40-55.*
6. Andohol, J. T. & Gisaor, V. I., (2018). Inflation and economic growth in some selected West African countries: A panel data approach. *Journal of Economic and Social Research. 7(1),56-76.*
7. Anne, O. (2023). Growth Focus: Council of economic and growth. Affairs Review, 26(1), 43-48
8. Arundhati, P. (2022). Financial deepening. *Available at: https://www.linkedin .com/pulse/ financial-deepening-india-arundhati-pandey/*
9. Ayadi, F. S. (2021.). Financial development, savings and economic growth in Nigeria." *Savings and Development* 43(1), 18–30.
10. Baafi, J. A., & Asiedu, M. K. (2025). The synergistic effects of remittances, savings, education and digital financial technology on economic growth in Sub-Saharan Africa. *Journal of Electronic Business & Digital Economics, 4*(1), 132–150.
11. Babarinde, G.F. (2020). Growth effects of foreign direct investment and financial deepening in Nigeria (1981-2018). Business Excellence and Management, Faculty of Management. *Academy of Economic Studies, Bucharest, Romania, 10(4), 49-67.*
12. Capannelli, G., Lee, J. W., & Petri, P. A. (2009). Developing indicators for regional economic integration and cooperation. Singapore Economic Review, Forthcoming, Asian Development Bank Regional Economic Integration, Working Paper, (33).
13. CBN (2024) Improving lending to real sector. *Available at: https://www.cbn.gov.ng*.
14. Deema, A. W., & Buthiena, K. A. (2016). Financial deepening and economic growth: The case of Jordan. *Journal of Accounting and Finance, 16(6),158-165.*
15. Divine, C. S., Omankhanle, N A. & Ehimare, G.O. O. (2020). The impact of financial deepening on economic growth in Nigeria (1981-2018). *WSEAS Transactions on Business and Economics, 17(96),977-986.*
16. Emmanuel, I. A. & Vivian, A. O. (2022). Financial deepening and economic growth in Nigeria. *Lafia Journal of Economics and Management Sciences, 7(2),171-187.*
17. *Era, D. (2015). Financial sector deepening and transformation. Available at:* https://www.elibrary.imf.org/display/book/9781475595512/ch006.xml
18. Ibekwe, A. I., Ibekwe A.O. & Atueyi C.L. (2021). Effect of financial deepening on the Nigeria economy. *International Academy Journal of African Development, 6(3), 1-18.*
19. Johnson, I. O., Fidelis, U. A., Nnamdi, C. & Oyakhiromhe, B. A. (2023). Appraisal of the real growth effect of financial deepening indicators: evidence from Nigeria. *African Banking and Finance Review Journal (ABFRJ), 2(2), 123-136.*
20. Kuznets, S. (2019.) Prize Lecture. NobelPrize.org. Nobel Media AB. *Available at* https:// www. nobelprize.org/prizes/economic-sciences/1971/kuznets/lecture/
21. Lamessa, A., Debeli, C. & Mekonnen, A. H. (2022). Gross domestic savings nexus economic growth; evidence from Ethiopea. Available at: https://ideas.repec.org/p/hal/journl/hal-05134288.html
22. Matthew, I. O. Chidi, N. O. & Babatope, M. O. (2021). Dissecting the Threshold Effects of Financial Deepening on Industrial Sector Performance in Nigeria. *Tanzanian Economic Review, 11(1), 57–72.*
23. McKinnon, R.I. (1973) Money and capital in economic development. The Brookings Institution, Washington DC.
24. Ngerebo, T.A. & Lucky, A. L. (2016). interest rates and deposit money banks and profitability: Evidence from Nigeria (1980-2014), *International Journal of Empirical Finance*, *Research Academy of Social Sciences, 5(1), 22-35*
25. Nwakobi, P. C., Oleka, D. C. & Ananwude, A. (2019). Effect of financial deepening on economic growth in nigeria: A Time Series Appraisal (1986-2018). *Asian Journal of Advanced Research and Reports, 7(3), 1-9.*
26. Okafor, S. O. ., & Lilian, U. C. (2022). Financial deepening and economic growth in Nigeria: evidence from 1982 – 2019. *International Journal of Innovation in Engineering*, *2*(3), 23–28.
27. Okonkwo G., Isu, H.O. & Ogbulu, O.M. (2021). Impact of financial deepening on economic growth in Nigeria. *Available at: https://injasr.org*
28. Pesaran, M. H., & Shin, Y. (1998). An autoregressive distributed-lag modelling approach to cointegration analysis. In S. Strom (Ed.), *Econometrics and economic theory in the 20th century: The Ragnar Frisch Centennial Symposium* (371–413).
29. Prabha, P. (2021). Economic growth : definition, scope, and measurement growth, *Available at:* from: www.researchgate.net/publication/346379002.
30. Rehman, H.U., Gill, A.R. (2005), A test of McKinnon's complementarity hypothesis: a case study of Pakistan. *Pakistan Economic and Social Review, 43(1), 21-37.*
31. Rural Finance and Investment Learning Centre (2017). Deepening rural financial markets: macroeconomic, policy and political dimensions. *Available at: Ruralfinanceand investment.org.*
32. Sahay, R., Cihak, M., N'Diaye, P., & Barajas, A. (2015). Rethinking financial deepening: stability and growth in

This is an open access article under the CC BY-NC license.
DOI: 10.5281/zenodo.24460001

emerging markets. *Journal of Institutional Economics , 17 (33), 73-107.*

33. Serieux, J. (2008), Financial liberalization and domestic resource mobilization in Africa: AN assessment. International Poverty Centre, United Nations Development Programme
34. Shaw, E. S. (1973). Financial deepening in economic development. New York: Oxford University Press
35. Ugwu, O.J. & Awa, F.N. (2021*). Impact of financial deepening indication on the growth of Nigerian economy from 1985 to 2020. Available at:* https://cnaj. *anan.org.ng/ journals/fulltext?article=30*
36. Victoria, O. , Ebenezer, B. , Ademola, O., Adedeji, A.& Jeremiah, E. (2021). Financial Deepening and Economic Growth in Nigeria: A Johannsen and Error Correction Model Techniques. *International Journal of Financial Research, 12(2), 263-273.*
37. World Bank (2025a) Nigeria poverty and equity brief : October 2025 (English). Poverty and Equity Brief Washington, D.C. : World Bank Group. http://documents.worldbank. https://documents1.worldbank. org/curated/en/ 099253204222517873/ pdf/IDU-3e010784-3371-4dcb-b923-112e98052ed9.pdf
38. World Bank (2025b). Where is the wealth of nations? Measuring Capital for the 21st Century. Available at: https://documents1.worldbank.org/curated/en.
39. World Bank. (2012). Financial depth. *Retrieved from http://www.worldbank.org: http://www.worldbank.org/en/publication/gfdr/gfdr2016/ background/fi nancial-depth.*

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