IJAAR PUBLISHING®

Journal of Global Interdependence and Economic Sustainability | ISSN: **2955-0815**
Vol. 2, Issue 6 (June, 2023) | www.ijaar.org/jgies

FINANCIAL INCLUSION: AN EMPIRICAL STUDY ON NIGERIA ECONOMIC DEVELOPMENT

Ukoh, Josephine Ekperechukwu (PhD)
Department of Banking and Finance
Nnamdi Azikiwe University, Awka
Mail: je.ukoh@unizik.edu.ng

Abstract

This study examined financial inclusion on economic development in Nigeria. From various empirical works reviewed, there is still an insufficient all-inclusive financial system to address the ongoing challenges facing the Nigerian economy which has hindered the promotion of greater inclusion and prosperity for all Nigerians. The study therefore, examines the relationship between money supply and value of ATM/POS transactions and economic development in Nigeria. The study was anchored on Financial Intermediation theory and Great Spurt theory. The study used data obtained from Central Bank of Nigeria (CBN) and World Bank Indicator and subjected them to Auto Regressive Conditional Heteroskedasticity (ARCH) technique to test the interaction between independent variables; money supply and value of ATM/POS transactions with the dependent variable namely Human Development Index at 5% level of significance. The findings showed that Money Supply significantly explained the variation in Human Development Index in Nigeria and values of ATM/POS transactions have no significant effect or variation in Human Development Index within the period under review in Nigeria. Thus, the study concluded that financial inclusion had mixed effect on economic development in Nigeria. Hence, the study recommended among others that the government should ensure that the credit to the private sector should be channeled such that urban areas who are more of agricultural production and major instigator of industrial materials will help speed up swift economic development in Nigeria.

Keywords: Money supply, ATM/POS transactions and Economic development

Published *6/21/23*
Ukoh, J.E. (2023). Financial Inclusion: An Empirical Study on Nigeria Economic Development. *Journal of Global Interdependence and Economic Sustainability*, 2(6), 1-13.

INTRODUCTION

Economic development is the process by which a country or region experiences sustainable and inclusive economic growth that increases the wealth and well-being of its citizens. Economic development typically involves many factors, including improvements in infrastructure, growth in productivity and innovation, access to education, and the development of a stable and dynamic business environment. Economic development is an important goal for countries and regions of the world, as it is often considered a key factor in human progress and well-being. A strong and growing economy can help reduce poverty, increase access to education and health care, and create new opportunities for success for individuals and businesses. Economic development is not always a direct process, but can be influenced by many internal and external factors. For example, political instability, natural disasters or global economic trends can all affect economic development, making it difficult and often challenging. Sanusi (2011) stated that the financial system plays a catalytic role in the economic development of countries; It also plays a key role in consolidating savings and channeling them to careful use, helping in the organization of money management and forming the basis of systematic liquidity management. It has been argued in the literature that the financial system helps connect different economic sectors with high specialization, expertise, economies of scale and perspective environment for the implementation of multiple government policies (Sanusi, 2011). So it is strictly a function of the wider financial system.

With Igan (2008) in Nigeria, the formal financial system provides services to approximately 35% of the economically active population of Nigerian citizens, while the remaining 65% are excluded from the financial services offered by the formal financial system. The global drive for financial inclusion as a tool for economic development has a positive impact on emerging economies (Wikipedia, 2022). Specifically, the number of Nigerian adults with access to payment services increased from 21.6 percent in 2010 to 70 percent in 2020, while the number of adults with savings increased from 24 percent to 60 percent and credit from 2% to 40%, insurance from 1% to 40% and pensions from 5% to 40% in the same period. Efforts were also made to improve the transmission channels of financial services mentioned above: the number of deposit bank branches increased from 6.8 units per 100,000 adults in 2010 to 7.6 units per 100,000 adults in 2020, and the number of microcredit bank branches increased from 2.9 units up to 5.5 units; ATMs from 11.8 units to 203.6 units, POS from 13.3 units to 850 units from 2010 to 2020 (CBN, 2010). Various financial inclusion initiatives have been undertaken in Nigeria, such as the launch of mobile banking services, the creation of a national identity system and the expansion of microcredit services. However, despite these efforts, the country still faces major challenges in promoting financial inclusion, including low financial literacy, lack of financial services in rural areas and high levels of poverty, thus the role of financial inclusion in promoting economic development in Nigeria cannot be overrated. By increasing access to financial services, reducing poverty and promoting long-term planning, financial inclusion can play a critical role in ensuring a country's economic growth and stability. Thus, the purpose of this study is to find out the effect of financial inclusion on the economic development of Nigeria. Financial inclusion has become a critical issue in Nigeria as a significant segment of the population is excluded from access to financial services. This marginalization prevents individuals and small businesses from fully participating in the economy, thus hindering economic growth and development. The problem of economic exclusion is particularly acute in rural areas, where lack of access to banking services and limited financial literacy are significant barriers to financial inclusion. Despite various efforts to increase financial inclusion in Nigeria, a significant portion of the population remains economically excluded, and the impact of financial inclusion on the country's economic development remains unclear. The Central Bank of Nigeria (CBN) has worked to promote financial inclusion in the country by setting targets for financial

institutions to provide financial services to the previously excluded population, but despite the progress made over the years, there are still challenges that need to be addressed by a comprehensive financial system. A section of the Nigerian population is still illiterate and therefore does not know how to access the formal financial services available to them or is simply ignorant. Internet access is also a problem in some areas, as some remote villages in Nigeria do not have access to the Internet, so they cannot fully access the formal financial services offered through financial inclusion. The dominant problem is the problem of online fraud, which has created skepticism about the continued use of financial inclusion services, because users are skeptical, do not want their money stolen and do not want to be defrauded, so they abandon existing financial products and services (especially the parent generation). Financial inclusion has initiated a heated debate among scholars on its importance in nation building (Mabutho, 2015). After the Nigerian civil war, the government sought an approach to rebuild the country's economy and put the economy on the path of growth and development. Although progress has been made, much remains to be done to address the ongoing challenges facing Nigeria to promote greater inclusion and well-being of all Nigerians.

Lack of infrastructure, inadequate regulation and limited competition in the financial sector also exacerbate economic exclusion in Nigeria. This results in poor access to financial services as only a small proportion of the population has access to formal financial institutions. This situation significantly affects the opportunities of private individuals and small businesses to access credit, savings and insurance services that are critical for economic growth and development.

Evidence from different literatures shows that there are different views on the concept of financial inclusion. Most of the studies on financial inclusion have focused on access and availability of quality financial services through improved infrastructure aimed at poverty alleviation without considering some important factors affecting financial inclusion. As such, in addition to previous indicators of financial inclusion by other researchers, this study also focused on the impact of financial inclusion on the Nigerian economy by identifying influential factors such as financial intermediation, especially DMB activities because it enables banks to effectively mobilize small cash register from surplus sectors and channeling them into productive sectors, which improves the deepening of financing, reduces the degree of exclusion and thereby accelerates economic development.

Thus, the purpose of this study is to review and contribute to financial inclusion and economic development in Nigeria by providing empirical evidence on the relationship between financial inclusion and economic development in Nigeria. Specifically, the study sought to;

1. Evaluate the impact of Money supply on human Development Index in Nigeria
2. Investigate the impact of the value of Automated teller Machines (ATMs) and POS transactions on human Development Index in Nigeria.

REVIEW OF RELATED LITERATURE

Concept of financial inclusion

CBN (2013) sees financial inclusion as providing access to hundreds of millions of men and women (worldwide) who are currently excluded from financial services and providing an opportunity to establish a large deposit of savings and mutual funds, investments and other funds activities. Financial inclusion is defined as a process or situation that enables members of an economy to easily access or use formal financial systems. It describes a process where

all households have no difficulties opening a bank account; Can you afford credit; and can comfortably, easily and consistently use the products and options of the financial system without difficulty. It is a process that ensures that the money received by the person is maximized; output is in control and can make informed choices about accessing basic financial services (PCC Financial Inclusion Strategy, 2009). The World Bank (2014) defined financial inclusion as the proportion of individuals and businesses using financial services, while the Asian Development Bank (2015) defined it as easy access to affordable financial services by households and businesses. Atkinson and Messy (2013) defined it as the process of promoting affordable, timely and adequate access to a range of regulated financial products and services and expanding their use across all segments of society by adapting existing and innovative approaches, including financial literacy and education to promote economic well-being and economic and social inclusion. The Center for Economic Inclusion (2013) sees financial inclusion as a contribution whereby all people who take advantage of financial opportunities have access to quality financial services at an affordable price, at customer fit and value. Financial inclusion aims to connect people with banks for indirect benefits. The ability of the poor to access simple, affordable and secure financial services is a prerequisite for the acceleration of inclusive economic growth (Serrao, 2013). Poverty is usually synonymous with or related to financial exclusion, when people are directly or indirectly excluded from formal financial services. As a result of this financial exclusion, people have the opportunity to become informal financiers.

Sinclair (2009) summarized that financial inclusion is a state where all people have access to banking and insurance services and financial literacy and capacity. It is also defined as the state of a financial system where every member of society has access to appropriate financial products and services to manage their resources effectively and efficiently; obtain the necessary funds to finance your business; and financial leverage to take advantage of opportunities that lead to an increase in their income (Chima, 2011). In addition, there are several definitions of financial inclusion that focus on the extent of an individual's participation in banking. Sometimes it may be necessary to emphasize that financial inclusion involves more than just the banker-customer relationship. The Center for Financial Inclusion offers a fairly comprehensive definition. The Center defines financial inclusion as “a state where everyone who has access to them has a full range of quality financial services offered at affordable prices, convenience and value for customers. It is a country where financial services are provided by many providers, most of them in the private sector, and reach all that have access to them, including the poor, the disabled, rural groups and other marginalized populations (Center for Financial Inclusion, 2010). The growing importance of financial inclusion as a catalyst for economic growth and development is well documented in the literature. Financial inclusion is now widely seen as a right of all citizens to social inclusion, a better quality of life, and a tool that strengthens the economic capacity and capability of the country's poor (Banco Central do Brazil, 2010). Therefore, decision-makers considered financial inclusion as a basic opportunity for all citizens and emphasized not to reject it and also not to compete with it. Considering that financial inclusion meets these two criteria, Mehrotra et al (2009) concluded that although the level of "public" "financial inclusion" may differ from a typical public good such as defense, there should be no doubt that financial inclusion meets both criteria, characteristics of public good and thus can be considered "public good".

In theory, better storage facilities increase the ability of financial intermediaries to mobilize savings, while better access to finance promotes economic development by increasing the ability of households to make productive investments (Andrianaivo and Kpodar, 2011).

Chong and Chan (2010) further argued that access to a well-functioning financial system creates a level playing field, enabling socially and economically marginalized people to integrate into the economy and actively participate in economic development. This ensures that the financial system fulfills its role of inclusive economic growth, which is one of the biggest challenges for emerging and developing economies.

Financial Inclusion and Economic Development

As mentioned earlier, financial inclusion means providing affordable formal financial services to all individuals and businesses, while economic development means development that meets the needs of today without compromising the ability of future generations to meet their own needs. Economic development has three broad dimensions, namely economic dimension, environmental dimension and social dimension (Alaimo et al, 2021). The financial dimension of economic development is related to financial inclusion, because providers of formal financial services, such as financial institutions, can reach unbanked adults in the community, bring them into the formal financial sector through account management systems, provide low-cost financial services and provide them with various services that improve their financial participation in society. This not only improves the well-being of banked adults, but also increases the profitability of financial institutions and promotes job creation and economic growth. The social dimension of sustainability is also related to financial inclusion, because formal financial service providers must treat adults living in the bank with care, respect and treat them fairly, valuing basic financial products and services fairly, avoiding discrimination in serving bank customers and serving the bank clients with unusual financial needs. Another way to look at the relationship between financial inclusion and economic development is from a political perspective. Policy initiatives to achieve financial inclusion are mostly channeled through financial institutions that are part of existing economic and social systems. Financial inclusion and economic development are linked. Examples of economic inclusion policy measures that can be linked to the economic dimension of economic development;

(i) issuance of new licenses to microfinance institutions to operate in remote areas to reach unbanked adults, and

(ii) regulatory approvals to expand the bank's branch network to reach a greater number of unbanked adults in specific locations.

These two policies can increase employment and improve access to finance. Examples of economic inclusive policy initiatives that could be considered benefits of the social dimension of economic development include the following;

i) regulatory measures to reduce the high cost of banking services and

(ii) Issuing regulations requiring financial institutions to employ people in the community in which they operate.

Placing financial inclusion at the intersection of the economic and social dimensions of economic development means that economic and social aspects must be considered in economic inclusion activities. Financial institutions that provide financial services can put social considerations ahead of profits when serving bank customers and reaching unbanked adults. This can make financial services more meaningful for members of society; it can increase social trust in financial institutions and align financial inclusion goals with economic development goals. The interdependence of financial inclusion and economic development must be fully recognized. Such recognition can lead to policies and initiatives that recognize the role of financial inclusion in the economic development agenda. It is well known that financial inclusion plays a vital role in economic development. Indeed, many studies have

linked high financial inclusion to high economic development (Adeola and Evans, 2017; Allen et al, 2014; Alter and Yontcheva, 2015). The growing interest in financial inclusion and economic development worldwide shows that knowledge about financial inclusion and economic development is important not only because it can reduce poverty and save resources, but also because of its socio-economic and financial benefits. Development scientists must lead the development of a research agenda that considers the interaction of financial inclusion and economic development in improving the world.

Financial Exclusion, Economic Development, and Poverty Eradication

Economic development is the goal of economic inclusion, which includes political, economic and social inclusion (Nalin and Mariappan, 2012). Excluding a person or a group of people from these three dimensions of inclusion leads to economic exclusion, because economic inclusion requires three dimensions. Where the majority are excluded from the financial system, the gains of economic development do not reach everyone, leading to inequality. Economic exclusion is the direct opposite of economic inclusion. It began as a policy of social exclusion. Only specifically, Sinclair (2011) defines financial exclusion as the inability to access needed financial services in an appropriate form due to availability, terms, prices or negative perceptions due to marketing or sectarian exclusion.

RESEARCH METHODOLOGY

Research Design

Research planning refers to an overall strategy that integrates different areas of research in a consistent and logical manner so that the research problem is addressed effectively. That forms the plan of the collection; measure and analyze the data needed to study the relationships between variables.

This study uses an Ex-Post Facto design, which showed that the study deals with already existing data and the researchers cannot manipulate its results. Kerlinger (1964) defined ex post facto research as research where the independent variable or variables have already occurred and where the researcher begins to observe the dependent variable or variables. Information for this study was obtained mainly from secondary sources; especially from Central Bank of Nigeria (CBN) statistical bulletins, World Bank indicators and other relevant periodicals.

Model Specification and Validity

The study modified the model used by Emmanuel and Grenah (2022) and their model is stated thus;

$HDI_t = a_o + a_1CDB_t + a_2NCBB_t + a_3Gini + a_4INF_t + a_5LRA_t + \mu_t$

However, our model for the study is stated thus

HDI = f(CPS, CBB, M2, ATM/POS)

This can be mathematically expressed as;

$HDI = a_0 + b_1M2 + b_2ATM/POS + e$...i

Where:

HDI= Economic development Variable

M_2, ATM/POS = Financial Inclusion Variables

B0=Constant Term

B_1=Co-efficient of X_1

U= Error term.

HDI= Human Development Index

M_2 = Money supply (X_1)

ATM/POS = Value of ATMs and POS transactions (X_1)

Description of Variables

Money supply: Refers to the total amount of money available in an economy at a given time, which includes physical currency, bank deposits, and other liquid assets that are used as a medium of exchange. Central banks and governments often use monetary policy tools to control the money supply in order to achieve specific economic goals such as price stability and full employment.

Number of Automated Teller Machines (ATMs) and Point on sale (POS) devices: Refers to the electronic devices used by banks and merchants to process transactions and provide access to cash and other financial services. ATMs allow customers to withdraw cash, transfer funds, and check balances, while POS devices are used by merchants to process credit and debit card transactions.

Financial inclusion: Refers to the availability and accessibility of financial services for all individuals, including those who are unbanked or under banked. This includes access to basic financial services such as savings, credit, and insurance.

Economic development: Refers to economic growth that is sustained overtime and meets the needs of the present without compromising the ability of future generations to meet their own needs. It involves balancing economic, social, and environmental considerations to ensure long-term prosperity and well-being.

Human Development Index (HDI): A composite statistic of life expectancy, education, and precipitating come indicators, which is used to rank countries into four tiers of human development.

Methods of Data Analysis

The study adopted the analytical method of Data Analysis. The tool used multiple regression technique. The econometric view statistical software version 12.0 was used in testing the hypotheses. The regression analysis was employed to decide whether or not financial inclusion had a significant impact on the economic development in Nigeria. These included the Z-statistics, the Co-efficient of Determination (R2) and adjusted R2, and also the F-test.
The evaluation of estimates deals with how the study interpreted the results of the analysis in the study. Basically, the co-efficient (R2) is gotten from the relation below:
Where:
r= Co-efficient of correlation
n= no of time period
X= Value of the Independent Variable
Y= Values of the economic development measures.

The ‘r’ shows the pattern of the relationship between economic growth and financial inclusion variable. A positive ‘r’ shows a negative or an inverse relationship between economic growth and financial inclusion. A relationship (Z Significance) below 0.005 shows significance, while above 0.05 shows insignificance. The co-efficient of determination ‘R2’ is shown as ‘r2’ multiplied by 100. This reveals the percentage change in one variable as a result of a percentage change in another variable. Therefore, the co-efficient of determination indicates the extent of the instability in each of the major economic development measures.

ANALYSIS OF DATA

Descriptive Statistics and Test for Normality

The study will do descriptive statistics using the Jarque-Bera Normality test, which requires that for a series to be normally distributed; the histogram should be bell-shaped and the Jarque-Bera statistics would not be significant. This implies that the p-value given at the bottom of the normality test table should be greater than the chosen level of significance to accept the Null hypothesis, that the series is normally distributed (Brooks, 2014).

Table 1: Descriptive Statistics

	M2_M3	ATMPOS	HDI
Mean	18966.10	2331216.	0.508118
Median	18743.07	2410159.	0.519000
Maximum	40318.29	5394222.	0.539000
Minimum	2637.913	-4.180000	0.465000
Std. Dev.	11778.23	1696771.	0.025850
Skewness	0.292873	0.168170	-0.258535
Kurtosis	1.917140	1.970647	1.503825
Jarque-Bera	1.073609	0.830657	1.775012
Probability	0.584613	0.660123	0.411681
Sum	322423.7	39630665	8.638000
Sum Sq. Dev.	2.22E+09	4.61E+13	0.010692
Observations	17	17	17

Source: Computation by author using E-view 12.0

From table 1, the aggregative averages like mean, median and mode for all the observations maintain high averages. The spread and variations in the series are also indicated using the standard deviation which is minimal. Significantly, kurtosis which shows the degree of peakedness is also shown together with the skewness which is a reflection of the degree of or departure from symmetry of the given series. With all the variables showing an average kurtosis less than 3, there is evidence that they are all leptokurtic with all the variables showing Jarque-Bera statistics of p-values in above the 5% level of significance.

Diagnostic Tests

This study embarked on diagnostic tests to ensure that our data and model used in this research work conform to the basic assumptions of the classical linear regression which will ensure that the output of this process is not error-prone and is reliable.

Test for Stationarity

The stationarity test requires that the variables in the series model must be stationary at a given level and the p-value must be significant at that level. Stationarity is attained where the test statistics are most negative and greater than the critical value of the chosen level of significance.

Table 2: Unit Root Tests for Nigeria Data

Var	ADF Test	C. Values @5%	P-value	Order of Integration
LPS	-3.526705	-3.081002	0.0223	I(1)
CBB	-2.589424	-1.966270	0.0135	I(1)
M2_M3	-4.397157	-3.081002	0.0045	I(1)
ATM/POS	-4.761859	-3.081002	0.0023	I(1)
HDI	-4.392886	-3.098896	0.0050	I(2)

Source: Author's E-view 12.0 Computation

The summarized unit root test from table 4.3 reports display the tests for stationarity properties of the series following the Augmented Dickey Fuller (ADF) statistics. All the variables were found to be stationery at order one (1) except HDI which was stationary at second difference. At both first difference and second difference as reported, the ADF Statistics for all the respective variables were all negative as the critical values at 5% significance level. The reported P-values were all less than 0.05 chosen level of significance for which cause, the Null Hypothesis of the presence of unit root in all the variables is convincingly rejected.

Test of Hypotheses

Hypothesis one

Ho_1: Money supply has no significant impact on Human Development Index in Nigeria.

H_2: Money supply has a significant impact on Human Development Index in Nigeria.

Table 3: ARCH Regression Result – Model 1

Dependent Variable: HDI
Method: ML ARCH - Normal distribution (BFGS / Marquardt steps)
Date: 04/21/23 Time: 11:55
Sample: 2005 2021
Included observations: 17
Failure to improve likelihood (non-zero gradients) after 13 iterations
Coefficient covariance computed using outer product of gradients
Presample variance: backcast (parameter = 0.7)
GARCH = C(5) + C(6)*RESID(-1)^2 + C(7)*GARCH(-1)

Variable	Coefficient	Std. Error	z-Statistic	Prob.
LPS	-3.20E-05	2.24E-05	-1.431070	0.1524
CBB	0.072969	0.006134	11.89563	0.0000
M2_M3	**3.92E-05**	**1.86E-05**	**2.101407**	**0.0356**
ATMPOS	-5.59E-08	5.13E-08	-1.088375	0.2764

Source: Computation by author using E-view 12.0

The individual effect of M2_M3 on economic development through the Human Development Index (HDI) showed a z-statistic of 2.101407 with a probability value of 0.0356, which is significant at the 5% significance level. This is due to the p-value of 0.0356, which is less than the significance level of 0.05. Therefore, confirming that money supply has a significant impact on economic development and an increase in money supply leads to a positive increase in economic development in Nigeria, which improves by 0.0000392%. Thus, the null hypothesis that money supply does not significantly affect human development in Nigeria is rejected, although the alternative hypothesis is accepted.

Hypothesis two

H_2: Value of ATM/POS transactions has no significant impact on Human Development Index in Nigeria.

H_2: Value of ATM/POS transactions has a significant impact on Human Development Index in Nigeria.

Table 4: ARCH Regression Result – Model 2

Dependent Variable: HDI
Method: ML ARCH - Normal distribution (BFGS / Marquardt steps)
Date: 04/21/23 Time: 11:55
Sample: 2005 2021
Included observations: 17
Failure to improve likelihood (non-zero gradients) after 13 iterations
Coefficient covariance computed using outer product of gradients
Presample variance: backcast (parameter = 0.7)
GARCH = C(5) + C(6)*RESID(-1)^2 + C(7)*GARCH(-1)

Variable	Coefficient	Std. Error	z-Statistic	Prob.
LPS	-3.20E-05	2.24E-05	-1.431070	0.1524
CBB	0.072969	0.006134	11.89563	0.0000
M2_M3	3.92E-05	1.86E-05	2.101407	0.0356
ATMPOS	**-5.59E-08**	**5.13E-08**	**-1.088375**	**0.2764**

Source: Computation by author using E-view 12.0

The result from the individual effect of ATMPOS transactions on economic development proxy by Human Development Index (HDI) showed z-statistics of -1.088375 with probability value of 0.2764 which is not significant at 5% significance level. This is due to the p-value of 0.2764 which is greater than the 0.05 level of significance. Thus, affirming that the value of ATM/POS transactions within Nigeria does not affect economic development significantly and an increase in the value of ATM/POS transactions will cause a negative decrease on the Nigerian economic development to improve by 0.0000000559%. Hence, the null hypothesis that the value of ATM/POS transactions has no significant impact on Human Development Index in Nigeria is accepted while rejecting the alternative hypothesis.

Discussion of Findings

Hypothesis One

The result of the ARCH regression analysis revealed that Money supply affect economic development significantly and an increase in the supply of money will cause a positive increase on the Nigerian economic development to improve by 0.0000392%. This showed that an increase in Money supply had positive effect on human development index in Nigeria. The result of this study is supported by the findings of Samuel (2018) that financial inclusion has a positive and significant impact on economic development. Okonkwo and Nwanna (2021) further stressed the positive relationship between financial inclusion and economic development. Another supporting literature is the work of Mohammed (2022) who also affirmed that there is a strong and positive relationship between financial inclusion and economic development. This result accepts our theory, the financial intermediation theory and great spurt theory on financial inclusion, affirming that Money supply within Nigeria affect economic development significantly and an increase in the supply of money will cause a positive increase on the Nigerian economic development to improve by 0.0000392%. Our apriori expectations of a positive effect are accepted.

Hypothesis Two

The result of the ARCH regression analysis revealed that the value of ATM/POS transactions within Nigeria does not affect economic development significantly and an increase in value of ATM/POS transactions will cause a negative decrease on the Nigerian economic development to improve by 0.0000000559%. This showed that an increase in value of ATM/POS transactions had negative effect on human development index in Nigeria. The result of this study is contradicted by the findings of Nwisienyi and Onyeka (2020) who discovered that the impact of the value of ATM/POS transactions have a positive impact on

economic development in Nigeria. Noah and Viktor (2019) further stressed the position of the findings when they discovered that ATM has significant relationship with economic growth in Nigeria. Thus, affirming that ATM/POS values had insignificant effect on economic development while other findings prove ATM/POS to have significant effect on economic growth in Nigeria.

The implication of this result is that money supply had over time been effective and has positively affected economic development in Nigeria. Also the result implies that the value of ATM/POS transactions had over time been ineffective and negatively affected economic development in Nigeria.

CONCLUSION

This study examined the impact of financial inclusion on economic development in Nigeria from 2005 to 2021 and the study is based on the theory of financial inclusion and the big splash theory. The study looked at various empirical works in the literature, looked at different viewpoints and decided to examine the impact of financial inclusion on economic development in Nigeria. Financial inclusion is essential to achieve overall economic development and requires the inclusion of banks and access to financial activities and financial support in unconquered urban areas. The financial institution has succeeded in achieving financial inclusion by integrating its services into technological innovations that facilitate service delivery and accelerate the overall growth and efficiency of services. The study looked at economic development based on the Human Development Index (HDI) and examined their possible responses to the components of financial inclusion Credit to the private sector, number of bank branches per 100,000 adults, money supply and the value of ATM and cash transactions in Nigeria. To confirm the effect of financial inclusion on the economic development of Nigeria and improve the existing literature, the study used a robust analytical tool in the autoregressive conditional heteroscedasticity (ARCH) model in time series studies. Thus, the broader objective of the study is to examine the impact of financial inclusion on economic development in Nigeria. Based on the analysis in chapter four, our study results showed that financial inclusion in the private sector and ATM/POS credit had both negative and insignificant effects on economic development (HDI) (showing no relationship), but showed that the number of bank branches per 100,000 adults (CBB) and money supply (M2) had a significant positive impact on Nigeria's economic development. In summary, based on the results of our study, we confirm that financial inclusion has had a differential impact on economic development in Nigeria.

According to the objectives of this study, the following recommendations are made:

1. Regulators must implement policies that encourage financial institutions to continue to provide prompt liquidity in the Nigerian investment environment to ensure availability of funds at all times to promote Nigeria's economic activities and economic development in the long term.
2. Financial institutions must strengthen their financial technology tools at ATMs and points of sale to ensure coverage and value of transactions through the platform. A cashless policy can be of great relief in achieving gross economic development in Nigeria through the improvement of ATMs and points of sale.

REFERENCES

Adeola, O., & Evans, O. (2017). Financial inclusion and economic growth in Africa. African Development Review, 29(2), 163-175.

Alaimo, F., Rosso, A., & Sironi, E. (2021). Financial inclusion and sustainable development: A systematic review. Sustainability, 13(3), 1212.

Allen, F., Demirguc-Kunt, A., Klapper, L., & Martinez Peria, M. S. (2014). The foundations of financial inclusion: Understanding ownership and use of formal accounts. Journal of Financial Intermediation, 23(2), 210-246.

Alter, A., & Yontcheva, B. (2015). Financial inclusion and development in the CEMAC. IMF Working Paper, (15/235), International Monetary Fund.

Andrianaivo, M., & Kpodar, K. (2011). Access to financial services and the performance of small and medium-sized enterprises in Madagascar. IMF Working Paper, 11(268), 1-21.

Andrianaivo, M., & Kpodar, K. (2011). ICT, Financial Inclusion, and Growth: Evidence from African Countries. IMF Working Papers, 11(73). Doi:10.5089/9781455262314.001

Atkinson, A., & Messy, F. (2013). Promoting Financial Inclusion through Financial Education. OECD Working Papers on Finance, Insurance and Private Pensions, (34), OECD Publishing.

Banco Central do Brazil. (2010). Financial Inclusion. Retrieved from http://www.bcb.gov.br/htms/public/microcredito/pdf/Financial%20Inclusion%20Concept%20and%20Challenges.pdf

Central Bank of Nigeria. (2013). National Financial Inclusion Strategy. Retrieved from https://www.cbn.gov.ng/Out/2016/DFD/National%20Financial%20Inclusion%20Strategy.pdf

Centre for Financial Inclusion. (2010). Definition of Financial Inclusion. Retrieved from https://www.centerforfinancialinclusion.org/definition-of-financial-inclusion

Centre for Financial Inclusion. (2013). Definition of Financial Inclusion. Retrieved from https://www.centerforfinancialinclusion.org/definition-of-financial-inclusion

Chima, O. (2011). Financial Inclusion and Inclusive Growth: A Review of Concepts, Issues and Policies. African Development Review, 23(2), 208-223.

Chong, A., & Chan, H. (2010). Financial inclusion: A key factor for sustainable economic growth and poverty reduction. Asian Development Bank Economics Working Paper, 223, 1-21.

Mehrotra, S., Yetman, J., & Schmukler, S. L. (2009). Financial inclusion for development: A cross-country analysis. IMF Working Paper, 09(131), 1-37.

Moghalu, K. C. (2011). Financial Inclusion and Development: Recent Experiences, Emerging Lessons, and Agendas for Future Research. African Development Review, 23(2), 143-163. https://doi.org/10.1111/j.1467-8268.2011.00267.

Onaolapo, A. A. (2015). Financial Inclusion and Economic Development: The Nigerian Experience. Journal of Economics and Sustainable Development, 6(17), 29-36.

PCC Financial Inclusion Strategy. (2009). Financial Inclusion Strategy. Retrieved from https://www.pcc-cic.org.uk/sites/default/files/articles/PCC%20Financial%20Inclusion%20Strategy.pdf

Sanusi, L. S. (2011). Financial inclusion in Nigeria: Issues and challenges. A Paper Presented at the 4th Annual National Conference on Banking and Finance, Lagos, Nigeria.

Sanusi, L. S. (2011). The role of financial institutions in economic development: The Nigerian experience. CBN Journal of Applied Statistics, 2(1), 1-17.

Serrao, A. (2013). Financial Inclusion and Poverty Alleviation: A Review of the Literature. *Journal of Economics and Sustainable Development,* 4(9), 222-228.

Sinclair, M. T. (2011). Financial inclusion: An incomplete revolution. Credit Suisse Research Institute, Zurich, Switzerland.

World Bank. (2012). Financial Inclusion Overview. Retrieved from https://www.worldbank.org/en/topic/financialinclusion/overview

World Bank. (2018). Digital Financial Services for Financial Inclusion. Retrieved from https://www.worldbank.org/en/topic/financialinclusion/brief/digital-financial-services-for-financial-inclusion