

Financial Inclusion as a Panacea for Inclusive Growth and Sustainable Development in Nigeria

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Abstract

Increasing evidence strongly supports financial inclusion as a potent tool for inclusive growth. This study, therefore, employs the autoregressive distributive lag (ARDL) methodology to investigate the relationship between financial inclusion and inclusive growth with the hope of establishing the importance of the former to the latter towards achieving sustainable development in Nigeria. The study found a long-run relationship between financial inclusion and inclusive growth indices in Nigeria. The ARDL result also showed that the indices of financial inclusion deepen the age dependency ratio but increase output per person employed, gross national income per capita and CO₂ emission. The study infers from the findings that easy, cheap, and inclusive access to finance would help Nigeria in its drive towards sustainable growth and development. It therefore recommends that policymakers in Nigeria should seek more financial innovations to provide efficient and effective financial services to its financially-excluded citizens.

Keywords: financial inclusion, sustainable development, inclusive growth, ARDL

JEL classification: O16, O43, O44

Introduction

Economic stakeholders and policymakers recently started to shift attention from mere attainment of economic growth and development to how the attained growth and development can be sustained (UNDP, 2015). Studies have shown the importance of financial inclusion as a major bedrock for inclusive and sustainable growth and development in any nation (Berg and Ostry, 2011; Demirgüç-Kunt et al., 2017). Financial inclusion is the ability of the populace of an economy to equally and freely access affordable and timely financial services and products. It is the effort directed towards making useful and timely financial resources available and affordable to all. Access to financial services plays a major role in the growth of an economy as it enhances credit creation and capital accumulation which enhances investment, thereby increasing productivity and growth in the economy. It is a potent means of alleviating poverty as well as improving the welfare and standard of living of the populace. Owing to its role as a major driver of sustainable growth in an economy, the subject of financial inclusion has attracted global recognition especially in the area of financial and development economics and has become a major policy driver for the Central Bank of Nigeria (CBN) to improve economic growth (CBN, 2012). However, there are some factors hindering the progress of financial inclusion in Nigeria and these factors emanate from both the supply and demand side. The supply-driven barriers to financial inclusiveness include geographical restriction and high cost of operation incurred by banks operating in some rural and remote areas among others. The demand-driven barrier stems from the poor response of the people to available financial services which could be due to ignorance or low income of the majority of the populace.

Inclusive growth is a concept that advocates for equitable opportunities for all economic agents as the economy grows. It is not a kind of growth in which all economic agents merely benefit and participate, neither is it focused on a segregated section of the economy, rather, it is the kind that is equally distributed across all sectors. Inclusive growth is a major tool used by both developed and developing countries to alleviate poverty, stimulate growth of small- and medium-scale enterprises as well as sustain economic development (Abdullahi and Fakunmoju, 2017). Financial inclusion and inclusive growth are integrated concepts as one is a gateway through which the other can be

achieved. Both are focused on increasing the participation of economic agents in the activities of the economy. While financial inclusion is focused on increasing participation in the financial sector through increased access to financial services, inclusive growth is focused on increased participation in the productive activities of the economy as well as ensuring increase in the number of economic agents that benefit from this growth.

One of the major links through which financial inclusion transforms to inclusive growth, especially in developing countries, is small and medium-scale enterprises (SMEs). Christie and Crompton (2002) emphasized that about 70% of the gross domestic product (GDP) in developing economies is produced by SMEs. Thus, sustaining the contributions of SMEs to economic activities has the potential of boosting economic growth and development. However, these SMEs which make up a larger share of the global market are also beset with limited access to financial services. Therefore, closing the financial exclusion gap through the SMEs, especially in the developing and emerging market, will help increase annual economic growth in most of these countries. In essence, increasing SMEs' ease of access to financial and infrastructural facilities will enhance their contribution to sustainable economic growth and development. Thus, in a bid to enhance financial inclusion and promote inclusive growth in Nigeria, the CBN and other stakeholders in the financial sector designed the National Financial Inclusion Strategy (NFIS) with the aim of increasing the number of SMEs that will have access to financial services by 10% in 2020 (CBN, 2012).

According to Onaolapo (2015), inclusive financial growth is a policy issue that has gained global recognition and has become a verified veritable tool for poverty alleviation and economic development. This claim, supported by Demirguc-Kunt et al. (2017), Abdullahi and Fakunmoju (2017) and Mushtaqa and Bruneaub (2019), suggests that by supporting investment, encouraging consumption and reducing financial risk, financial inclusion aids poverty alleviation, inequality reduction, and enhanced development. Thus, the roles of financial inclusion in promoting the socio-economic development of the poor has made it a tool for measuring the attainment of the Sustainable Development Goals (SDGs) (Adegbite and Machethe, 2019).

One of the major constraints to inclusive growth and sustainable development in Nigeria is the huge financial exclusion gap (Adegbite and Machethe, 2019). As a developing economy, the majority of Nigerians are educated via both local and informal means of education while only a few have access to formal financial institution services. Statistics have shown that only 30.7 million of the 85 million Nigerians that are of legal age can access formal financial institution services, and the percentage of the Nigerian population excluded from financial services and activities is 53.7% (see Kama and Adigun, 2013; and Markjackson et al., 2017). Also, Nigeria ranks among the top seven countries with 50% of the global 1.7 billion unbanked adults (Demirgüç-Kunt et al., 2018). This, compared with some other countries, shows that Nigeria's level of financial inclusion is poor besides the low level of credit penetration. Also, Nigeria's rate of formal payments penetration, which is 21.6%, is low relative to South Africa and Kenya, both towering high at 46.1% (Mbutor and Uba, 2013). All these problems have affected the ability of the SMEs to access financial resources and has greatly hampered their productivity consequently hindering the country's economic growth. Mbutor and Uba (2013) further stressed that the number of savings accounts in Nigeria is 461 per 1000 persons compared with 2,063 savings accounts per 1000 in Malaysia. This indicates that a very high proportion of Nigeria's population are exposed to financial risk which is associated with a high rate of poverty and low level of investment. It also shows that the growth of the Nigerian economy is predominantly an offshoot of the economy's dependence on one sector while other productive sectors are badly retarded. With this, it will be impossible for Nigeria to sustain its economic growth trajectory without deepening its level of financial inclusion.

All the above indicators summarize the fact that a teeming large and productive proportion of Nigeria's labour force are still financially excluded. The consequence of depriving such a humongous population access to financial resources is the fluctuating aggregate output and occasional recession that threatens Nigeria's economic growth and sustainable development. Implicitly, inclusive growth which could foster development may remain a mirage as long as concerted efforts are not made to improve the trajectory of all the financial inclusion indicators that could aid economic growth. While previous studies in Nigeria have only examined the relationship between financial inclusion and economic growth, recent developments have shifted policymakers' attention from

economic growth to inclusive economic growth. Against this background, this study aims to uniquely examine the importance of financial inclusion in achieving inclusive growth and sustainable development in Nigeria.

Following this introductory section is a review of the literature. The subsequent section presents the methodology, model specification, data description and sources. The next section provides the empirical findings while the final section presents the conclusion and recommendation.

Literature Review

Theoretical review

Finance-led growth hypothesis: Schumpeter (1912), in the finance-led hypothesis posited that the long-run economic growth of a country is greatly influenced by its financial system and therefore assumed a supply-led relationship between the finances of a country and its economic growth. The hypothesis suggests that there is a unidirectional causality between finance and economic growth, flowing from finance to economic growth and not vice versa (Adeyeye et al., 2015). According to the hypothesis, the financial system performs a crucial role in the economic growth of a country because a well-functioning financial system would foster growth in the real sectors of the economy thereby promoting economic growth. Schumpeter (1912) emphasized and capitalized on the role of technological innovation in the production process. He built on the Solow (1956) growth model which shows how savings and capital accumulation influence economic growth in the short and medium run. By bringing in technological innovation, Schumpeter was able to establish a long-run relationship between finance and economic growth (Babajide, Adegboye & Omankhanken, 2015). He maintained that the financial sector is responsible for the facilitation of technological innovation through financial resource mobilization and allocation (Okoye et al., 2017). The financial sector, according to him, avails entrepreneurs the resources necessary to express their innovative thinking in real output. This implies that an increase in the rate of access to financial resources and services will enhance economic growth and promote development. And as more people access financial resources, especially the SMEs, they are empowered to engage in productive

activities which improves the nation's output and enhances development (Babajide et al., 2015).

Growth-led finance hypothesis: This hypothesis by J.C. Robinson (1952) contrasts the finance-led hypothesis by its proposition that increased economic growth is what necessitates increased financial activities. That is, as the economy grows, the finance of the economy improves. Also known as the demand-following hypothesis, the hypothesis states that financial deepening in a country is dependent on the level of growth of the country (Adeyeye et al., 2015). Robinson (1952) maintained that financial systems do not stimulate economic growth but respond and react to activities in the real sector of the economy. This suggests that the causal relationship between finance and economic growth flows from economic growth to finance, not vice versa. Singh (1999) supported this by positing that increased economic growth brings about increased macroeconomic activities, which boosts and influences financial activities in the economy.

Stage of development hypothesis: This nexus between the finance-led growth hypothesis and the growth-led finance hypothesis by Patrick (1966) states that the causal relationship between the financial development of a country and its economic growth changes as the country reaches different levels of development. The hypothesis claims that the relationship between the finances of an economy and its growth is both supply-leading and demand-following. It asserts that, at the early stage of development, the relationship between finance and economic growth is supply-leading as the financial sector stimulates the economic growth of the country but that, as the economy develops, the finance-led growth effect begins to diminish and the growth-led finance effect takes pre-eminence (Udo et al., 2019). This implies that, at the secondary level of development, the causal relationship between finance and growth becomes demand-following and economic growth stimulates financial development.

Financial intermediation theory: There have been some disagreements among scholars on the role of financial intermediation (of reallocating financial resources from surplus to deficit zones) in economic growth. While some believe that financial intermediaries play a cogent and significant role in the economic growth of a nation, others believe that the role of financial intermediaries is trivial and insignificant (Abdullahi and

Fakunmoju, 2017). The theory assumes that financial intermediation promotes investment and increases productive activities which enhance economic growth. McKinnon (1973) argued that an efficient financial sector reallocates financial resources from surplus to deficit units, thus increasing the productive capacity of the economy's real sector and promoting economic growth.

Empirical review

From the literature, empirical studies have established the linkage between financial inclusion and economic growth. Nwafor and Yomi (2018) investigated this relationship for Nigeria, using a two-staged least squares regression method (2SLS), and found that financial inclusion significantly influences economic growth and that the financial industry's intermediation has not been able to solve the problem of financial exclusion in Nigeria. Otiwu et al. (2018), using microfinance banks (MFBs) as a measure for financial inclusion, checked the impact of MFBs on economic growth in Nigeria. Using the ordinary least squares (OLS) method, the study found that MFBs, as a strategy for financial inclusion, have a significant impact on economic growth. A similar investigation on Nigeria using OLS by Babajide et al. (2015) found that financial inclusion significantly affects total factor productivity in the economy as well as the capital per worker in the economy and also that these variables determine the GDP of the country. Another study by Onaolapo (2015) on Nigeria using OLS found that loans to rural areas and agricultural guaranty funds, which are measures of financial inclusion, have a significant impact on per capita income. Further, the study found that inclusive financial activities greatly reduce poverty and marginally influence economic growth. Using descriptive and content analysis, Nwanne (2015), whose study focused mainly on rural dwellers explained that, sustaining financial inclusion for rural dwellers can serve as a bedrock for economic growth in Nigeria. However, a similar study by Abdullahi and Fakunmoju (2017) on SMEs, using OLS, showed that at 5% probability, financial inclusion does significantly influence economic growth, hence concluded that financial inclusion could boost SMEs' productivity and ultimately, the economy.

Empirical studies have further examined the impact of financial inclusion on inclusive growth. In an attempt to establish this impact, Demirgüç-Kunt et al. (2017) provided an empirical review of financial

inclusion around the world and how the use of financial products can bring about inclusive growth and economic development. The study found that although not all financial products are effective in reaching developmental goals, financial inclusion enables people to carry out transactions easily and effectively. Thus, financial products also increase investment and promote inclusive growth and economic development. A similar study by Afolabi (2020) using auto-regressive distributive lag (ARDL) found that financial inclusion in the form of loans to rural dwellers, level of liquidity, and number of bank branches have a positive effect on inclusive growth in Nigeria, both in the short and long run. The study therefore recommended that financial activities be made more readily available to rural dwellers and be adequately monitored to ensure they are productive.

Allen et al. (2016) explored the individual and country characteristics of financial inclusion and effective policies. The study pointed out that poor, rural, female or young individuals are the most financially excluded group in a country. They found that greater financial inclusion promotes stronger legal rights and a more politically-stable environment. Mushtaq and Bruneau (2019) investigated how Information and Communications Technology (ICT) fosters financial inclusion and the effect on poverty and inequality. They employed panel data for sixty-two countries from 2001 to 2012. The result showed that ICT has a positive relationship with financial inclusion but a negative relationship with poverty and inequality. The result also showed that financial inclusion reduces poverty but when ICT is used as a tool for financial inclusion, it reduces poverty and fosters economic growth. Yin et al. (2019) investigated the impact of economic policies and environment on financial inclusion in China using vector autoregressive (VAR) model. The study found that monetary policy promotes financial inclusion in the short run while economic cycles decrease the rate of financial inclusion.

Theoretical Framework and Methodology

Theoretical framework

Four distinct areas have been identified in financial development studies as the driving forces of inclusive growth and sustainable development. One is that financial development that embraces financial inclusion provides a low-cost reliable means of

payment to all groups, especially the low-income. Two is the financial intermediation role fostered through financial inclusion that serves to increase the volume of transactions and reallocate resources from the surplus to the deficit units of the economy. Through this process, financial inclusion improves the distribution of resources (Odeniran and Udejaja, 2010). Three has to do with the risk management effect which the financial system bears by curtailing liquidity risks thereby enabling the financing of risk through more productive investments and innovations within the economy (Greenwood and Jovanovic, 1990; Bencivenga and Smith, 1991). Four, the financial sector provides information on possible investments and available capital within the system, thereby ameliorating the effects of asymmetric information (Ross, 2004).

Viewed from the aggregate production function angle, the financial effects analysed above contribute significantly to changing savings and investment inputs into a larger output in the economy, either through the channel of capital accumulation (Hicks, 1969) or the channel of technological change (Schumpeter, 1912).

For the capital accumulation channel, the popular Solow (1956) growth model advocates that an increase in the savings rate (δ) will increase the steady-state levels of capital (k) and per capita output (y). From this, Solow opined that such an increase in the savings rate will cause the steady-state level of capital and per capita output to rise. The implication is that financial repression will be eliminated while market failures will be reduced. Consequently, the quality of investment will improve as only projects with returns greater than the interest rate will be funded. This increase in the economy's efficiency will further increase savings and investment in the economy.

For the technological change channel, Schumpeter (1912) argued that a well-developed financial sector is absolutely necessary for entrepreneurs to successfully engage in a process of ingenuity. According to him, new projects require financing because the upfront investment cannot always be covered by the entrepreneurs themselves. Thus, without a financial sector to channel funds from, innovation would be nearly impossible and there would be little permanent economic growth. It is on this premise that financial inclusion becomes very necessary for inclusive economic growth because it provides

innovative financial products to encourage low-income earners to save more (Odeniran and Udejaja, 2010).

Methodology

This study uniquely adopted the autoregressive distributed lag (ARDL) model by Pesaran and Shin (1999), updated by Pesaran, Shin and Smith (2001), to empirically establish the impact of financial inclusion on inclusive growth and sustainable development in Nigeria. The ARDL model was designed to accommodate series of different stationarity orders (i.e. I(0) and I(1)). Beyond that, by adopting the appropriate lag selection, the model adequately accommodates serial correlation and endogeneity in the model to provide a robust estimate. It also simultaneously estimates short and long-run dynamics in a model.

Given variables X and Y , the baseline ARDL model is specified as follows:

$$y_t = \sum_{k=1}^p \gamma_k y_{t-k} + \sum_{j=0}^q \varphi_j x_{t-j} + \varepsilon_t \quad (1)$$

Re-specifying the model to reflect short and long-run dynamics, we have:

$$\Delta y_t = \alpha_1 y_{t-1} + \alpha_2 x_{t-1} + \sum_{k=1}^{p-1} \gamma_k \Delta y_{t-k} + \sum_{j=0}^{q-1} \varphi_j \Delta x_{t-j} + \varepsilon_t \quad (2)$$

where α_1 and α_2 are long-run parameters while γ_k and φ_j are short-run parameters in the model.

Model specification

To achieve the objectives of this study, the following models are specified for estimation.

ADP = f (bank branches, loan deposit ratio, rural loan, gross national income per capita)

Emission = f (bank branches, loan deposit ratio, rural loan)

GNIPC = f (bank branches, loan deposit ratio, rural loan)

GDPPPE = f (bank branches, loan deposit ratio, rural loan)

where:

- ADP = age dependency ratio
- GNIPC = gross national income per capita
- GDPPE = GDP per person employed

Data description and source

The sources and description of the data adopted for this study are presented in Table 1. Data for the study was obtained from the CBN Statistical Bulletin and the World Bank World Development Indicators (WDI) and it covers the period between 1981 and 2018 due to uniformity of available data.

Table 1: Data source and description

Variables	Description	Source
Number of bank branches (BANB)	This captures the ease of access to financial institutions in the country. Measures financial inclusion	CBN bulletin (2019)
Age dependency ratio (ADP)	This measures the percentage of working-age population in Nigeria. This serves as a proxy for sustainable development	WDI (2019)
Loan deposit ratio (LOANDEPOSIT)	This measures the ratio of loan to total deposit in the system. Measures financial inclusion	CBN bulletin (2019)
Rural loan (RURALLOAN)	This is the total loan given to rural dwellers over time. Measures financial inclusion	CBN bulletin (2019)
CO ₂ emission (EMISSION)	This measures the release of greenhouse gases into the atmosphere. This serves as a proxy for sustainable development	WDI (2019)
Gross national income per capita (GNIPC)	This measures the contribution of individual citizen to national output (per head contribution to output). This serves as a proxy for sustainable development	WDI (2019)
GDP per person employed (GDPPE)	This serves as proxy for inclusive growth	WDI (2019)

Empirical Analysis

Stationarity test

The unit root test results in Table 2, using both the ADF and PP, show that the series were of mixed order of stationarity, I(0) and I(1). This means that some variables in the model were volatile and relatively unpredictable (the I(1) variables), while others were stable and relatively predictable (the I(0) variables). Due to this outcome, the bounds test was conducted to determine the existence or otherwise of a long-run relationship in the model, and subsequently estimate the model using the ARDL technique.

Table 2: Unit root test

Variables	Phillips-Peron (PP)		Augmented Dickey-Fuller (ADF)		
	Levels	First difference	Levels	First difference	I(d)
ln(ADP)	-2.0028	-3.6758**	-1.4882	-4.486***	I(1)
ln(BANB)	-2.6007	-4.5548***	-3.1915	-4.549***	I(1)
ln(EMISSION)	-1.8885	-5.8242***	-1.8885	-5.8242***	I(1)
ln(GDPPPE)	-1.5064	-4.3526***	-1.5874	-4.3626	I(1)
ln(GNIPC)	-3.1473	-4.2646***	-3.3586	-4.2646***	I(1)
ln(LOANDEPOSIT)	-2.5312	-6.9597***	-4.009***	-	I(1)/I(0)
ln(RURALLOAN)	-3.5472*	-	-3.7292**	-	I(0)

*, ** & *** denote significant level at 1%, 5% and 10% respectively.

Bounds Test

The results in Table 3 show that a long-run relationship was established in the ADP and GNIPC models (because the F-statistics exceeded the critical bound at all of the significance levels), while the same cannot be said for the emission model (the F-stat fell below all the significance levels). Hence, only short-run relationships can be established for the emission and the GDPPPE models.

Table 3: Bounds test

Test Statistic	ADP model	Emission model	GDPPPE model	GNIPC model
F-Stat	7.4987	0.8762	1.8347	5.7440
Critical Value Bounds				
Significance	I(0) Bound		I(1) Bound	
10%	2.72		3.77	
5%	3.23		4.35	
2.5%	3.69		4.89	
1%	4.29		5.61	

ARDL estimation

From the results in Table 4, financial inclusion in the form of bank branches, rural loans, and loan to deposit ratio, appears to reduce the age dependency ratio. The results also show that an increase in bank branches reduces the age dependency ratio. Likewise, an increase in loan deposits and rural loans reduces age dependency in the short run. The implication of the above findings, as alluded to by Demirgüç-Kunt et al. (2017) is that these financial inclusion products effectively meet the needs of the targeted end-users and achieve the purpose for which they were designed. The effect got better over the long run as increase in bank branches, loan deposit and rural loan reduced age dependency. The model shows that about 97% of changes in age dependency were accounted for by the explanatory variables in the model.

The emission result in Table 4 shows that financial inclusion has rather an insignificant influence on CO₂ emission. This is plausibly so because expanded access to finance, as implied by financial inclusion, may merely lead to expansion of the scope of production activities. Moreover, scaled-up activities may not be accompanied by investment in cleaner production technologies, thus leaving CO₂ emissions undiminished. Although both loan deposits and rural loans appear to influence CO₂ emission negatively yet, for every percentage point increase, these effects are not statistically significant. The model shows that about 68% of changes in emission are accounted for by the explanatory variables and it passes the normality, serial correlation and heteroscedasticity tests.

Table 4: ARDL estimation model

Variables	LnADP	LnEMISSION	LnGNIPC	LnGDPPPPE
DLn(BANB)	-0.0114*** (0.004)	0.0328 (0.7791)	0.3516** (0.0164)	0.0220 (0.8379)
DLn(LOANDEPOSIT)	-0.0009 (0.7729)	-0.1941 (0.2401)	-0.0129 (0.8261)	0.0177 (0.6678)
DLn(RURALLOAN)	-0.0008 (0.1844)	-0.0162 (0.6001)	0.0124 (0.2122)	-0.0008 (0.9251)
DLn(GNIPC)	0.0280*** (0.0000)	- -	- -	- -
C	0.1460 (0.3512)	0.5914 (0.5151)	-0.4667 (0.5119)	1.1270** (0.0297)
Long run relationship				
Ln(BANB)	-0.1306** (0.0213)	- -	0.9069** (0.0134)	- -
Ln(LOANDEPOSIT)	-0.0105 (0.7716)	- -	1.6611* (0.0853)	- -
Ln(RURALLOAN)	-0.0095 (0.2306)	- -	0.0960 (0.5166)	- -
Ln(GNIPC)	0.3207** (0.0161)	- -	- -	- -
C	1.6702 (0.1714)	- -	-2.6005 (0.5809)	- -
CoinEq (-1)	-0.0874** (0.0111)	- -	-0.1795** (0.0401)	- -
R Squared	0.98	0.72	0.99	0.99
Adjusted R squared	0.97	0.68	0.98	0.98
Serial correlation	2.1627 (0.1027)	0.3186 (0.7298)	2.1352 (0.2143)	0.4881 (0.6246)
Heteroscedasticity test	0.4344 (0.8208)	0.7742 (0.5506)	0.5442 (0.8682)	1.4490 (0.2458)
Normality test	1.7123 (0.4248)	8.0552 (0.0176)	0.197 (0.9062)	1.8561 (0.3953)

The GNIPC model estimation results in Table 4 also show that only bank branches positively and significantly influenced per head contribution to output in the short run. Every percentage point increase in bank branches increased the per head contribution to output in the long run, i.e. a percentage point increase in bank branches positively and significantly influenced per head contribution to output. Similarly, a percentage point increase in loan deposit ratio increased per head contribution to output. The result reveals that about 98% of changes in per head contribution to output were accounted for by the explanatory variables which are a good fit for the model. The post-estimation tests also confirm that the model is normally distributed, it has no serial correlation and heteroscedasticity.

From the results in Table 4 on GDP per person employed (GDPPPE), both number of bank branches (BANB) and loan deposits positively influenced GDPPPE, though not significantly, whereas rural loan negatively affected GDPPPE. That is, while a percentage point increase in both bank branches and loan deposits leads to an increase in output per person employed, an increase in rural loans reduces the output per person employed. This implies that while the first two indices of financial inclusion contribute to inclusive economic growth, rural loan increase did not produce the desired result. Hence, there may be a need to redesign or re-strategize on the delivery of rural loan packages. In all, the model also shows a good fit with about 98% of changes in GDPPPE being accounted for by the variables in the model. The post-estimation tests confirm the absence of serial correlation and heteroscedasticity in the model.

Conclusion and Recommendation

The campaign for sustainable growth and development against the traditional macroeconomic objective of growth and development is gaining more attention, most especially among developing nations, since the launch of the SDGs in 2015. Increasing evidence seems to support financial inclusion as a potent tool, not just for growth, but for inclusive growth. This study, therefore, employed the ARDL methodology on data between 1981 and 2018 to investigate the relationship between financial inclusion and inclusive growth with the hope of establishing the importance of the former to the latter in Nigeria. The bounds test results revealed a short-run relationship between carbon emission and output

per person employed but a long-run relationship between age dependency ratio and the individual's contribution to national output in Nigeria. The ARDL results also showed that the indices of financial inclusion deepen the age dependency ratio but increase the output per person employed, gross national income per capita and CO₂ emission. Flowing from the results obtained, the study infers that easy, cheap and inclusive access to finance would help Nigeria in its drive towards inclusive growth and sustainable development. It therefore recommends that policymakers in Nigeria should explore more financial innovations to provide efficient and effective financial services to its financially excluded citizens. Also, there is a need to redesign and re-strategize on the delivery of some of the financial inclusion packages.

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