IMPACT OF FINANCIAL INCLUSION ON SUSTAINABLE ECONOMIC GROWTH

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ABSTRACT

The study examined the impact of financial inclusion on economic growth in Nigeria between 1982 and 2023. The major motivation for the study was the recent emphasis placed on financial inclusion which was met with paucity of empirical studies in Nigeria. In the light of this necessity, the study used gross domestic product as the dependent variable and deposits with rural commercial banks, loans from rural commercial banks, interest rate and monetary policy rate as independent variables. The study employed the classical Ordinary Least Square; ARDL and Pairwise causality techniques, the analysis revealed that financial inclusion had positive effect on economic growth in the short run with an insignificant effect on growth in the long run. The causality test reported that economic growth causes financial inclusion especially through the channels of loans made available to the rural populace. Thus, it was recommended that provision of funds as loans to rural populace at lower interest rate would strengthen the establishment of financial inclusion in the economy.

Keywords: *Financial Inclusion, Financial Intermediation, Rural Development, Financial Services*

1.0 INTRODUCTION

The series of connections between financial market development and economic development has always been an important topic in Finance. Since the onset of the financial crisis of 2009, the relationship between financial development and economic growth has drawn more interest. While this crisis had its biggest impact on the developed world, the role of financial intermediation on economic growth and development is not well understood and still widely debated among Scholars. For one, the direction of causality is not clear: Does economic growth lead to financial development or is it the case that financial development leads to economic growth? It is likely that the causality runs both ways and disentangling these effects is not trivial. Early works by Schumpeter (1912) and Hicks (1969) found that financial development causes economic growth. However, Robinson (1952) argued that economic growth promotes financial development. According to the studies of Robinson (1952), economic growth creates demand and the automatic response of the financial system for this demand causes development on the financial system. However, in the course to develop the financial system, the issue of financial inclusion has evolved to become a major factor to consider in the whole process of economic development (Ogbonlaiye, Kwanashie & Olushola, 2024). It therefore poses the question as to how possible it is for a financial system to be considered 'developed' while it leaves out a considerable portion of the nation's population. In 2018, it was reported that 40% of the global adult population around the world totalling about 1.7 billion people are financially excluded (Grohmann, Kluhs & Menkhoff, 2018). Thus, despite that the connection between economic development and financial

development remains a debate in the literature, a relatively unexplored question relates to whether financial development implies financial inclusion or not in the literature.

Hannig and Jansen (2010) averred that financial inclusion intends to draw the population which are out of the financial system (unbanked population) into the formal financial system to give them the opportunity to access financial services ranging from savings, payments, and transfers to credit and insurance. Similarly, Sarma and Pais (2011) defined financial inclusion as the process that ensures the ease of access, availability and usage of the formal financial system for all members of an economy.

In other words, financial inclusion is a situation where goods and services in the financial sector are made accessible to everyone without any recourse to their status, gender, race or location (Van & Linh, 2019). As a policy objective, financial inclusion may contribute to the overall financial development growth and poverty reduction; this is the current consensus in a long-standing debate as supported by Hannig and Jansen (2010) who posited that improved access to financial services has a positive impact on poor people's living standards. However, the majority of the world's poor population do not use formal financial intermediaries. Thus, the absence of financial services for the poor makes it difficult for them to make future decisions and leads to an inefficient use of resources.

In recent years, the importance of an all-inclusive financial system has become an important policy objective in many countries across the globe. Governments, banks and financial regulators have set up new initiatives for financial inclusion and new legislative regulations have been initiated in various nations including Nigeria. However, lack of access to credit still remains one of the biggest obstacles confronting the economic activities of the poor. In response to the demand for wider access to credit markets, micro-loans have been used to provide loans for the poor population at the open markets with the hope of reducing poverty. Nevertheless, there still exists problems in the developing countries as regards financial services as well as lending requirements such as legal and physical collateral of lower-income households.

In Nigeria, financial inclusion became the nation's emphasis as far back as 2012, however, there has been little research done on the subject matter in Nigeria especially from the empirical standpoint coupled with the fact that the few available studies had contradictory results with no consensus among them. In addition, the few contributions discovered (Lamba, Aye-Agele & Ojeka, 2025; Lawal, Sulaiman & Migiro, 2018; Harley-Tega, Adetoso & Adegbola, 2017; Okoye, Adetiloye, Erin & Modebe, 2017) were limited to the short run analysis through the use of the OLS technique as most also failed to provide evidence on the causal relationship between financial inclusion and economic growth coupled with the presence of mixed evidence in literature on the subject matter. Thus, this paper therefore seeks to investigate the impact of financial inclusion on economic growth in Nigeria in the long run with a special inclination to causality.

2.0 LITERATURE REVIEW

Financial Inclusion and Economic Growth

Financial inclusion also known as the banking sector outreach captures the provision of a variety of banking services at an affordable price, convenient place and location to all economic entities without any form of discrimination across all strata of the society (Sarma & Pais, 2011). Similarly, Oruo (2013) considered financial inclusion to transcend urban centres as its target audience, but deprived areas with poor access to financial services. Thus, the need for intermediaries to rise above the obstacles and make financial services available for the poor, indigent, rural and illiterate population of country. An inclusive financial system provides several benefits that promotes effective allocation of productive resources, and a more efficient use of resources that will likely reduce the cost of capital. An all-inclusive financial system makes it easier for individuals to access financial services, and this improves the daily management of finances. If the inclusive financial system comes at a relatively high cost, the system can reduce the inefficiencies in credit markets from the informal credit sectors. Thus, it is possible that countries can enhance efficiency and welfare by an all-inclusive financial system by providing ways for secure and safe saving practices and by promoting efficient financial services (Sarma, 2008).

Ordinarily, a well-developed financial system should be accessible to everyone with little or no transaction costs or information asymmetries. In the absence of such, poverty becomes inevitable for the portion of the nation's population excluded from the financial milieu as they may be faced with the quagmire of shortage of funds as well as ability to interface with the global world. In Nigeria, the quest to improve financial inclusion emerged with the unveiling of the strategy to improve inclusion in 2012 with the target of reducing the ratio of number of adults excluded from financial services to the total population to 20% in 2020 as against the high rate of 46% in 2010 (CBN, 2016). In a bid to actualize the strategy, the authority set targets in terms of the improving access to Automated Teller Machines and regular payment of pensions. Meanwhile, the National Financial Inclusion Steering Committee and National Financial Inclusion Technical committee were inaugurated with four groups. As a result of the recommendation of the committees and groups, the mobile money operators have been licensed by the central bank of Nigeria in a bid to take financial services to the doorstep of every Nigerian. In addition, the Nigerian Deposit Insurance Scheme has also extended deposit protection to the customers of microfinance banks, primary mortgage banks as well as non-interest banks. At the same time, the national pension commission has also created a department for the coverage of informal pensions (CBN, 2016).

In theoretical literature, the underlying proposition for financial inclusion is the financial intermediation theory. This theory as advanced by Schumpeter (1912) portrays financial intermediation to be the pooling of funds from the surplus unit of the economy to the deficit unit of the same. The theory as advanced by its proponents centres on the need for financial intermediaries within the economic system. Thus, financial inclusion as a concept can be established on the theory as it captures the need for intermediation in rural and far unreached areas within the economy. Also, according to Spence (1973), financial intermediation reduces information asymmetries in the economy as well as transaction costs in the same. Furthermore, Claus and Grimes (2003) assumes that financial intermediation naturally makes fund available in the economy and change the risk nature of financial assets.

Meanwhile, taking into cognisance previous empirical studies carried out in literature, Andrianaivo and Kpodar (2011) employed the GMM approach to investigate the impact of financial inclusion on the growth of 44 African countries. The study adopted the pooled OLS technique divulging that financial inclusion has a positive effect on growth. Additional to that, the results reveals that a well financial sector has positive role on economic growth. In Nigeria, Babajide, Adegboye and Omankhanlen (2015) studied the relationship between financial inclusion and economic growth. The study used the OLS technique revealing that financial inclusion has a positive relationship with total factor productivity.

Onaolapo (2015) scrutinized the effect of financial inclusion on economic growth of Nigeria. The study employed the OLS technique revealing that financial inclusion has a positive effect on economic growth. In Sub Saharan Africa, Inoue and Hamori (2016) used the pooled OLS technique to assess 37 countries. The study revealed that financial inclusion as commercial bank branches especially in rural areas as an instrument used to measure the effect of financial inclusion on growth has a positive relation for selected countries.

In Nigeria, Lawal, Sulaiman and Migiro (2018) examined the relationship between financial inclusion and macroeconomic performance in Nigeria using the OLS and Causality techniques. The study revealed that financial inclusion has a positive effect on macroeconomic performance while inclusion indicies were also discovered to cause economic growth. Harley-Tega, Adetoso and Adegbola (2017) examined the role of financial inclusion in economic growth and alleviating poverty. The study used the classical OLS technique revealing that financial inclusion has no significant effect on economic growth in Nigeria. Similarly, Okoye, Adetiloye, Erin and Modebe (2017) studied the effect of financial inclusion on economic growth in Nigeria. The study used the OLS technique revealing that financial inclusion has no effect on economic growth but with a positive effect on poverty alleviation in Nigeria.

In a cross-country analysis, Siddiki and Bala-Keffi (2024) examined the relationship between financial inclusion and economic growth in 153 countries. Financial inclusion was measured by access to and ownership of bank accounts. Analysis was executed via the panel OLS technique, and it was reported that financial inclusion has positive effect on economic growth. In Nigeria, Lamba, Aye-Agele and Ojeka (2025) studied the impact of financial inclusion on economic growth in Nigeria. The ARDL technique was used for data analysis, and it was reported in the study that financial inclusion has negative effect on economic growth.

3.0 MATERIALS AND METHODS

The study made use of time series data from the CBN statistical bulletin from 1982 to 2023. The Augmented Dickey-Fuller Unit Root Test was used to test for the stationarity of data as well as the order of integration. The Auto Regressive Distributed Lag (ARDL) together with its bounds test was used to determine the presence of a long run equilibrating relationship between the variables.

It is pertinent to note that despite the unit root order integration of all variables at first differencing (order of 1 – I(1)) in the study, the ARDL technique was still used because the "technique can be adopted irrespective of whether the underlying variables are I(0), I(1) or a

combination of both although it cannot be used when one of the variables is integrated of order I(2)" (Pesaran, Shin & Smith, 2001; Nkoro & Uko, 2016).

Model Specification

The model adapted for the study was the model used by Inonue and Hamori (2016). This study deviates from their study with the inclusion of monetary policy variables as well as the ARDL and Pairwise causality techniques. The model for this study is therefore specified hereunder as:

$GDP = f(DRCB, LRCB, INTR, MPR)$ 1

From equation 3.1, it can further be stated in more explicit form as:

$$GDP = f(\beta_0 + \beta_1 DRCB + \beta_2 LRCB + \beta_3 INTR + \beta_4 MPR + \mu) \text{ ... ... } 2$$

Where:

GDP	=	$Gross\ Domestic\ Product$
$DRCB$	=	$Deposit\ with\ Rural\ Commercial\ Banks$
$LRCB$	=	$Loans\ to\ Rural\ Commercial\ Banks$
$INTR$	=	$Interest\ Rate$
MPR	=	$Monetary\ Policy\ Rate$
μ	=	$Error\ term$
$\beta_0, \beta_1, \beta_2, \beta_3, and\ , \beta_4$	=	$Coefficients\ of\ the\ Estimates$

4.0 RESULTS AND DISCUSSIONS

Table 1: ARDL Short Run Result

Variables	Coefficient	Std. Error	T-Stat.	Prob.
DRCB	0.1402	0.0519	2.7020	0.0103**
LRCB	0.7806	0.0621	12.5786	0.0000***
INTR	-1.6214	0.4241	-3.8236	0.0005***
MPR	-1.1753	0.5625	-2.0895	0.0436**
C	13.7468	1.1749	11.7007	0.0000
R-Squared	0.9091			
F-Stat.	92.5613			
F-Stat(Prob.)	0.0000			
D-W Stat.	1.4035			

Source: *Authors' Computation (2025)*

*,**,*** indicates significance of variables at 10%, 5% and 1% respectively

The OLS result as presented in table 1 reports that financial inclusion indicies exert positive effect on economic growth in the short run by 0.1402 and 0.7806 units respectively while monetary policy variables such as interest rate and monetary policy rate exert negative effect on economic growth in the short run by 1.6214 and 1.1753 units respectively. This implies that in the short run, an increase in financial inclusion metrics such as deposit from and loans to rural commercial banks would increase economic growth by 0.1402 and 0.7806 units respectively while an increase in interest rate and monetary policy rate would decrease economic growth by 0.1402 and 0.7806 units respectively.

Table 2: Augmented Dickey Fuller (ADF) Unit Root Test

Variables	ADF			Order of integration
	t-Statistics	Critical values @5%	Prob.	
GDP	-3.561956	-2.936942	0.0112	I(1)
LRCB	-5.571755	-2.941145	0.0000	I(1)
INTR	-6.098927	-2.938987	0.0000	I(1)
MPR	-7.508870	-2.936942	0.0000	I(1)

Source: *Authors' Computation (2025)*

The ADF unit root test is presented in table 4.2. The result reports that all variables were found to be stationary at first difference. This is because the ADF t-statistics was found to be higher than the critical value statistics @ 5% significance level. Therefore, the Auto Regressive Distributed Lag Bounds test was used to establish the presence of a long run relationship. However, there is need to determine the appropriate lags necessary for the ARDL model and this was done using the Vector Auto Regressive (VAR) optimal lag length criteria. It is imperative to note that despite the URT indicating that all variables are integrated at first differencing, the ARDL can still be used as it is one of the conditions permitted under the provisions of the ARDL bounds testing approach to co-integration as advocated by Pesaran, *et. al.* (2001) as well as Nkoro and Uko (2016).

Table 3: Selection of Optimal Lag Length

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-227.581	NA	0.10414	11.92738	12.14066	12.00390
1	-46.97737	305.811*	3.59e-05*	3.9424*	5.2221*	4.40156*
2	-22.9604	34.3423	4.06e-05	3.99797	6.34401	4.8397
3	0.95079	28.2029	5.12e-05	4.0538	7.46624	5.27816

Source: *Authors' Computation (2025)*
* signifies the selected lag by each criterion

Based on the result of the optimal lag length criteria presented in table 3, the Akaike Information Criterion which is the criterion used for analysis in the study selected the lag of one (1) as the most appropriate for the ARDL analysis. This is evident from AIC column in table 3 which marked lag of one as the most appropriate via its '*' symbol. Hence, the study proceeded to the ARDL bounds test.

Table 4: ARDL Bounds Test (Co-Integration Result)

F-Statistics	Lower Bound (5%)	Upper Bound (5%)
4.634854	2.86	4.01

Source: *Authors' Computation (2025)*

Based on the result of the bounds testing approach to co-integration as presented in table 4, it was reported that the F-statistics was found to be higher than the lower and upper bound at 5% (i.e. 4.63>2.86/4.01). This implies that the null hypothesis of no cointegration is rejected which indicates that there is long run relationship between financial inclusion indices in the study and economic growth.

Hence, the long run result pertaining to the effect of financial inclusion on economic growth is presented in the subsequent table.

Table 5: ARDL Long Run Result

Dependent Variable: GDP

Variables	**Coefficient**	**Std. Error**	**T-Statistics**	**Prob.**
DRCB	1.6876	5.7496	0.2935	0.7710
LRCB	-0.6279	5.3527	-0.1173	0.9073
INTR	-36.0321	126.752	-0.2843	0.7780
MPR	-15.8713	56.0163	-0.2833	0.7787
C	98.9250	315.2468	0.3138	0.7556
Serial Correlation Test Statistics (Probability Value)	0.1992 (0.8204)			
Heteroscedasticity Test Statistics (Probability Value)	0.4192 (0.8833)			

Source: *Authors' Computation (2025)*

The result of the long run analysis as presented in table 5 reports that all independent variables exert insignificant effect on economic growth in the long run. This implies that in the long run, an uptick in financial inclusion indices will not wield any substantial effect on the economy. In addition, in the long run, an increase in interest rate and monetary policy rate will exert no effect on economic growth. Further discussions about the results are contained in the subsequent sections in the study.

In addition, the diagnostics tests such as the serial correlation and heteroscedasticity tests both reported probability values above 0.05 respectively indicating that the null hypothesis of no serial correlation and no heteroscedasticity are accepted in the study. This indicates that the inference generated in the study can be relied on.

Table 6: Pairwise Causality Test

Null Hypothesis:	**Obs**	**F-Statistic**	**Prob.**
DRCB does not Granger Cause GDP	40	1.76579	0.1860
GDP does not Granger Cause DRCB		0.40691	0.6688
LRCB does not Granger Cause GDP	40	2.33854	0.1114
GDP does not Granger Cause LRCB		4.32225	0.0210**
INTR does not Granger Cause GDP	40	7.01369	0.0027***
GDP does not Granger Cause INTR		3.69817	0.0349**
MPR does not Granger Cause GDP	40	4.06200	0.0259***
GDP does not Granger Cause MPR		0.45282	0.6395

Source: *Authors' Computation (2025)*

The causality test revealed that there exists a unidirectional causality running from economic growth to loan to rural commercial banks while there exists a bidirectional causality between interest rate and economic growth. In addition, a unidirectional causality was found to run from monetary policy rate to economic growth. This is as a result of the probability value that led to the null hypothesis being rejected in these cases. This result implies that the behaviour and direction of economic growth will determine the behaviour and direction of loan to commercial banks as well as interest rates while the behaviour and direction of interest rate and monetary policy rates will determine the direction and growth of the economy.

Discussion and Implication of Findings

The objective of this study is to investigate the impact of financial inclusion on economic growth in Nigeria. The OLS result revealed that financial inclusion exerted a positive effect on economic growth while monetary policy variables exerted a negative effect on economic growth in the short run. This implies that a unit increase in loans to and deposit from rural commercial banks will lead to an increase in economic growth in the same proportion. This is highly possible as rural areas are dominated with primary industry activities such as agriculture, thus, an efficient loan extension and administration to these rural areas from the commercial banks as an evidence of financial inclusion will therefore improve activities within the primary industry and as such boost economic growth. This is in line with the findings of Siddiki and Bala-Keffi (2024), Lawal, Sulaiman and Migiro (2018), Babajide,

Adegboye and Omankhanlen (2015) as well as Andrianaivo and Kpodar (2011) but is incongruity with the findings of Okoye, Adetiloye, Erin and Modebe (2017) and Moore and Craigwell (2003).

Furthermore, in the long run, it was then discovered that financial inclusion has insignificant effect on economic growth. This is plausible because as time goes on and technology evolves, the rural areas are no longer financially excluded and the effect of their inclusion is no longer felt over time as their funds are now fully captured within the formal financial sector. This is possibly true about Nigeria. Prior to the emergence of neobanks like Opay, including the rural areas in the formal financial sector may have affected the economy by reducing the rate of unbanked cash. However, in the long run culminating in recent time, neobanks like Opay have bridged the financial inclusion gap and now ensured that the exclusion rate is significantly reduced. Hence, any efforts geared towards inclusion at the moment may not wield significant effect as much as it would have wielded 15 or 20 years ago prior to the emergence of Neo-banks like Opay. In addition, monetary policy variables such as interest rate and monetary policy rate were found to exert negative effect on growth in the short run and an insignificant effect in the long run. This is equally plausible as these rates are the rates at which funds are made available in the economy. Simply put, the cost of borrowing, cost of credit and cost of funds. Hence, an increase in this cost indicates that borrowing will become more expensive for manufacturers and other players within the economy which will cause a reduction in money supply and then stifle growth. However, in the long, the economy tends to adjust to the increase and the effect evens out.

Meanwhile, the pairwise causality test revealed that economic growth causes financial inclusion especially through the channel of loans to rural commercial banks. This implies that changes in the behaviour of the economy can determine changes in the behaviour of loans administered to rural populace. Thus, the magnitude, extent and direction of economic

growth is a major factor that drives financial inclusion and not the other way round. The implication of this is that the ability of the financial system to reach and capture the rural unreached is primarily based on the rate of growth of the economy. This probable as the rural banks cannot extend loans beyond the prevailing rate of economic growth. This discovery is not out of place as it can be deduced from the juxtaposition in the rate of financial inclusion between developing countries and developed countries. In countries with advanced rate of growth like the USA, UK or Canada, financial inclusion tends to be better than in developing economies like Benin Republic or Nigeria.

5.0 CONCLUSION AND RECOMMENDATIONS

The study examined the impact of financial inclusion on economic growth in Nigeria between 1982 and 2023. For this purpose, the study used Gross Domestic Product as dependent variable and also used deposits with rural commercial banks, loans from rural commercial banks, interest rate and monetary policy rate as independent variables. The OLS, ARDL and Pairwise causality techniques were used for analysis in the short run, long run and for causality. It was discovered that financial inclusion has a positive effect on economic growth in the short run while exerting an insignificant effect on growth in the long run. Meanwhile, the causality test revealed that economic growth causes financial inclusion especially in terms of loans from rural commercial banks. Thus, in the light of these findings, it is recommended that attempts to strengthen financial inclusion should be tailored in line with the injection of more funds to rural banks for loan purposes while such loans should be provided at lower interest rates.

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