



Financial Inclusion: A Panacea for Economic Growth in Nigeria (2004 – 2020): An Empirical Review

**Makwe Emmanuel Uzoma ^{a*}, Oladele Akeeb Olushola ^b
and Ibechiole Onyekachi Chikamnele ^c**

^a Department of Finance and Banking, Faculty of Management Sciences, University of Port Harcourt, Nigeria.

^b Department of Economics, Faculty of Social Sciences, University of Port Harcourt, Nigeria.

^c Department of Banking and Finance, Faculty of Management Sciences, Nnamdi Azikiwe University, Awka, Anambra State, Nigeria.

Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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ABSTRACT

Financial inclusion has been considered as one of the most potent drivers of economic growth in countries across the globe, this is in view of the fact that financial inclusion creates access to financial resources which affords individuals the opportunity to participate in inclusive growth. The purpose of this paper was to provide a conceptual understanding of financial inclusion and the economic growth components, these variables were adequately reviewed and the relationship between both established. Empirical literatures on the subject matter were reviewed and the position of majority of the authors established. An empirical analysis was conducted to ascertain the relationship between financial inclusion and economic growth and the outcome revealed that financial inclusion promotes economic growth in Nigeria. The recommendations of this study includes the following amongst others; government should enact laws that will make financial services/resources readily accessible to those in the rural and remote communities in Nigeria so as to integrate them into the emerging financial order of the Nigerian financial system; Micro finance banks should be encouraged to intensify operations in remote communities as they can serve as intermediaries between the people in the local communities and the deposit money banks dominant in the urban areas.

Keywords: *Financial inclusion; economic growth; credit penetration; deposit money banks; account opening.*

1. INTRODUCTION

Financial development is a basic and inseparable piece of the growth process and has hence gotten impressive consideration lately owing to the advent of the endogenous development theory. Financial inclusion in other word is the utilization of formal monetary service, it is an element of financial development which got a lot of public consideration and research interest in the mid-2000s, because of findings which linked poverty to financial exclusion [1]. Financial inclusion infers that all adult individuals from the society are allowed access to a scope of legitimate financial services, planned based on their necessities and provided at moderate expenses. The ability to own a deposit or transaction account in a bank or from other financial institutions and use this accounts for basic transactions and likewise saving money initiated the advent of formal financial inclusion [2].

Financial inclusion likewise encompasses access to suitable credit from formal financial organizations, notwithstanding the utilization of insurance services that allow individuals to reduce financial risk like fire, flood and other risk covered by insurance [2]. Moreover, by accessing an account through financial inclusion, farmers can save better, resulting in better agrarian yield and domestic expenditure [2]. This specifically is a concern for those individuals who live in the poorest of family in provincial regions. In such manner, financial inclusion diminishes destitution and disparity. Financial inclusion is perceived as “an interaction that marks improvement in quality, quantity, and effectiveness of financial intermediary services” [3] which improves lives, cultivate opportunities and buttress economic advancement. Local reserved funds are advanced through financial inclusion, prompting expanded productive investments in local businesses [3].

Financial inclusion, extensively characterizes general access to an array of financial services at a considerable expense. This incorporates banking services as well as other financial products like insurance and equity products. Financial inclusion is the way toward guaranteeing access to fiscal services and adequate credit where and when required by underprivileged groups, for example, more

vulnerable groups and low procuring groups at a considerable expense. As such, financial inclusion implies the conveyance of banking services and credit at a considerable expense for the vast section of deprived and low earning groups.

As a result of the crucial role which financial services and the financial sector plays in the mobilisation and allocation of funds amid the deficit and surplus economic units, Policy makers, regulators and above all the banking sector have not relented in instituting programmes that will enhance the consciousness of the inclusive growth agenda of government. The major brain behind this strategy is that economies pursuing aggressive financial inclusion tend to realise higher macroeconomic performance than those with lower financial inclusion rating [4].

Consequently, the Nigerian government, the Central Bank and other financial institutions have over the years, instituted and implemented myriad of policies geared toward enhancing financial inclusion within the economy thereby stimulating investment and improving the performance of the economy. Some of the policies and programmes implemented by the Nigerian government and monetary authorities over the years include: rural banking aimed at facilitating banking habits among the predominantly agrarian rural population; the formation of community and microfinance banks, e-banking products, electronic payment system and cashless policy – ATMs, POS, and mobile banking; non-interest banking involving Islamic banking; the National Economic Reconstruction Fund (NERFUND), and FDI. Regardless of the existence of these programmes and policies, the CBN report of 2016 shows that only 58.4% of Nigerians representing 96.4million adults have unrestricted access to financial services.

In 2018, the CBN launched a strategy aimed at reducing the number of adult Nigerians who are financially excluded to 20% by 2020, down from 46.3 percent in 2010. Despite the financial authorities' efforts and results in improving financial services and making them accessible and affordable to the public in order to improve the economy's performance, the real GDP growth rate, which was projected to be 2.3 percent in 2019, fell to -4.3 percent in 2020. The

1.9 percent growth rate in 2019 over 2018 was primarily driven by the transportation, oil, information and communications technology, and household consumption sectors.

Agriculture has suffered as a result of constant flooding and clashes between herders and local farmers. Manufacturing continues to suffer from insufficient financial sector financing [5]. The goal of this study was to review existing empirical literature in order to establish the relationship between financial inclusion and economic growth, as well as to empirically assess the effect of financial inclusion on economic growth in Nigeria. The study will also make recommendations on how to implement financial inclusion policies in Nigeria in order to secure long-term economic growth.

1.1 Objectives of the Study

This study is aimed at finding the impact of financial inclusion on the GDP of Nigeria, 2004 to 2021. Specifically, the study intends to:

- i. Examine the relationship between account openings and the GDP
- ii. Investigate the relationship between the number of branch openings and the GDP
- iii. To examine the relationship between Credit Penetration and GDP in Nigeria.

1.2 Hypotheses

H₀₁: There is no significant relationship between account openings and the GDP

H₀₂: There is no significant relationship between the number of branch openings and the GDP

H₀₃: There is no significant relationship between the credit penetrations and the GDP

2. LITERATURE REVIEW

2.1 Concept of Financial Inclusion

Financial inclusion suggests bringing the whole populace of a nation into the banking realm without segregation; it is one of the great targets of any administration. Banking is probably the most established foundation for aiding payments and deposits; presently, there is a wide exhibit of fiscal services from savings account to investment products. Irrespective of over 60 years of independence in Nigeria, there are

tremendous areas of the general public that are at disadvantage. They either are unconscious or oblivious of accessibility of formal system of addressing financial necessities. Toward one side, there is a section of the populace who have multiple account or investment account and or current account in various banks. At the opposite end are scores of individuals who do not have any access to the most essential facility of opening an account. There are many who use banking just for withdrawal and cash deposits.

Financial inclusion is a means of ensuring that deprived groups, such as more vulnerable sections and low-income sectors, have access to fiscal services and adequate credit when and where they need it, at a significant cost. Simply put, financial inclusion entails the provision of banking services and credit at a significant cost to the larger society of deprived and low-income groups. It is critical to note that there is no universally accepted definition of financial inclusion. Because estimating inclusion is difficult, financial inclusion is mostly defined in terms of exclusion from the financial system. Financial inclusion might be characterized as the way toward guaranteeing access to fiscal services and opportune and satisfactory credit where required by weaker sectors and low earning individuals at a moderate cost" [6].

Financial inclusion, extensively defined, alludes to widespread access to a wide scope of fiscal services at a considerable expense. These incorporate financial products likewise other fiscal services like insurance and equity products [7]. Inclusion alone is a diverse idea with various nuanced component, all or some of which might be applicable to a particular nation's plan. Underneath we offer instances of four ordinarily utilized focal points through which financial inclusion can be characterized, arranged by intricacy:

Access: This component is concerned essentially with the capacity to utilize accessible fiscal services and product from formal organizations. Understanding degrees of access may accordingly require knowledge and examination of expected hindrances to opening and utilizing a ledger for any reason, for example, cost and actual closeness of bank service point (branches, ATMs, and so on).

Quality: As a ratio of the pertinence of the financial service or product to the way of life of the customer, quality incorporates the experience

of the customer, shown in perspectives and feelings towards those products that are right now accessible to them. The proportion of quality would hence be utilized to measure the nature and profundity of the connection amid the financial service provider and the consumer just as the choices available and their degrees of comprehension of those decisions and their outcomes.

Usage: Concerned with more than essential reception of banking services, usage zeros in on the perpetuity and profundity of fiscal service/product use. All in all, determining usage requires more insights regarding the routineness, recurrence and duration of utilization over the long run. Usage additionally includes estimating what blend of monetary products is utilized by an individual or family.

Financial inclusion is thus, an interaction that guarantees the straightforward entry, accessibility and use of the formal financial system for all individuals within an economy [8]. This definition underlines various components of financial inclusion, viz., openness, accessibility and use of the financial system which helps with building comprehensive financial system [9,10].

Inferable from troubles in accessing formal sources of credit, poor people and SMEs ordinarily depend on their own reserve funds and internal sources or take alternative to informal sources of funds to put resources into health, education, housing and entrepreneurial activities. The standard financial establishments like banks have a significant task to carry out in defeating this limitation, not as a social commitment, but rather as a business recommendation.

The Central Bank of Nigeria [11] in its public financial inclusion strategy clarified that "financial inclusion could be acknowledged when all adult residents have limitless and free access to an array of formal fiscal services that address their issues at realistic expenses". The CBN's fiscal services include, but are not limited to, payments, investment funds, credit, insurance, annuities, and capital market products. The following are the key components of this definition:

- i. The need for fiscal products should be made as simple as possible in order to bring such services within easy reach of all segments of the population.
- ii. Services should be sufficiently broad to allow access, choice, and utilisation, and

explicitly include, but are not limited to, payments, savings, credit, insurance, pension, and collective investment products.

- iii. Financial products should be designed to address customer concerns, taking into account wage levels and proximity to customers, and should be distributed through legitimate and appropriate channels.
- iv. Fiscal service prices, such as interest rates and other indirect expenses, should be reasonable even for low-income groups.

It follows therefore that financial inclusion could be acknowledged when all adult Nigerians have free access to a myriad of modern and dependable financial services that live up to their fundamental desires which are made accessible to them at a value they can bear. This definition by the CBN in the National financial inclusion system (NFIS) incorporates: (a) Ease of access to financial products and services (b) Financial products should be within easy reach to all facet of the Nigeria's society and individuals and not just for the elites (c) accessibility of a wide collections of financial products and services (d) Financial inclusion signifies not just personal reach to fiscal services and utilization of wide scope of financial services including, however not restricted to payments, savings, credit, insurance, and annuity products. (e) Financial products should be made based on the requirements of individuals (f) Financial products should be made to fulfill the necessities of customers and should pay due cognisance to their wage levels, just as access to distribution channels. (g) Affordability – Financial administrations should be at an expense that the customer can pay for even at a lower wage level.

2.1.1 Financial inclusion Initiatives in Nigeria

To achieve financial inclusion, the Nigerian government, through the CBN, establishes the National Financial Inclusion Strategy, which aims to achieve the following goals. (i) to clearly define an agenda for increasing access to and use of financial services by 2020; (ii) to ensure that all stakeholders' requirements and opinions are taken into account and their level of involvement is well defined before establishing financial inclusion regulations and policies; and (iii) to spell out a working plan for increasing financial service utilisation from 36.3 percent of the adult population in 2010 to 70 percent by 2020.

By mid-2016, the Central Bank of Nigeria set out on certain projects to improve the execution of the National financial inclusion strategy. Some of these steps are:

- (a) Setting targets on financial inclusion for deposit money banks – Four selected commercial bank banks were directed to set deposit money bank targets in terms of products and channels capable of expediting ease of access to financial services. The number of new accounts opened, loans granted, bank agents mobilized, and bank branches established in selected local government areas were all prioritized in a single year.
- (b) Digitalisation of financial services – To begin, the CBN identified two schemes to accelerate digital financial inclusion in Nigeria. They are as follows: Farmers' E-Wallets and Social Safety Nets
- (c) Technical committee geared toward enhancing financial inclusion were also set up at the state level
- (d) Review of mobile money regulation – This was reorganised with the goal of encouraging the use of mobile money. The Super-Agent framework, the issuance of shared agent network regulation, and new mobile money services guidelines are all part of the reorganisation.

2.2 Concept of Economic Growth

Economic development as indicated by Todaro and Smith [12] implies the consistent cycle through which the productive ability of the economy is expanded in the long haul to encourage an ascent in the national output and income. Financial development can likewise be characterized as predictable improvement in the different parts of the existence of the whole populace of a country. This improvement as per Kalu [13] show in the more prominent capacity of individuals to tackle their issues. Significant parts of monetary development with respect to Todaro and Smith [14] are as per the following;

- (i) Capital accumulation, which includes a new investments in land, machineries and human resources via health improvements, education and job skills.
- (ii) Populace growth and thus subsequent growth in labour force.

- (iii) Technological progress-new ways of tasks accomplished.

According to Todaro and Smith [14] investing in human resources can improve their quality and thus have the same, if not a stronger, effect on production than increasing human numbers. They also emphasised the importance of formal schooling, vocational and on-the-job training programmes, adult skill enhancement, and other informal education practises in augmenting human capital through direct investment in buildings, machinery, and materials. They also saw population growth and the resulting increase in labour force as a factor that could stimulate economic growth. A larger labour force translates to more productive workers, and a large overall population increases market size. Given the economic system's ability to entice and productively employ a productive labour force.

Also a third component of fiscal growth-Technological progress accordingly results from new and enhanced ways of getting traditional task done such as growing crops, making cloths etc. They highlighted three basic classifications of technological process: natural, labour saving and capital saving. Natural technological progress ensues when higher output levels are realized using the same quantity and combinations of factor inputs. Also the application of computers, automated systems, high speed electrical drills, tractors and mechanical plough can result in labour saving. Thus these are categorized as labour saving technological progress. The indigenous less developed country development of low cost, efficient techniques of production can be categorized as capital saving.

2.3 Empirical Review

Adam Smith's early work in 1776 identified the effects of financial exclusion on economic performance. He emphasised the importance of banks in stimulating fiscal growth and development. It was re-echoed by world leaders during the World Economic Summit in 2005, after several decades. World leaders emphasised the importance of financial inclusion in achieving the Millennium Development Goals during this conference (MDGs). Yaaba [15] concludes that "economists and world leaders alike have recognised financial inclusion as a means of reducing income inequality, reducing the incidence of poverty, and thus enhancing an all-inclusive participation in the development

process" as a result of this development. The following are scholarly empirical studies on financial inclusion.

Calderon and Liu [16] conducted a cross country study to define the connexion amid advance in financial services rendered by the banking sector and fiscal growth. They found bidirectional causation amid improvement in financial services and economic growth. However, the study reports different results for emerging and developed economies. They found that advances in financial services are more growth friendly in developed economies than developing countries.

Christopoulos et al. [17] used a multivariate framework for 10 less industrialized nations over the period 1970 – 2000 to investigate if a long-run nexus exists amid financial development and improvement in the economy. The data was analysed using the panel unit root tests and co-integration analysis in a panel-based Vector Error Correction Model. The result shows a unidirectional causation amid financial development and economic growth.

Onwioduokt [18] conducted research on "the impact of financial sector development on Nigeria's economic performance." He discovered evidence of unidirectional causality between financial sector variables and economic growth, but no evidence of feedback on how financial sector indicators positively affect economic growth.

A country-specific study on "the impact of financial services improvement on economic growth in Nigeria's post-SAP economy" was conducted by Ayadi et al. [19]. Improvements in financial services, according to the study's findings, do not stimulate economic growth.

In his own research on "the provision of financial services and economic prosperity" Subbarao [20] discovered a direct relationship between improved economic wellbeing and improved access to financial services, particularly among the working poor in rural areas, which encourages rural dwellers to save, invest, and access credit facilities.

Uddin et al. [21] used the Autoregressive Distribution Lag (ARDL) approach to investigate "the relationship between financial services provided by banks and poverty alleviation in Bangladesh from 1976 to 2010." Their findings show that improving banking sector activities has

a long-term impact on poverty alleviation. However, a two-way causality between improved banking sector activities and poverty reduction was discovered in the short run. They recommended that the government and financial sector operators improve the financial sector in order to eradicate poverty and improve Bangladesh's economic performance based on their findings.

Babajide et al. conducted a study on "financial inclusion and economic growth in Nigeria" using the Ordinary least squares method. They discovered that financial inclusion is a major factor influencing worker output and productivity, both of which are important determinants of economic growth in a country. Based on the findings, the paper suggests that available national resources be used properly as an alternative measure for growing the Nigerian economy in order to achieve sustainable economic growth.

From 1988 to 2012, Boukhatem [22] used panel analysis to study financial inclusion and poverty reduction in 67 low and middle income countries. In contrast to other studies, this author did not include a growth variable. Increased access to financial services, according to the study's findings, has a positive impact on poverty reduction. This paper's findings sparked a call for policymakers to consider programmes for increasing money supply or bank credit, which contributes to improved welfare for the poor, as well as increasing financial transactions, which lead to opportunities for capital accumulation, income distribution, and stimulating household consumption demand.

In his study on "financial inclusion and economic performance," Sharma [23] discovered a direct relationship between economic performance and access to financial services as measured by banking penetration, availability of banking services, and deposit usage. Sharma's findings validated India's social banking experiments, which have been aided by the growth of banking institutions.

Demirguc-Kunt et al. [24] provided evidence in their study on how the ease of access to affordable financial services encourages people to conduct more daily financial transactions more efficiently and safely, as well as broaden their investment and financial risk management options by utilising the formal financial system. They contended that development is very

common among the poorest 40% of households. They asserted, however, that not all financial products are effective in achieving development objectives such as poverty and inequality eradication.

Kim et al. [25] uses dynamic panel estimation, panel VAR, IRFs, and panel Granger causality tests in their study to discover a relationship between access to financial services provided by banks and economic growth in Organization of Islamic Cooperation (OIC) countries. The study's findings also show that easy access to financial services provided by banks has a positive effect on economic growth, and that the panel Granger causality test results show that ease of access to financial services and economic growth have mutual causalities.

Makina and Walle discover that financial inclusion – defined as adult citizens' access to financial services – has a strong positive effect on economic performance in Africa using dynamic panel estimation and panel VAR on African countries perceived to be very low in financial inclusion rating. Their findings and outcomes highlight efforts to advance the financial inclusion project as one of the most viable strategies for achieving inclusive growth in Africa.

Samuel and Samuel examined the impact of financial inclusion on economic growth in Nigeria from 1990 to 2014 using the ordinary least squares and error correction model. The study discovered that financial penetration measures such as broad money supply, credit to the private sector, rural loan deposit, and commercial bank liquidity ratio have a direct and serious impact on economic performance. In order to achieve the desired results, the study recommends that the government and financial system operators/managers strictly adhere to the rules and regulations governing financial activities. The study also suggests that financial inclusion strategies should be aimed at improving the economy's performance through increased economic activity.

Okonkwo and Nwant used the ordinary least square method of analysis and the granger causality test to conduct a study on financial inclusion and economic growth in Nigeria. According to the findings of their analysis, there is a strong positive relationship between financial inclusion and economic growth in Nigeria.

3. METHODOLOGY

3.1 Research Design

The research design adopted for the study is based on the expo-factor quasi-experimental research design. This design was informed due to the nature of data involved, which is a time series data. The researchers made use this design method in the cause of this study.

3.2 Source of Data

The data used for this study were obtained from the World Development Indicator and Central Bank of Nigeria Statistical Bulletin. More so, the period covered by the study is 1981-2019. It is worthy of mention that there is no economic reason for the choice of period; but the availability of data informed the period covered.

3.3 Model Specification

The functional form of the model is stated below:

$$GDP = f(ACO_t, BRO_t, CRP_t)$$

The econometric estimation form of the functional specification of models 1-3 above are presented as follows:

$$GDP = \beta + \beta_1 ACO + \beta_2 BRO + \beta_3 CRP + \mu$$

The Logged Form:

$$\log GDP = \beta + \beta_1 \log ACO + \beta_2 \log BRO + \beta_3 \log CRP + \mu$$

Where:

GDP = Gross Domestic Product
 ACO = Annual Account Openings
 BRO = Annual Branch Openings
 CRP = Annual Credit Penetration
 u_t = Stochastic Term

A prior expectation = $\beta_1 > 0, \beta_2 > 0, \beta_3 > 0$.

3.4 Data Analysis Technique

3.4.1 Pre-estimation tests

The researcher conducted some pre-estimation tests such as descriptive analysis, tests of stationarity using the Augment Dickey-Fuller

(ADF) method and bounds test for cointegration. These tests were to find out if the data used are suitable for the research work.

While the stationarity tests were conducted to determine the appropriate cointegration test to be used, the cointegration tests are conducted to determine the existence of long run relationship among the time series variables in the model. However, the choice of model estimation technique is premised on both the stationarity and cointegration tests.

3.4.2 Model estimation

For this study, the Error Correction Model (ECM) and Autoregressive Distributive Lag (ARDL) econometric techniques were used. While the ECM is estimated when all of the time series in the model are non-stationary, the ARDL is estimated when the time series in the model have a mixed order of integration. If Y_t and X_t are cointegrated, we can express the relationship between Y_t and X_t with an ECM specification as:

$\Delta Y_t = a_0 + b_1 \Delta X_t - \pi u_{t-1} + e_t$ which will now have the advantage of containing both long-run and short-run data. b_1 in this model is the impact multiplier (the short-run effect) that quantifies the immediate impact of a change in X_t on a change in Y_t . The feedback effect π , or adjustment effect, on the other hand, shows how much of the disequilibrium is being corrected – that is, the extent to which any disequilibrium in the previous period affects any adjustment in Y_t (Neusser, 2016).

The ARDL model is an ordinary least square (OLS) based model that can be applied to both non-stationary and mixed order of integration time series. The chosen ARDL (k) model long run equation is as follows:

$$Y_t = \delta_0 + \sum_{i=1}^k \alpha_1 X_{1t} + \sum_{i=1}^k \alpha_2 X_{2t} + \dots + \sum_{i=1}^k \alpha_n X_{nt} + v_{1t}$$

Where:

$X_s(X_{1t}, X_{2t}, \dots, X_{nt})$ = explanatory or the long run forcing variables

k = number of optimum lag order.

The best performed model provides the estimates of the associated Error Correction Model (ECM).

3.4.3 Post-estimation diagnostic tests

On the estimated model, two key post-estimation residual diagnostic tests were performed. The

serial autocorrelation test and heteroscedasticity are the two. While the serial autocorrelation for the residuals tests for the presence of serial autocorrelation among the independent variables, the heteroscedasticity test will be performed to determine whether the regression variance is constant over time. If the variance is not constant, the standard error will be high, resulting in poor analytical use of the result.

The researcher used the CUSUM test once more to determine the strength of the model. To determine the causal relationships between the variables used, the Granger causality test was also used. The researcher used eviews version 10 to conduct these analysis.

4. RESULTS AND DATA ANALYSIS

The descriptive statistic is an important tool in economic studies because it allows the researcher to quickly determine the type of data they are using. The researcher examined the skewness, kurtosis, and JB of the data set in the table above to determine whether it was normally distributed or not. According to the JB results, the balance of payment and the exchange rate are not normally distributed, whereas other variables are, as evidenced by their respective JB probability ratios (Prob>0.05).

The unit root test results are shown in the table above shows that the variables are stationary at various levels. However, LOGBRO is stationary at levels. The mixture of the variables in the ADF analysis satisfies for the use of ARDL model in the regression analysis.

The authors deduced from the stationarity test results that the order of integration for the variables in the specified model is not the same. The model showed a mixed order of integration. As a result, the model's cointegration test is the ARDL Bounds Cointegration test. This is used to determine whether or not the variables used have a long-term relationship. The test results show that the dependent and independent variables have a long run relationship over the period.

The ARDL has numerous advantages. The main advantage of ARDL, according to Ibukun and Aremo (2017), is its flexibility with small sample studies. Other cointegration methods use various equations to estimate long-run relationships; however, the ARDL uses only one reduced form of equation (Pesaran & Shin, 1995).

The results above present both the long run and short run tests results of the ARDL model. The coefficient of determination, which tests the goodness-of-fit, shows that the independent variables explains the changes in the dependent variable at 71%. The F-test, which tests for the overall significance of the model, is also statistically significant while the speed of adjustment between the shortrun and the longrun is 0.61 (61%) annually.

4.1 Serial Autocorrelation Test

The serial or autocorrelation helps to determine if the variables are serially correlated or not. As the result shows using the Prob of F-stat (0.3275), there is no problem of serial autocorrelation.

4.2 Heteroskedasticity Test

The variance of the model is also constant based on the results of the heteroskedasticity test.

4.3 Granger Causality Test

The pair-wise granger causality test shows the direction of cause between the dependent and the independent variables. This does not necessarily connote a relationship between the variables. As shown above, there is a bidirectional causality between the GDP and CRP, and BRO. However, there is no causality between GDP and ACO over the period.

Table 1. Descriptive Analysis

	LOG_GDP_	LOG_ACO_	LOG_BRO_	LOG_CRP_
Mean	3.924431	12.46488	3.854477	3.896178
Median	3.981549	12.37879	3.815204	3.858538
Maximum	3.101199	12.86190	3.985069	4.018525
Minimum	3.666122	12.20126	3.793352	3.848593
Std. Dev.	0.137826	0.241162	0.065262	0.057048
Skewness	-0.418180	0.448455	0.748228	0.927458
Kurtosis	2.564374	1.564488	2.006427	2.306197
Jarque-Bera	1.562092	4.655858	5.404447	6.373371
Probability	0.057117	0.007497	0.067056	0.041309
Sum	154.7766	486.1304	150.3246	151.9509
Sum Sq. Dev.	0.721853	2.210042	0.161846	0.123670
Observations	18	18	18	18

Table 2. Unit Root: ADF Tests

Test at levels	Variables	P -Value	Order of Integration
	LOGGDP	0.1127	I(1)
	LOGACO	0.9609	I(1)
	LOGBRO	0.0008	I(0)
	LOGCRP	0.6518	I(1)
Test at First Difference	Variables	P-Value	Order of Integration
	LOGACO	0.0238	I(1)
	LOGGDP	0.0052	I(1)
	LOGCRP	0.0062	I(1)

Source: Authors computation using Eviews

Table 3. Bounds Test for Cointegration

F-Bounds Test	Null Hypothesis: No levels relationship			
Test Statistic	Value	Signif.	I(0)	I(1)
			Asymptotic: n=1000	
F-statistic	5.833508	10%	2.75	3.79
K	5	5%	3.12	4.25
		2.5%	3.49	4.67
		1%	3.93	5.23

Source: Authors computation from Eviews

Table 4. ARDL Model Estimation

LONG RUN RESULTS				
Dependent: LOGGDP				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
@TREND	0.016594	0.006962	2.383321	0.0254
LOG_GDP_(-1)*	-0.578051	0.203848	-2.835691	0.0091
LOG_ACO_**	-0.065679	0.128858	-0.509702	0.6149
LOG_BRO_**	5.334369	3.162590	1.686709	0.1046
LOG_EXR_**	-5.834198	3.381586	-1.725285	0.0973

SHORT RUN RESULT				
Dependent: LOGGDP				
Variable	Coefficient	Std. Error	t-	Prob
LOG_ACO_	0.265679	0.128858	2.061797	0.009
LOG_BRO_	1.004369	0.162590	-6.177311	0.000
LOG_CRP_	3.356198	1.381586	2.429257	0.0073
CointEq(-1)*	-0.615251	0.136447	4.236441	0.0003
R-Squared =0.705612	F-Stat = 9.896152	Prob(F-stat) 0.000529	D-W stat=2.191892	

Breusch-Godfrey Serial Correlation LM Test

F-statistic	0.231889	Prob. F(2,22)	0.3275
Obs*R-squared	3.576181	Prob. Chi-Square(2)	0.1226

Source: Author's computation from Eviews

Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistic	5.711465	Prob. F(7,24)	0.6270
Obs*R-squared	23.00632	Prob. Chi-Square(7)	0.3317
Scaled explained SS	32.55961	Prob. Chi-Square(7)	0.1270

Source: Author's computation from Eviews

Pairwise Granger Causality Tests

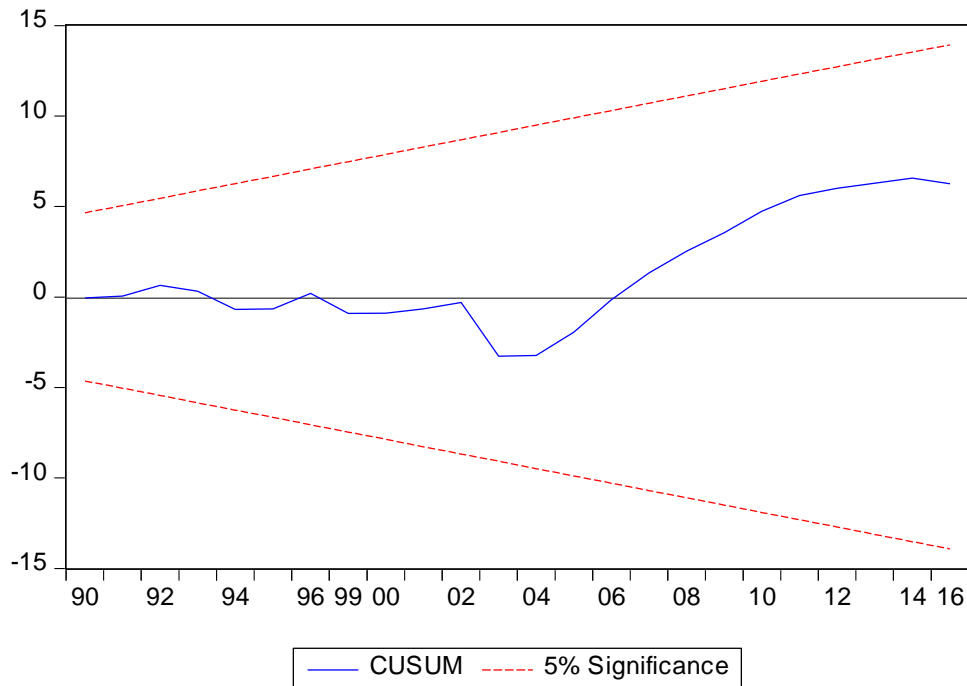
Date: 02/21/22 Time: 19:41

Sample: 2004 2020

Lags: 2

Null Hypothesis:	Obs	F-Statistic	Prob.
LOG_ACO_ does not Granger Cause LOG_GDP_	37	1.08318	0.3506
LOG_GDP_ does not Granger Cause LOG_ACO_		0.83243	0.4442
LOG_BRO_ does not Granger Cause LOG_GDP_	37	1.60697	0.2163
LOG_GDP_ does not Granger Cause LOG_BRO_		54.6364	5.E-11
LOG_CRP_ does not Granger Cause LOG_GDP_	37	1.74407	0.1910
LOG_GDP_ does not Granger Cause LOG_CRP_		54.8089	5.E-11

Source: Author's computation from Eviews



The CUSUM Test shows that the model is well specified

Fig. 1. CUSUM Test

4.4 Tests of Hypotheses

H₀₁: *there is no significant relationship between Account Opening and GDP in Nigeria.*

The results show that, as expected, there is a positive relationship between GDP and ACO. GDP grows by 0.265679 for every unit increase in ACO, and vice versa. According to the t-test, ACO is statistically significant at the 5% level of significance. As a result, we will accept the alternative hypothesis, reject the null hypothesis, and conclude that there is a significant relationship between GDP and ACO over time.

H₀₂: *there is no significant relationship between BRO and GDP in Nigeria.*

Furthermore, the results show that there is a positive relationship between GDP and BRO, which was also predicted a priori. GDP grows by 1.004369 units for every unit increase in BRO, and vice versa. BRO is statistically significant at the 5% level of significance once more. As a result, we will accept the alternative hypothesis, reject the null hypothesis, and conclude that there is a significant relationship between GDP and BRO over time.

H₀₃: *there is no significant relationship between CRP and GDP in Nigeria.*

Furthermore, the results show that GDP and CRP have a positive relationship, as expected a priori. GDP grows by 3.356198 units for every unit increase in CRP, and vice versa. CRP is statistically significant at the 5% level of significance once more. As a result, we will accept the alternative hypothesis, reject the null hypothesis, and conclude that there is a significant relationship between GDP and CRP over time.

4.5 Discussion of the Findings

The results above revealed the extent to which the independent variables influenced the dependent variable over time. Any increase in the independent variables causes an increase in the dependent variable, and vice versa. The findings show that financial inclusion has a positive impact on the country's economic growth. When the poorest parts of the country are financially included, there is greater mobilisation of funds, an increase in investment funds (or loanable funds), and improved economic growth and development. The results above agree with the work of Calderon and Liu (2002), who conducted a cross country study to define the connection amid advances in financial services rendered by the banking sector and fiscal growth. They found bidirectional causation amid improvement in financial services and

economic growth. However, the study reports different results for emerging and developed economies. They found that advances in financial services are more growth friendly in developed economies than developing countries.

Again, Subbarao (2009) discovered a direct relationship between improved economic wellbeing and improved access to financial services, specifically among the working poor in rural areas, which encourages rural dwellers to save, invest, and access credit facilities in his own investigation on "the provision of financial services and economic prosperity." This is also consistent with the findings of this study.

Ayadi et al. (2008), on the other hand, conducted a country-specific study on "the impact of financial services improvement on economic growth in Nigeria's post-Structural Adjustment Programme (SAP) economy." According to the study's findings, improvements in financial services do not stimulate economic growth.

5. CONCLUSION AND RECOMMENDATIONS

Consequent on the review of empirical literatures and the evaluation of the stand point of majority of the authors as well as the results from the study, it is consequential to declare here that financial inclusion is an instrumental tool in the drive for sustainable economic growth by any country, this is informed by majority support for the claim that financial inclusion is a driver of economy growth, especially in the developing countries of the world. And for Nigeria, financial inclusion if properly articulated and operationalized, can effectively integrate the presently excluded rural dwellers that are not often captured within the financial superstructure framework of the Nigerian financial system and as such extent the scope of the country's populace that are susceptible to the supply and use of financial services in Nigeria.

In view of the above therefore, the authors recommends thus;

- (i) Government should enact laws that will make financial services/resources readily accessible to those in the rural and remote communities in Nigeria so as to integrate them into the emerging financial order of the Nigerian financial system.

- (ii) Micro finance banks should be encouraged to intensify operations in remote communities as they can serve as intermediaries amid the people in the local communities and the deposit money banks dominant in the urban areas.
- (iii) Rural bank branches should be encouraged to grant loans to private businesses, small scale enterprises and indigenous farmers so as to further promote the much desired economic growth in Nigeria.
- (iv) The monetary authorities should map out modalities geared at continuously sensitizing and orientating the entire populace on the benefit of financial inclusiveness to the general economy of the country.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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