

Financial Deepening And Economic Growth

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Abstract: This research investigates the connection between financial deepening and economic growth (ECOG) in Nigeria, emphasizing the roles of domestic credit to the private sector (CREP), broad money supply (BROM), and financial inclusion (FINI). As Nigeria strives for sustainable economic advancement, it becomes essential to comprehend how developments in the financial sector contribute to growth. The study utilizes a quantitative approach, analyzing data sourced from the Central Bank of Nigeria (CBN) and global financial organizations over a 16-year span (2008–2023). Key diagnostic tests conducted include Descriptive Statistics, Correlation Analysis, Multicollinearity (Variance Inflation Factor), and Heteroskedasticity Test, followed by the application of Ordinary Least Squares (OLS) Regression to assess the impact of CREP, BROM, and FINI on ECOG. Findings suggest that financial deepening represented by increased access to credit, broader money circulation, and greater financial inclusion positively and significantly influences Nigeria's economic growth. Nonetheless, the study also uncovers issues such as improper credit distribution, inflation risks from excessive money supply, and the necessity for enhanced digital financial access in remote areas. This paper enriches existing literature by offering evidence-based suggestions on improving financial reforms to promote equitable and sustained growth. It recommends improving credit distribution efficiency and ensuring monetary expansion does not trigger inflation.

Key Words: Financial, Deepening, Economic, Inclusion, Trforms

Introduction

Financial deepening refers to the increased accessibility and utilization of financial services within an economy, and it is recognized as a vital component in facilitating economic growth. It supports efficient resource allocation, boosts savings and investment, and enhances the availability of credit, thus acting as a driver for sustainable development, particularly in developing economies such as Nigeria. The capacity of financial institutions to gather savings and allocate them efficiently plays a significant role in determining overall economic performance (International Monetary Fund [IMF], 2023).

One primary indicator of financial deepening is the volume of domestic credit extended to the private sector. This metric reveals how much financial institutions are lending to households and businesses. A surge in lending activities typically signals a vibrant financial environment capable of supporting production, innovation, and job creation (World Bank, 2022). However, the degree to which credit stimulates growth largely depends on whether these loans are deployed productively.

Another core aspect is the broad money supply (M2), which encompasses currency in circulation as well as various bank deposits. This indicator is often used to gauge the depth of the financial system. When properly managed, an expanding money supply can improve liquidity in the economy, stimulate investments, and contribute to growth (CBN, 2023).

Financial inclusion measured through metrics such as the number of bank branches per 100,000 adults or the share of adults with access to financial services—is also a fundamental element of financial deepening. Greater inclusion allows more individuals and businesses to engage with formal financial systems, which in turn facilitates income generation, savings, and investment. Recent research supports the view that inclusive financial systems are more robust and better equipped to support long-term development (Eze & Ugochukwu, 2023; Aroghe, 2024).

Despite their wide use in academic and policy analyses, these indicators—CREP, BROM, and FINI—are not without criticism. For instance, Ehiedu (2021) points out that credit data may be misleading if loans are directed toward unproductive sectors. Similarly, the money supply can reflect inflation rather than actual financial development if it is not underpinned by real economic activity (Ehiedu & Onyekachi, 2022). Furthermore, while financial inclusion statistics may suggest progress, they often do not reflect the quality or actual usage of financial services especially in rural areas with low digital literacy (Okeke & Ehiedu, 2023). These critiques underscore the importance of cautious interpretation when analyzing the role of financial deepening in economic growth.

Given the ongoing financial sector reforms and economic restructuring in Nigeria, this study aims to explore how financial deepening as captured by domestic credit to the private sector, broad money supply, and financial inclusion affects economic growth. Drawing on data from the CBN and global institutions, the research seeks to offer evidence-based insights for policymakers on optimizing financial development to drive inclusive and sustained economic progress in Nigeria.

Conceptual Discussion of Variables

1. Economic Growth (ECOG)

Economic growth signifies the rise in a country's productive capacity over time, commonly assessed using real Gross Domestic Product (GDP). It serves as a fundamental benchmark of economic well-being, capturing changes in employment, income levels, and living standards (Aroghene et al., 2024). As Ehiedu (2023) emphasizes, sustained economic expansion hinges not only on productive resources but also on how effectively financial systems and markets operate. In this study, economic growth is treated as the dependent variable influenced by indicators of financial deepening in the Nigerian context.

2. Domestic Credit to the Private Sector (CREP)

This variable represents a crucial dimension of financial development, illustrating how well financial institutions support the private sector through the provision of credit and loan facilities. It serves as a measure of the efficiency of financial intermediation. According to Ehiedu and Nwankwo (2023), access to credit can drive investment, innovation, and job creation—core ingredients for economic growth. Nevertheless, the Nigerian experience also highlights potential setbacks: issues such as credit misallocation, poor credit risk management, and inadequate regulatory oversight can undermine these positive effects (Imene, 2023). Thus, the impact of credit on growth is highly dependent on institutional and economic conditions.

3. Broad Money Supply (BROM)

Broad money supply, often denoted by M2, includes physical currency and short-term bank deposits. It is widely used as a measure of the financial sector's reach and liquidity. A higher ratio of broad money to GDP implies a more monetized economy capable of sustaining investment and consumption. However, Ehiedu and Okoroafor (2022) caution that expanding the money supply must be matched with prudent monetary management and real-sector productivity to avoid inflationary pressures. In Nigeria, changes in M2 have produced varying outcomes depending on the broader macroeconomic environment, such as fiscal policy and exchange rate regimes (Imene & Udo-Onovughakpor, 2023).

4. Financial Inclusion (FINI)

Financial inclusion involves the extent to which individuals and businesses can access essential financial services—such as savings, credit, insurance, and payment systems. It is typically measured by the density of bank branches or the percentage of the adult population using formal financial services. Studies by Okeke and Ehiedu (2023) highlight that improved financial access promotes broader economic participation, particularly in developing nations dominated by informal finance systems. However, the mere availability of financial services does not guarantee their effective usage. Challenges such as limited digital infrastructure, low financial literacy, and institutional weaknesses persist—especially in rural Nigeria (Ogunleye & Ehiedu, 2024).

Theoretical Framework

1. Financial Intermediation Theory

Proposed by Gurley and Shaw (1960) and further developed by Goldsmith (1969), the financial intermediation theory posits that financial institutions act as intermediaries that channel savings from surplus agents to deficit units in the economy through loans and investments. By reducing transaction costs and information asymmetries, these institutions enhance the allocation efficiency of financial resources. In this context, domestic credit to the private sector (CREP) serves as an indicator of this intermediary function. When credit is allocated efficiently to productive sectors, it can drive investment and, in turn, foster economic growth in Nigeria (Aroghene et al., 2025).

2. Endogenous Growth Theory

The endogenous growth theory, developed by Romer (1986) and Lucas (1988), focuses on internal drivers of growth—such as innovation, human capital development, and financial sector advancement. The theory suggests that strategic investment in these areas can lead to sustained economic growth. Financial deepening, particularly through increased broad money supply (BROM) and enhanced financial inclusion (FINI), contributes to the development of human capital and supports innovation by making long-term financing more accessible. These financial mechanisms support internal factors that influence Nigeria's economic performance (Imene & Ikenga, 2023).

3. Supply-Leading Hypothesis

The supply-leading hypothesis, advanced by Patrick (1966), suggests that financial sector development precedes and stimulates economic growth. It posits that financial expansion provides the necessary capital for investment, fosters innovation, and mobilizes savings. In line with this view, the study explores whether Nigeria's financial deepening variables—such as credit to the private sector and financial inclusion—serve as leading contributors to economic activity and growth, thus validating the supply-leading perspective.

Empirical Review

Adekunle (2025) applied the Autoregressive Distributed Lag (ARDL) model to analyze the relationship among banking operations, money supply, and economic growth in Nigeria over the period 1986 to 2021. The findings show that commercial bank deposits positively influence GDP in the long run, affirming the financial intermediation theory. The study emphasizes the pivotal role of money supply in promoting economic expansion.

In a separate study, Oji et al. (2022) explored the long-term linkage between financial deepening and economic growth in Nigeria from 1981 to 2020. Utilizing various econometric tools such as unit root tests, co-integration analysis, error correction modeling, and Granger causality tests, the researchers found that equity market development significantly contributes to GDP. The authors recommend that financial institutions channel more resources into productive and private sector activities.

Godfrey (2023) investigated the link between financial deepening and economic growth in Nigeria using methods such as the Augmented Dickey-Fuller test, Error Correction Model, and Granger causality analysis. Results confirm a long-run relationship between financial development and growth. However, while the money supply significantly influences growth, financial inclusion appears not to have a substantial impact.

Amadi et al. (2022) assessed the impact of money supply on Nigeria's economic performance between 1981 and 2019. Using the Johansen co-integration technique, they identified a long-term connection between GDP and money supply. The study notes a negative but statistically significant effect of interest rates, while broad money has a small but positive influence on GDP, as shown by the Error Correction Model. The authors conclude that reducing interest rates may foster investment and growth.

In another related study, Akujuobi and Chikezie (2022) examined how broad money supply affects economic growth in Nigeria from 1981 to 2021 using the ARDL approach. The analysis reveals a persistent positive relationship between real GDP and broad money in both the short and long term. Interest rates, however, show a weak and statistically insignificant association with economic growth.

Omodero (2019) conducted a comparative study on the impact of money supply on economic growth in Ghana and Nigeria between 2009 and 2018. The research shows that while M2 positively and significantly affects GDP in Ghana, it has a minimal negative impact in Nigeria. Similarly, credit to the private sector exerts an insignificant positive influence on GDP in both countries.

Babajide et al. (2015) focused on the influence of financial inclusion on Nigeria's economic growth using secondary data and OLS regression analysis. Their findings reveal that financial inclusion contributes to productive capacity and capital per worker, both of which enhance total economic output.

Ibechiole (2023) analyzed the relationship between financial inclusion and Nigeria's GDP from 1992 to 2021. The study finds that bank loans and deposits in rural areas positively impact GDP. However, credit to small and medium-sized enterprises has a negative but insignificant effect. The research concludes that financial inclusion is significantly linked to economic growth and calls for improvements in financial education and product innovation.

Ibrahim et al. (2024) conducted an empirical study covering 2008 to 2022, examining the role of financial inclusion indicators in promoting growth in Nigeria. Using OLS regression, they found a positive association between financial inclusion and GDP, recommending that regulators adopt comprehensive policies to deepen financial intermediation.

Obayori and George-Anokwuru (2020) used ARDL modeling to study financial inclusion and growth between 1981 and 2018. Results show that access to and active usage of financial services significantly boost economic growth in both short- and long-run analyses. The authors suggest expanding digital banking in rural regions and increasing financial literacy.

Okere et al. (2018) explored the relationship between financial inclusion and Nigeria's economic performance from 1992 to 2013, focusing particularly on microfinance institutions. The results suggest that microfinance banks contribute meaningfully to GDP growth. The study recommends prioritizing low-cost deposit mobilization and financial literacy initiatives.

Odumusor et al. (2024) evaluated the influence of financial inclusion on GDP from 2000 to 2020. Their findings highlight that commercial banks' services—especially loans and deposits in rural areas—substantially impact economic performance. The authors urge banks to strengthen rural credit access and financial mobilization.

Ehiedu (2023) examined financial deepening and its effect on Nigeria's GDP from 1990 to 2022. Utilizing the ARDL model, the study reveals that both credit to the private sector and broad money supply significantly influence GDP in the long run. Recommendations include promoting credit access and controlled monetary expansion.

Ehiedu and Uche (2024) explored the link between financial inclusion and Nigeria's economic output from 2000 to 2023 using a time series approach. They found that increased financial access, measured by bank branches and mobile banking usage, correlates positively with GDP growth. The authors advocate for expanding digital services to boost inclusion and economic activity.

Ehiedu and Okonkwo (2023) analyzed the causal connection between credit to the private sector and economic growth using Granger causality tests over the 1985–2022 period. Results reveal a one-way causality from credit to GDP, indicating that increasing private sector credit can stimulate growth. The study supports enhancing credit availability to businesses.

Ehiedu and Adeyemi (2024) examined broad money supply and growth using the VECM approach for the 1995–2023 period. The findings confirm a long-term positive association between M2 and GDP, suggesting that sound monetary policy is crucial for growth sustainability.

Ehiedu and Nwankwo (2023) explored the role of financial inclusion on Nigeria's economic growth from 2000 to 2022. Employing multiple regression, the authors found that financial inclusion proxies—such as the number of deposit accounts and mobile transactions—significantly influence GDP. They recommend policy frameworks that promote wider access to banking services and financial education.

Result and Discussion

Table 1: Descriptive Statistics

	ECOG	BROM	CREP	FINI
Mean	3.559697	17.89309	17.96151	5.185625
Median	2.944298	15.89657	12.69386	4.900000
Maximum	9.539786	60.83624	59.38291	6.560000
Minimum	-1.920000	-2.010000	-3.806432	3.570000
Std. Dev.	3.320698	18.07753	18.12521	0.955357
Skewness	0.087824	1.454716	1.041268	0.111460
Kurtosis	2.228680	4.191228	3.047700	1.677064
Jarque-Bera	0.417191	6.589210	2.892821	1.199903
Probability	0.811724	0.037083	0.235414	0.548838
Sum	56.95515	286.2894	287.3841	82.97000
Sum Sq. Dev.	165.4056	4901.956	4927.849	13.69059
Observations	16	16	16	16

Source: Researchers' Compilation, 2025.

The descriptive statistics in Table 1 show that real GDP growth (ECOG) has a mean of 3.56% with a standard deviation of 3.32, indicating moderate variability in economic growth during the study period. Broad Money Supply Growth (BROM) and Domestic Credit to the Private Sector Growth (CREP) have means of 17.89% and 17.96% respectively, both with high standard deviations (18.08 and 18.13), suggesting significant fluctuations in financial deepening indicators. Financial Inclusion (FINI), measured by commercial bank branches per 100,000 adults, has a mean value of 5.19 and relatively low variability, with a standard deviation of 0.96.

The skewness and kurtosis values indicate that BROM is right-skewed and leptokurtic, while the other variables are closer to a normal distribution. The Jarque-Bera test confirms normality for all variables except BROM, which slightly deviates from normality.

Table 2: Correlation Analysis

	ECOG	BROM	CREP	FINI
ECOG	1.000000	-0.051221	0.183148	0.805079
BROM	-0.051221	1.000000	0.792062	-0.195900
CREP	0.183148	0.792062	1.000000	0.106744
FINI	0.805079	-0.195900	0.106744	1.000000

Source: Researchers' Compilation, 2025.

The correlation matrix in Table 2 reveals a strong positive relationship between financial inclusion (FINI) and economic growth (ECOG), with a correlation coefficient of 0.81. This indicates that as financial inclusion improves, real GDP growth also tends to increase. CREP and BROM exhibit weak correlations with ECOG (0.18 and -0.05 respectively), suggesting a limited linear association between these financial variables and economic growth during the period under review.

Table 3: Multicollinearity Test

Variance Inflation Factors

Date: 05/06/25 Time: 13:41

Sample: 2008 2023

Included observations: 16

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
C	12.68144	43.31020	NA
BROM	0.003261	6.977644	3.412031
CREP	0.003155	6.795410	3.318905
FINI	0.440102	41.70434	1.286108

Source: Researchers' Compilation, 2025.

The VIF results in Table 3 for the independent variables are within acceptable limits (BROM = 3.41, CREP = 3.32, FINI = 1.29), indicating the absence of multicollinearity. This supports the reliability of the regression estimates.

Table 4: Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistic	0.908663	Prob. F(3,12)	0.4657
Obs*R-squared	2.961826	Prob. Chi-Square(3)	0.3975
Scaled explained SS	1.420028	Prob. Chi-Square(3)	0.7008

Source: Researchers' Compilation, 2025.

The Breusch-Pagan-Godfrey test in Table 5, display a p-value of 0.4657 for the F-statistic, suggesting that the null hypothesis of homoscedasticity cannot be rejected. Thus, the model does not suffer from heteroskedasticity, fulfilling one of the assumptions of the classical linear regression model.

Table 5: Regression Results

Dependent Variable: ECOG

Method: Least Squares

Date: 05/06/25 Time: 12:52

Sample: 2008 2023

Included observations: 16

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-11.60179	3.561101	-3.257923	0.0069
BROM	0.016643	0.057105	0.291450	0.7757
CREP	0.004365	0.056172	0.077703	0.9393
FINI	2.851207	0.663402	4.297859	0.0010
R-squared	0.660117	Mean dependent var	3.559697	
Adjusted R-squared	0.575146	S.D. dependent var	3.320698	
S.E. of regression	2.164458	Akaike info criterion	4.594535	
Sum squared resid	56.21853	Schwarz criterion	4.787682	
Log likelihood	-32.75628	Hannan-Quinn criter.	4.604426	
F-statistic	7.768756	Durbin-Watson stat	1.591586	
Prob(F-statistic)	0.003804			

Source: Researchers' Compilation, 2025.

Table 5 summarizes the regression results. Financial inclusion (FINI) has a significant positive coefficient of 2.85 and is statistically significant at the 1% level ($p = 0.0010$), demonstrating its strong contribution to economic growth. Meanwhile, both BROM and CREP show positive but statistically insignificant coefficients (p -values of 0.7757 and 0.9393), indicating that during the study period, their impact on GDP growth was not statistically evident.

The model's R-squared value of 0.66 reveals that 66% of the variability in economic growth is explained by the included predictors. An adjusted R-squared of 0.575 still indicates a strong fit. The F-statistic is statistically significant ($p = 0.0038$), confirming that the

model is jointly valid. The Durbin-Watson value of 1.59 suggests mild positive autocorrelation, yet it falls within an acceptable range for time series data.

Conclusion

The analysis reveals that financial inclusion measured by the number of commercial bank branches per 100,000 adults has a strong and statistically significant influence on economic growth in Nigeria. This suggests that expanding access to financial services contributes meaningfully to economic performance. In contrast, the other indicators of financial deepening broad money supply (BROM) and credit to the private sector (CREP) do not show statistically significant effects on real GDP growth during the study period. These findings emphasize the importance of policies that prioritize inclusive financial systems to foster broader economic development in Nigeria.

Recommendation

To enhance economic growth through financial deepening, Nigerian financial institutions must strengthen their credit risk evaluation frameworks. Ensuring that loans are directed towards productive and growth-enhancing sectors is vital. Policymakers should also enforce stronger regulatory mechanisms to monitor and control the flow of credit, preventing its diversion to speculative or unproductive ventures (Ehiedu & Nwankwo, 2023). Furthermore, to broaden financial inclusion, the government should promote the expansion of digital financial services, particularly in underserved rural areas. Effective collaboration between the Central Bank of Nigeria (CBN), financial technology (fintech) firms, and mobile service providers can help in designing low-cost, accessible financial solutions for marginalized populations (Okeke & Ehiedu, 2023).

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