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Financial Inclusion and Nigerian Economic Growth: An Empirical Investigation (2001-2021)

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ABSTRACT: *The aim of this study was to determine the impact of financial inclusion on economic growth in Nigeria. the study used an ex-post facto research design and investigated variables such as credit to the private sector (CPS), ATM transactions(ATM), and gross domestic product (GDP) as indicator variables for financial inclusion and economic growth, respectively. The Statistical Bulletin of the Central Bank of Nigeria, provided the annual time series statistics on private credit, ATM usage, and GDP from 2001 – 2021. Using the ordinary least square (OLS) approach, the data were examined. The study established credit to the private sector is positively related to economic growth and is statistically significant, However, ATM transactions have a positive and statistically insignificant relationship with economic growth in Nigeria The study suggests that monetary authorities implement measures to promote and increase the availability of credit to the private sector. r e.g., through reducing interest rates to levels that are conducive to growth objectives as this will favor economic development.*

KEYWORDS: *financial inclusion, economic growth, OLS, Nigeria.*

INTRODUCTION

The general view of financial inclusion has presumed a high level of reputation in recent times as a result of its great import as a determinant of economic growth and development (Sharma, 2016). However, achieving inevitable financial inclusion was the most important task worldwide. By definition, financial inclusion is the provision of financial services at reasonable costs to disadvantaged and poor sections of society, as opposed to financial exclusion, where services are unavailable or cheap (Horgan, Fagge, & Ukeje, 2015). Similar to this Financial inclusion, according to the World Bank (2015), is when individuals and organizations have access to high-quality financial products and instruments that meet their needs for transactions, payments, savings, credit, and insurance. and are provided in an ethical and practical way. Furthermore, Kama and Adigun (2013) stated that globally approximately 54% of adults do not have access to financial services.

According to the World Bank, Two billion individuals do not have access to organized financial services. Therefore, financial inclusion attempts to increase the poor's chances for development by granting them access to fundamental financial services, particularly microcredit. Despite the fact that sophisticated economies like the UK, Sweden, and France have started making explicit legal and political statements of inspired resources (mainly from banks) to ensure continued growth and sustainable financial inclusion; In developing countries like Nigeria, the situation is reversed Therefore, Kama and Adigun (2013) argued that economic exclusion in growing economies is about 70 percent. For example, in Nigeria, CBN (2012) reported that at the end of 2012, there were a total of about 39 million adult Nigerians, which is about 46 percent of the total adult population of 84.7 million were financially excluded this makes the rate of Nigerian adults financially included among the lowest in Africa (Ajakaiye and Olowookere, 2013).

Financial inclusion is achieved when adult Nigerians have simple access to a wide range of formal financial services that satisfy their needs and are offered at a reasonable price, according to the Nigerian Financial Inclusion Strategy (NFIS 2018). The following components are included in this definition: Easy access to financial products and services, wide use of these products and services, and need-based financial product design Even low-income groups should be able to afford financial services. According to Abbas and Atanda (2019), a review of the majority of scholarly submissions reveals that the goal of financial inclusion is to boost economic growth by improving the economic well-being of those at the bottom of the economic pyramid and those who are unbanked by making affordable financial services available to them.

According to the National Financial Inclusion Strategy Report (2012), When consumers of financial goods have access to a wide range of products designed especially for them and offered at competitive costs, inclusive growth is accomplished. Among them are pensions, insurance, payments, credit, and savings In many nations, including Nigeria, an inclusive financial system is now commonly acknowledged as a policy objective. Authorities and the banking industry have not given up on the government's aim for inclusive growth. The major justification for this approach is that nations that pursue aggressive inclusive growth outperform those with lower inclusive growth ratings in terms of economic growth. Accordingly, and over time, A number of initiatives have been implemented by the Nigerian government and monetary authorities to improve financial inclusion in the economy of the nation Community and microfinance banks, electronic banking products, electronic payment systems, and cashless policies have all been developed. - ATMs, POS, and mobile banking - are just a few of these policies and programs. Other ones include non-interest banking using Islamic banking, the National Economic Reconstruction Fund (NERFUND), and the Family Economic Advancement Program (FEAP), etc. Rural banking programs are intended to encourage banking habits among the largely agrarian rural population.

There is broad consensus among economists that there is an undeniable link between financial progress and economic development, making the financial sector a crucial component of economic growth in Nigeria. Over time, emphasis has been placed on this theory. According to Rajan & Zingales (2003), Financial Inclusion creates the circumstances necessary for economic growth from both an empirical and theoretical perspective. Although Nigeria has one of the largest economies in Africa, little attention has been paid to financial inclusion, which only a small portion of the adult population is included. In Nigeria, Enhancing Financial Innovation & Access (EFInA)(2013) conducted a survey that revealed that "approximately 46% of the adult population are not included in the financial sector". Nigeria's Central Bank (CBN) has undergone numerous reforms in an effort to become a key economic driver by 2020. The inability to obtain financial services is mostly caused by poverty and a lack of education. The goal of this study is to attempt and examine how financial inclusion affects economic growth in Nigeria. Other specific objectives are to:

i. Examine the impact of ATM transactions on economic growth in Nigeria.
ii. Asses the impact of credit to the private sector on economic growth in Nigeria.

The following research hypotheses were raised for the study:

HO1: There is no significant relationship between credit to private sector and economic growth in Nigeria

H02: There is no significant relationship between ATM transactions sector and economic growth in Nigeria.

LITERATURE REVIEW

Conceptual review

The relationship between financial inclusion, ATM transactions, credit to the private sector, and economic growth in Nigeria is the main focus of this study.

Financial Inclusion

Financial inclusion, according to CBN (2013), is a process or circumstance that makes it simple for people to access, find, and use formal financial services. It broadens the concept to include not encountering any kind of problem opening a bank account, having affordable access to credit, and regularly enjoying easy use of financial system services and goods. According to Aina S. (2014), financial inclusion is a strategy for discouraging savings, loans, and the holding of cash in the unofficial economy outside of the financial system. Financial inclusion refers to the entire system, programs, and plan that ensures more individuals who have access to formal financial services but do not use them, as well as those who did not, are brought into the formal financial systems to assure their continuous and consistent use of formal financial services over a very long period of time. According to El Said, Emara, and Pearlman (2020), financial inclusion refers to consumers' and enterprises' access to and usage of financial products and services. This is one of the important, if challenging, priorities in Emerging Markets (EMs) and a crucial element for financial development. Financial inclusion is defined by Akhil (2016) as providing financial services to the poor at affordable costs. Economic growth, development, and financial inclusion are all entwined and intertwined. Based on these definitions this study sees financial inclusion as the process of ensuring that regulated, mainstream financial institutions provide the necessary financial products and services for all segments of society, especially the most vulnerable low-income groups, at a price that is fair and transparent. It's crucial to keep in mind that timely access to financial services is necessary. Based on the study the proxies used to measure financial inclusion are:

Credit to private sector: According to Freear (1980), Credit to the private sector refers to financial resources provided to the private sector by financial corporations, such as loans and advances, purchases of non-equity securities, trade credits, and other accounts receivable, which establish a claim for repayment.

ATM Transactions: An automated teller machine (ATM) is a computerized telecommunications equipment that offers customers of a financial institution a safe way to conduct financial transactions in a public setting without the need for a human clerk or bank teller.

ECOG: Economic growth refers to the steady-state process in which the productive capacity of the economy increases over time to lead to an increase in the level of national income. It is usually measured by gross domestic product (GDP). (Schultz 1961) .

Gross Domestic Product (GDP): According to the OECD (2022), the gross domestic product (GDP) is a commonly used indicator of the value added produced via the production of goods and services in a country over a given time period . As a result, it also considers the revenue generated by that production or the final cost of the goods and services. This is a performance indicator for the economy. It speaks of the rate of expansion or contraction of the economy. The real growth rate of productive activity in an economy is the best predictor of economic growth.

Conceptual framework

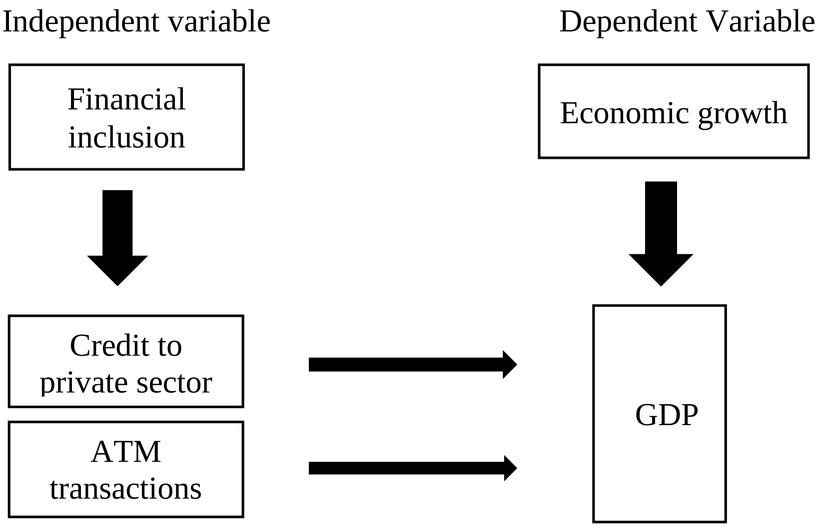

Figure 1: showing the link between financial inclusion and economic growth.
Source: authors

Theoretical review

Different academics have advanced several inclusion-related theories. These theories aim to clarify how the economy is impacted by financial inclusion. According to Felix Ekardt's (1986) Sustainability theory, sustainability is a type of economy and society that can be fixed on a global level and is long-lasting. The assertion can revolutionize society by promoting greater equity between generations and justice from a distance. Sustainability isn't merely the overarching premise that social, economic, and environmental policy should be taken seriously and balanced well. The goal of sustainability theory is to explain how long-term well-being, which includes ecological, economic, political, and cultural elements, may be maintained. For sustainability to be achieved, environmental, social fairness, and especially in the rural areas. The "finance-led growth theory," which Schumpeter invented (1912). He proposed the idea that financial arrangements are crucial in influencing economic growth rates over a long period. This assumption was founded on the notion that an efficient financial sector fills shortfall units with limited resources from surplus (excess) units, hence facilitating the expansion of other economic sectors. This idea is known as the "supply-leading" theory (McKinnon, 1973).

The finance-growth hypothesis is used as the theoretical foundation for this study since it holds that financial development, either through "supply leading" or "demand following," generates a dynamic, productive environment for growth. This theory also acknowledges that a significant cause of ongoing economic inequality and slow growth is a lack of access to finance. Therefore, it is acknowledged that having access to a safe, simple, and affordable source of financing is a prerequisite for accelerating economic development, reducing income inequality, and eradicating poverty. This creates equal opportunities, and enables those who are economically and socially excluded to integrate better into the economy, actively contribute to its growth, and protect themselves from economic shocks. (Serrao, Sequeira, and Hans 2013). Therefore, the main takeaways from this theory about Nigeria are that The CBN's economic policies will support the growth of formal financial institutions including deposit money banks and microfinance banks, which would in turn increase the availability of financial products at affordable costs.. Additionally, the effective availability and usage of financial goods can contribute to the expansion and development of the economy.

Empirical Review

Soyemi et al. (2020) conducted a study in Nigeria on financial inclusion as a means of achieving sustainable development. Time series data on the human development index, the number of bank branches, demand deposits from rural areas, and loans to rural areas between 2001 and 2016 were used in the study. The long-run fully modified least squares result revealed that there is a positive and substantial link between bank branches and the human development index. As a result, over the study period, bank branches were growing, which helped to improve financial inclusion in the nation. Although the short-run error correction model's findings indicated that bank branches have a negative and insignificant connection with the human development index in both lag 1 and lag 2, This indicates that reducing bank branches and spending more on personal healthcare deplete resources that could have been utilized for savings, increasing the rate of financial inclusion in the nation. Additionally, it has contributed to the reduction of poverty and the redistribution of money. Accordingly, the report suggests that the nation's monetary authorities actively integrate rural residents into formal financial inclusion. This can only be accomplished if banks are encouraged to open additional branches in these areas.

Onaolapo (2015), in his study, examined the effects of financial inclusion on the economic growth of Nigeria (1982- 2012 The researchers asserted that data for the study were gathered from secondary sources like the World Bank, the Federal Office of Statistics (FOS), and Statistical Bulletins of the Central Bank of Nigeria (CBN). Some bank metrics, including Branch Network, Loan to Rural Area, Demand Deposit, Liquidity Ratio, Capital Adequacy, and Gross Domestic Product, served as the study's main sources of data. The data was analyzed using ordinary least squares. The overall findings of the regression analysis demonstrate that inclusive bank financial activities had a significant impact on reducing poverty (R2=0.74) but only had a minor impact on national economic growth. Financial intermediation through improved bank branch networks, loans to rural areas, and loans to small-scale enterprises resulted in about 50% relatedness between variables on either side of the equation. Okoye, Adetiloye, et al. (2020) Using time series data from 1986 to 2015, investigated financial inclusion as a cure-all for balanced economic development. Results showed that private sector credit has not considerably impacted gross domestic product, but through rural loan distribution, it has decreased the poverty rate. The study suggested that monetary authorities should tighten the financial institution regulatory framework to ensure effective and efficient resource utilization.

Literature Gap

Studies on the likelihood that an inclusive financial system supports or influences economic growth in Nigeria are rare and have not been thoroughly examined. Previous studies tended to focus solely on financial inclusion, whereas this study examines key variables and introduces new control variables to further break down financial inclusion. This is the driving factor behind this study, which attempts to close the research gap in this area while also complementing previous studies.

METHODOLOGY

In this study, an ex post facto research design was used. The vast majority of secondary data used for analysis in this study came from the statistical bulletin of the Central Bank of Nigeria. The study's primary objective is to assess the relationship between credit provided to the private sector, ATM usage, and economic growth in Nigeria. The annual time series data for the study, which covered the years 2001 through 2021, were mostly derived from the Central Bank of Nigeria statistical bulletin. The data collected for this study were analyzed using The Descriptive statistics Johansen cointegration and the hypotheses were tested using Multiple Regression Model. This study adopts Onaolapo (2015) model on the link between financial inclusion and economic growth in Nigeria. The functional relation of the model is given as ;

ECOG = F (CPS, ATM) ……………….. (1)

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Hence, the econometrical form of the equation is specified as ;

$GDP = \beta_0 + \beta_1 CPS_t + \beta_2 ATM_t + \mu_0$..............(2)
Where:

GDP = Gross domestic product

CPS= Credit to the private sector

ATM = ATM Transactions

$\beta_1 - \beta_3 =$ beta coefficient

β_0 = constant

μ_0 = error term.

RESULTS AND DISCUSSIONS

Descriptive Statistics Results for Model

Before choosing the appropriate econometric tool, the properties of the data must be examined to prevent tool misuse. Table 1 presents the descriptive statistics of the data for the model.

Table 1 Descriptive Statistics Results Test for Model

Descriptive Statistics	GDP	CPS	ATM
Mean	71601.96	12705.75	2591.373
Std. Dev.	50862.94	10141.69	2317.058
Skewness	0.513496	0.385058	0.519096
Kurtosis	3.265910	1.969121	1.848312
Observations	21	21	21

Source: Authors computation (2022)

The summary of the statistics used in this empirical study is presented in Table 1 above. It can be observed that the credit to private sector index (CPS) has the lowest mean value of 12705.75 and gross domestic product (GDP) has the highest mean value of 71601.96 whereas the mean value of ATM transactions (ATM) is 2591.373. The study shown in Table1 provides evidence for the standard deviation, which quantifies how tightly the data are clustered around the mean, that gross domestic product (GDP) is the largest, while credit to the private sector (CPS) is the lowest, suggesting that operational data values are further away from the mean than usual. Skewness is a metric that expresses how asymmetrical a distribution can be, all of the variables were positively skewed, which means that the distribution is to the right (left-skewed). This has the conclusion that skewness tends to indicate whether the distribution's mean value is higher or lower than the median. Therefore, a positively skewed number denotes a mean value that is higher than the median value. All of the variables considered, have positive values on the portion of kurtosis, indicating that the distribution is leptokurtic.

Unit Root Test

This study proceeds to examine the stochastic properties of the variables considered in the model by analyzing their order of integration based on a series of unit root tests using Augmented Dickey-Fuller.

Table 2: Augmented Dickey-Fuller Unit Root Test

VARIABLES	LEVEL		DIFFERENCE		ORDER IN INTEGRATION
	ADF Value	**Mackinnon Critical Values**	**ADF Value**	**Mackinnon Critical Values**	
GPD	5.321775	-3.020686	-0.723506	-3.040391	1(0)
CPS	2.190844	-3.020686	-3.117265	-3.029970	1(1)
ATM	-2.082868	-3.020686	-4.230617	-3.029970	1(1)

Source: Authors computation (2022

Table 3 Johansen cointegration Test

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**	Max-Eigen Statistic	0.05 critical value	Prob
None *	0.747879	40.58939	29.79707	0.0020	26.17906	21.13162	0.0089
At most 1	0.499307	14.41033	15.49471	0.0723	13.14347	14.26460	0.0746
At most 2	0.064502	1.266857	3.841466	0.2604	1.266857	3.84146	0.2604

Source: Authors computation (2022)

trace test indicates 1 cointegrating eqn(s) at the 0.05 level
• denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Table 4 Test of hypotheses

Dependent Variable: GDP
Method: Least Squares
Date: 01/04/23 Time: 23:33
Sample: 2001 2021
Included observations: 21

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	6997.811	2517.451	2.779721	0.0124
CPS	4.824951	0.169657	28.43941	0.0000
ATM	1.273268	0.742585	1.714644	0.1036

R-squared	0.984512	Mean dependent var	71601.96
Adjusted R-squared	0.982791	S.D. dependent var	50862.94
S.E. of regression	6672.402	Akaike info criterion	20.58091
Sum squared resid	8.01E+08	Schwarz criterion	20.73013
Log likelihood	-213.0996	Hannan-Quinn criter.	20.61330
F-statistic	572.0835	Durbin-Watson stat	0.889910
Prob(F-statistic)	0.000000		

Source: Author's computation (2022)

From the Multiple Regression results in Table 4 above, the regression coefficient of credit to the private sector is 4.824951 with a T-value of 28.43941 and associated P-value (Sig. Value) is 0.0000. This implies that the impact is significant given the fact that the P-value of 0.0000 is lesser than that 0.05 (5%) level significance. Therefore, the null hypothesis (Ho1), which states that there is no significant relationship between credit to the private sector (CPS) and economic growth in Nigeria is rejected. One percent (1%) movement in credit to the private sector would lead to 4.83% increase in Gross Domestic Product Growth Rate (GDP). Credit to the private sector has a significant influence on economic growth in Nigeria.

From the Multiple Regression results in Table 4 above, the regression coefficient of ATM transactions is 1.273268 with a T-value of 1.714644 and the associated P-value (Sig. Value) is 0.1036. This implies that the impact is insignificant given the fact that the P-value of 0.1036 is greater than that 0.05 (5%) level significance. Therefore, the null hypothesis (Ho2), which states that there is no significant relationship between ATM transactions (ATM) and economic growth in Nigeria is accepted. One percent (1%) movement in ATM transactions would lead to a 1.28% increase in Gross Domestic Product Growth Rate (GDP). ATM transactions have no significant influence on economic growth in Nigeria.

CONCLUSION AND RECOMMENDATIONS

The study examined the impact of financial inclusion on economic growth in Nigeria between the periods of 2002-2021, which is a period of 19 years. The study made use of secondary data (Time Series) from the CBN statistical bulletin. The study covers credit to the private sector and ATM transactions as measures for financial inclusion while economic growth was measured by Gross Domestic Product(GDP). The data were analyzed with descriptive statistics, Since the data are annual time series the stationary test (ADF and Johansen Cointegration Tests) were conducted and the Multiple Regression analysis was employed as well. The findings indicated that while ATM transactions (ATM) do not significantly affect economic growth in Nigeria, credit to the private sector has a significant impact on economic growth. The study's final finding is that Nigeria's economic growth is significantly impacted by financial inclusion. Overall findings of the study reinforce the fact that the provision of private sector credit to major sectors of the economy holds great potential for promoting economic growth in Nigeria Therefore, this study recommends that monetary authorities pursue policies aimed at increasing and encouraging the availability of credit to the private sector e.g. Through reducing interest rates to levels that are conducive for growth objectives as this will favor economic development. Banks should plant sub-bank branches and ATM outlets at strategic locations, and try to minimize the number of failed transactions as the number of ATM transactions if improved has the capacity to positively influence economic growth in Nigeria, this will also help include the financially excluded regions of the country.

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