



EFFECTS OF FINANCIAL INCLUSION ON ECONOMIC GROWTH IN NIGERIA

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ABSTRACT

This study examines the effect of financial inclusion on economic growth in Nigeria through the application of Augmented Dickey-Fuller technique in testing the unit root property of the series. Data for the study were extracted from the Central Bank of Nigeria (CBN) statistical bulletins for the period spanning from (2009 – 2021). Descriptive statistics, cointegration and regression analysis techniques were used to analyse the data. The results of unit root test indicated that all the variables in the model are stationary at d(2) second difference which necessitate cointegration test in order to find out if there are long relationship between the variables. The results revealed that trace statistic indicated 2 cointegration between the variables. A major policy implication of this result is that economic growth is function of monetary policy rate liquidity rate and number of banks branch. The study recommends that banks should open many brache, simplify account opening procedure and make special provision for vulnerable people that are excluded in order to promoted financial inclusion. CBN should also set the monetary policy rate at optimum level as these would assist to boost credit expansion, loan and advance to more vulnerable people in other to stimulate them to have banks account.

Keywords: Economic growth, financial inclusion, monetary policy rate, liquidity



1. INTRODUCTION

Financial inclusion has continuous to undertake cumulative acknowledgement across the globe amid researchers, policy makers, and development – oriented organizations. Its significance derives for economic development, more especially in the areas of poverty reduction, employment generation, wealth creation, and improving welfare and general standard of living. A survey conducted in Nigeria in 2008 by a development finance organization, the Enhancing Financial Access and Innovation shown that nearly 53.0% of adults were excluded from financial services.

The worldwide pursuit of financial inclusion as a means for economic development had a positive effect in Nigeria as the exclusion rate reduced from 53.0 % in 2008 to 46.3 % in 2010 according to CBN report. Encouraged by the positive development, the Central Bank of Nigeria in partnership with stakeholders launched the National Financial Inclusion Strategy on 23rd October, 2012 meant at more decreasing the exclusion rate to 20% by 2020. Specifically, adult Nigerians with access to payment services is to rise from 21.6% in 2010 to 70% in 2020, while those with access to savings should rise from 24.0% to 60%; and Credit from 2% to 40%, Insurance from 1% to 40% and Pensions from 5% to 40%, within the same period (CBN, 2020).

Financial Inclusion as defined in the National Financial Inclusion Strategy is attained when adult Nigerians have access to affordable financial products and services that fit their basic needs. Similarly, Sinclair (2001) view financial exclusion as the incapability to access basic and necessary financial services in required form. Also, according CBN newsletter (2021) the vulnerable parts including Youth, rural areas, women, Northern geopolitical zones and MSMEs shall continue to be the focus of interventions.

Financial inclusion is a state in which all people have access to appropriate, desired financial products and services in order to manage their money effectively (Leyshon & Thrift, 1995). Similarly in Sinclair (2001) views financial exclusion is a lack of ability to access basic and necessary financial services in a required form. Exclusion emerged because of issues with prices, access, conditions, marketing or perceptions or self-exclusion in response to negative experiences.



Connecting all adult to basic financial services products has reinforced Financial Inclusion struggles across the globe over the last decade (CBN, 2021). Access to finance by the vulnerable groups and poor is a fundamental part of our duties to stimulate inclusive growth because of by promoting access to finance is a form of empowerment of the vulnerable groups (Oruo, 2013). Financial inclusion can also be achieved through financial literacy and financial capability on the part of the consumers and creating enabling environment by the regulators and finance institutions and intermediaries.

The ways for achieving the above financial products and services were equally targeted to improve, ATMs from 11.8 units to 203.6 units, POSs from 13.3 units to 850 units, microfinance bank branches to increase from 2.9 units to 5.5 units, deposit money bank branches targeted to increase from 6.8 units per 100,000 adults in 2010 to 7.6 units per 100,000 adults in 2020, Mobile agents from 0 to 62 units, all per 100,000 adults between 2010 and 2020. The targets were based on benchmarking exercise carried out with peer countries, while also taking into consideration critical growth factors in the Nigerian environment.

Financial systems that perform very well are means to a country's economic growth as they provided various categories of credit, savings, payment, and risk management products to people with a different needs through giving a wide variety and easily accessible financial services with no prices or non-price barriers, poor people are likely to benefit as they would not rely on their own savings to invest in their education or start business in pursuit for growth opportunities. Use of personal savings as form of investment contributes to persistent income inequality and slows economic growth (King & Levine, 1993)

According to CBN (2021) report, the National Financial Inclusion Strategy in Nigeria was started in 2012 following a commitment to increase access to finance to 80% of the adult population in Nigeria made at the Global Policy Forum of the Alliance for Financial Inclusion; a global network of policymakers focused on promoting Financial Inclusion

However, the policies, schemes and assistance have been arranged to extend access to financial products and services to unbanked and underserved Nigerians. In 2012, the National Financial Literacy Framework was developed to provide a guide for the dissemination of financial information and resources. In the following year,



tiered Know-Your-Customer (KYC) requirements were promoted to allow for simplified account opening documentation for customers within certain thresholds, micro insurance guidelines and guidelines for banking regulation and agent banking was released.

The meant duty of all regulatory authorities and financial institutions is focus at stimulating inclusion. The access and used of financial products, services has been at the major work of regulatory financial institutions such as CBN, IDIC, SEC and NSE in Nigeria. Some developed countries report annually on the level of access of finance for economic and social developments. Technology is getting grounds on banking system through the use of ICT devices. Some of the various ways of encouraging and ensuring financial inclusion is in the circulation of deposit accounts, loans, insurance and automated electronic transfers. In the current day, financial inclusion has impact on the level by which an individual's economic opportunities are consider by individual skill, initiative, social status and political connections.

There are many studies but this study is unique, it focuses on the effects of financial on the availability of Number of Banks Branches (NBB), Monetary Policy Rate (MPR) and Liquidity Rate (LR).

Financial inclusion is an indispensable channel for financial deepening, which assist to solved the basic problem of economic growth. Financial inclusion is mostly focus with eradication of poverty. It is paramount to state that the importance of financial inclusion in promoting growth domestic product (GDP) of every country cannot be emphasis in which Nigeria is not an exception.

Exclusion can come about as a result of problems with access, conditions, prices, marketing or self-exclusion in response to negative experiences or perceptions. Access to finance by the poor and vulnerable groups is an integral part of CBN efforts to promote inclusive growth by providing access to finance is a form of empowerment of the vulnerable groups. CBN came up with different strategies and policy in order to promote inclusion (CBN, 2012).

The effort of all institutions both financial and developmental is aimed at encouraging inclusion. The use and access of financial services has been at the stem of study for major regulatory financial institutions. Some developed countries



report annually on the level of access of finance for economic and social developments. Financial inclusion is a step toward inclusive development. Financial inclusion, within the broader context of inclusive development, is viewed as an important means to tackle poverty and inequality and therefore promote economic (2013) growth.

Inclusion influences rapid economic growth ability to. It also influences one's ability to realize their economic goals therefore shaping the gap between the rich and the poor and the degree to which the gap persist across generations. By affecting the distribution of capital, finance can change both the rate of economic growth and the demand for labor, with implications on poverty and income distribution (Demirguc-Kunt & Levine, 2013a). It is achieved by financial literacy and financial capability on the part of the consumer and financial access on the part of product, services and advice suppliers.

Financial inclusion therefore becomes one of the effective ways to lessen poverty in the globe. The financial system in Nigeria is up to now under-developed as compared to other developing economies. With the development in mobile money, Nigeria has witness positive change and growth in the financial sector in the recent decade. This study therefore is concern with the finding the effects of number of banks branch, optimal monetary policy rate and safer banking liquidity as a means of stimulating inclusion within the country.

2. REVIEW OF RELATED LITERATURE

Concept of Financial Inclusion

Financial inclusion which is also referred to as banking sector outreach can be defined broadly as the process of availing an array of required financial services, at a fair price, at the right place, form and time and without any form of discrimination to all members of the society (Sarma and Pais, 2011). The objectives of financial inclusion include advantaging the poor majority of who do not use formal financial services. Financial Inclusion is an intervention strategy that seeks to overcome the market friction that hinders the markets from operating in favor of the poor and underprivileged. Financial inclusion offers incremental and complementary solutions to tackle poverty, to promote inclusive development and to address MDGs (Sarma, 2010). It aims at drawing the unbanked population into



the formal financial system so that they have the opportunity to access financial services ranging from savings, payments, and transfers to credit and insurance.

Financial Intermediation Theory

Financial intermediation is a process which involves surplus units depositing funds with financial institutions who then lend to deficit units. According to Scholtens and van Wensveen (2003), the role of the financial intermediary is essentially seen as that of creating specialized financial commodities. These are created whenever an intermediary finds that it can sell them for prices which are expected to cover all costs of their production, both direct costs and opportunity costs. Financial intermediaries exist due to market imperfections. As such, in a perfect market situation, with no transaction or information costs, financial intermediaries would not exist. Numerous markets are characterized by informational differences between buyers and sellers. In financial markets, information asymmetries are particularly pronounced. Borrowers typically know their collateral, industriousness, and moral integrity better than do lenders. On the other hand, entrepreneurs possess inside information about their own projects for which they seek financing (Leland and Pyle, 1977). Moral hazard hampers the transfer of information between market participants, which is an important factor for projects of good quality to be financed.

Concept of GDP

Economic growth is defined as 'a rise in the total output (goods or services) produced by a country'. It is an increase in the capacity of an economy to produce goods and services, compared from one period of time to another. Economic growth occurs whenever people take resources and rearrange them in ways that are more valuable. Economic growth refers only to the quantity of goods and services produced; it says nothing about the way in which they are produced. Economic growth can be measured in nominal terms, which include inflation, or in real terms, which are adjusted for inflation i.e., by the percent rate of increase in the gross domestic product (GDP).

Economic growth measures growth in monetary terms and looks at no other aspects of development (Ayres, Robert, Warr, and Benjamin 2006). Economic growth can be either positive or negative. Negative growth can be referred to by saying that the



economy is shrinking. Negative growth is associated with economic recession and economic depression. Gross national product (GNP) is sometimes used as an alternative measure to gross domestic product. In order to compare multiple countries, the statistics may be quoted in a single currency, based on either prevailing exchange rates or purchasing power parity. Then, in order to compare countries of different population sizes, the per capita figure is quoted. To compensate for changes in the value of money (inflation or deflation) the GDP or GNP is usually given in "real" or inflation adjusted, terms rather than the actual money figure compiled in a given year, which is called the nominal or current figure (Ayres and Benjamin, 2006).

The Relationship between Financial Inclusion and GDP Growth

Financial inclusion is important for GDP growth and reducing inequality and poverty in any country. The transformative power of financial inclusion in should not be under estimated because improved access to finance by poor households and micro enterprises can unlock income earning opportunities and self-reliance for many hence positively impact economic development of a nation. Proponents of financial inclusion opine that financial exclusion leads to loss of opportunity to grow, a retarded country's growth and increased poverty levels. According to Sinclair, McHard, Dobbie, Lindsay and Gillespie (2009), exclusion from the financial system brings real and rising costs, often borne by those who can least afford them. 4 A well-developed financial system accessible to all reduces information and transaction costs, influences saving rates, investment decisions, technological innovation, and the long-run growth rates (Beck et al. 2008 as cited by Kumar and Mishra. This may be contested on the basis of the numerous customers with opaque information characteristics under flexible rules, who are the financial inclusion initiative target.

According to Kempson *et al.* (2000) social exclusion has clear links with poverty, disadvantage and deprivation and is a much broader concept which is a shorthand term for what can happen when people or areas suffer from a combination of linked problems such as unemployment, poor skills, low incomes, poor housing, high crime environments, bad health, poverty and family breakdown. Social exclusion brings about social classes and divisions. The included become fearful and distrustful of the excluded and vice versa culminating to polarized societies that are



unhealthy for the economy. In such cases the rich areas and people tend to get richer and poor areas and people poorer. Therefore, financial inclusion can be instrumental in bridging the gap between the included and excluded and the rich and the poor. This means that financial inclusion should not be dealt with in isolation but in line with other socioeconomic, cultural and geographic aspects. Despite this knowledge on the effects of financial exclusion, financial inclusion has not been fully realized as evidenced by the size of the financially excluded, that is, those lacking access to formal financial services.

Concept of financial inclusion and Banking

Considering analytical research work of specific dimensions of financial inclusion, we start with banking, in considering the financial role of banks in regards to the access of transaction account can serve as a basis or entry for wider access to financial services. In rational about banking, one can intellectualize it broadly, to include institutional variations such as post-office accounts, and technology-enabled innovations such as agent banking. Two research from India offer optimistic indication that targeting bank access can have positive impacts. Burgess and Pande (2005) observe the social banking package introduced after India's bank nationalization in 1969. By 1990, approximately 30,000 rural locations with no prior formal credit and savings institutions received a bank. By means of panel data for 16 states over 1961 - 2000, with data about the number of bank branches, rural credit and saving shares, and poverty and wage estimates, the researchers show that branch expansion was associated with reductions in rural poverty.

In a closely related analysis, Burgess, Wong and Pande (2005) found that national policy and strategies that lead banks to open quite more branches in less financially-developed states, and to develop into rural unbanked locations, decrease poverty across Indian states. They also maintained that enforcement of directed bank lending increased bank borrowing among the poor, in particular, for low-caste and tribal groups. The Burgess-Pande discoveries were moderated by the following analysis of a similar period: Kochar (2011) used district-level data for India's largest state, Uttar Pradesh, and took account of possibly puzzling correlations of two sources of credit expansion at that time. She establishes proof of increasing inequality, with the non-poor benefiting more from the bank branch.



Concept of Financial Inclusion and Financial Literacy

On the demand side, financial literacy is a significant aspect in influencing financial inclusion. Customers have to comprehend the nature of the products and services they are buying, as well as the implications of these purchases for their welfare. This may be comparatively simple in the case of payments and transfers, but even bank accounts can present difficulties in terms of weighing consumption and saving tradeoffs. Insurance products are fundamentally complicated by the problems of computing uncertainty and evaluating risk. These issues are tied in with behavioral factors as well – systematic distortions in evaluation and decision-making, but those are considered next, somewhat separately. Lusardi and Mitchell (2014) offer a theoretical and empirical survey of issues concerning financial literacy, although their empirical evidence is from industrial countries, which also face encounters of educating consumers of financial services. In all countries, one basic challenge is inadequate of information (Gine et al., 2014, for Mexico), but in what way information asymmetries are astounded can be vital (Alan et al., 2015, for Turkey). Miller et al. (2014) study evaluations of 188 financial education programmes, and found weak proof for optimistic effects on financial knowledge, let alone decision-making. However, it appears that teaching simplified guidelines for behavior as rules-of-thumb can have a constructive effect (Drexler et al., 2014).

Concept of financial inclusion and Payments Technologies

Since the low-income earners suffer high transaction costs, even when using physical cash (e.g., when trying to save, cash may not be a convenient or safe store of value), decreasing such costs through technological innovations can foster inclusion. There is vigorous proof that digital payments technologies have optimistic significance. Much of this confirmation comes from the M-PESA scheme in Kenya (Jack, Ray and Suri, 2013; Jack and Suri, 2014): customers are able to make more frequent and longer distance money transfers, and manage income variability better for smoother consumption patterns. In Kenya, the existence of a dominant telecom provider helped, although technological limitations in interoperability reduced access for some and stifled competition (Kendall et al., 2011).

In Tanzania (where M-PESA is also available), an interoperability arrangement between quite a lot of providers achieved widespread patronage (Bourreau &



Valletti, 2015). In other countries, telecom companies have delivered specific digital services: for example, Orange Money (Jordan), enables consumers to settle bills and make point-of-sale purchases; Smart Money (Philippines) and Regalli (Dominican Republic) enable customers to make bill payments. There are complex issues of financial infrastructure, regulatory policies, and even details of the user interface design that can impact the achievement of digital financial services (Mas and Morawczynski, 2009; Medhi et al., 2009).

In India, digital payments have been conceptualized as one component of a three-part strategy for financial inclusion using digital technologies: JAM, standing for Jan Dhan (banking), Aadhaar (identity) and Mobile (transactions). Biometric identity cards in India (Aadhaar) have reduced corruption in welfare programmed, economized on expenditures and even had some optimistic effects on outcomes (Banerjee et al., 2016; Muralidharan et al., 2016; Imbert and Papp (2015). Other instances of optimistic effects proofing digital technologies include Afghanistan (Callen et al., 2015) and Nigeria (Aker et al., 2014), signifying that there are replicable chances for effective innovations. In India, the JAM framework for policy invention has the prospective to prevent common challenges in policymaking in that country, of broad and shallow interventions. On the other hand, Ravi and Gakhar (2015) make a case for a broader scope of financial services tied to the digital invention, to take advantage of economies of scope, given the fixed costs of infrastructure and adoption.

Concept of financial inclusion and Africa Experiences

Andrianaivo and Kpodar (2011) found evidence that, in Africa, a large share of the population is financially excluded and therefore resorts to the use of informal financial services. They also found a relatively high propensity to save, but financial expansion and deepening were constrained by lack of access to financial services and the absence of depth of financial instruments. The problem is apparently accentuated by insufficient financial infrastructures; coupled with the fact that the number of ATMs and bank branches is low in this region. Evidence from the study not only revealed that the interaction between mobile phone penetration and financial inclusion is positive and significant in the growth regression, but also that people in Africa consider investment in mobile technology as a necessity as it constitutes a large portion of their earnings (Andrianaivo &



Kpodar 2011). It, therefore, means that a mobile financial service platform could be the answer to bridge the gap in financial infrastructure.

Tools for driving financial inclusion in Nigeria

According to the CBN, report on financial inclusion the major tools for driving the Strategy include the following:

- i. Agent Banking
- ii. Consumer Protection
- iii. Linkage Banking Tiered Know-Your-Customer Requirement
- iv. Small and Medium Enterprise Credit Guarantee Scheme
- v. Refinancing and Rediscounting Facilities for SMEs
- vi. Financial Literacy
- vii. Entrepreneurship Development Centre
- viii. Commercial Agricultural Credit Scheme (CACs)
- ix. Implementation of the MSME Development Fund
- x. Credit Enhancement Programmes such as
- xi. Agricultural Credit Guarantee Scheme (ACGS)
- xii. Nigeria Incentive-Based Risk Sharing System for Agricultural Lending (NIRSAL)
- xiii. Refinancing and Rediscounting Facilities for SMEs

Framework For Achieving Financial Inclusion by CBN

- i. Know Your Customer Requirements
- ii. MSME Development Fund
- iii. Financial Literacy
- iv. Agent Banking
- v. Mobile Money Operation

Empirical Review

Niankara and Muqattash (2018) highpoint the effect of financial inclusion on people's borrowing and saving decisions in the United States and the United Arab Emirates, and discovered that U.S. peoples are more likely to save than their United Arab Emirates residents. They also find the prevalence of a gender-based saving



and borrowing inequality in favor of the male gender while access to a bank account and a debit card increased the likelihood to save and borrow. Dev (2006) argues that financial inclusion should be a business opportunity and a social responsibility through better regulation and the depoliticization of the financial system.

Fungáčová and Weill (2015) analyze financial inclusion in China including comparisons with the other BRICS countries, and find that the level of financial inclusion in China is high and it is manifested by greater formal account usage and formal saving than in the other BRICS countries. They also find that higher income, better education, being a man, and being older are associated with greater use of formal accounts and formal credit in China. Bachas et al (2018) assess whether debit cards help to improve the level of financial inclusion. They find that debit cards help to lower transaction costs by reducing the distance to access bank accounts in Mexico.

Few research has been done on financial inclusion in Nigeria. For instance, Efobi et al (2018) examine the impact of financial inclusion on the export capacity of firms in the manufacturing sector in Nigeria, and find that greater access to financial services increase the export capacity of firms but the impact on each manufacturing firm depends on the location of the firm. Adegbite and Machethe (2020) analyse the gender gap in financial inclusion in Nigeria, and find that there is increasing gender gap in financial inclusion in Nigeria as more men had greater access to finance than women.

Adetunji and David-West (2019) show that financial literacy affects savings patterns in financial institutions in Nigeria. Other studies focus on the effect of financial inclusion on the macro economy. Ibrahim and Aliero (2020) find a strong positive relationship between the level of financial inclusion and the size of per capita income. Ozili (2020c) find that people with at least a secondary education and unemployed people have greater debit card ownership and greater account ownership in a financial institution. David et al (2018) examine the determinants of financial inclusion in Nigeria from 1990 to 2016, and find that financial inclusion increases GDP growth and broad money. Fowowe (2020) show that financial inclusion has a positive impact on agricultural productivity in Nigeria. Ozili (2021b) show that Fintechs are driving the growth in financial inclusion in African



countries despite the political, infrastructure and structural problems hindering full financial inclusion in African countries.

There have been a number of empirical studies concentrating on the factors that affect a country's level of financial inclusion, but the results show no consensus. Sarma and Pais (2008, 2011) examined country-specific factors associated with the level of financial inclusion by using a classical OLS method for the sample year of 2004. Among possible variables, income measured by per capita GDP, adult literacy, rural population, income inequality, physical connectivity indicated by road network, electronic connectivity indicated by phone subscriptions, information availability indicated by internet usage, bank soundness measured by non-performing assets and capital asset ratio, and foreign ownership in the banking sector were significantly associated with the level of financial inclusion.

Evans and Adeoye (2016) evaluated the determinants of financial inclusion in Africa by using a dynamic panel data approach for 15 countries over the period of 2005–2014. The results show that lagged financial inclusion (implies a “catch-up effect”), GDP per capita, money supply as a percentage of GDP, adult literacy rate, internet access, and Islamic banking activities have great significance in explaining the level of financial inclusion in Africa. Allen et al. (2014) found that population density and GDP per capita are strongly positively linked, whereas natural resources are strongly negatively linked to both financial development and financial inclusion in sub-Saharan Africa than elsewhere in the world.

Rojas-Suarez and Amado (2014) analyzed the relevant factors explaining Latin America's financial inclusion gap relative to comparable countries and found that the core obstacles were socio-economic factors (represented as income inequality) and institutional deficiencies (measured as rule of law), while macroeconomic weaknesses (represented as inflation volatility) and financial sector inefficiencies (measured as overhead cost and bank concentration) were relatively less important factors in Latin America's low level of financial inclusion.

Due to the limited time span of available data and a large number of missing data regarding financial inclusion, the literature's empirical impact analysis seems to cover this topic only partially. Only a few studies have investigated the link between financial inclusion, poverty, and income inequality, with mixed results. Park and Mercado (2015) tested the factors influencing financial inclusion and the



significance of financial inclusion in reducing poverty and lowering income inequality, focusing on 37 developing Asian economies. They found that per capita income, rule of law, and demographic structure increased financial inclusion, while a higher age-dependency ratio significantly reduced financial inclusion. Primary education completion and literacy rates have no significant effect on the level of financial inclusion in developing Asia. Moreover, financial inclusion significantly reduces poverty; there is also evidence that it lowers income inequality when more regressors are considered.

In the latest version of their paper, Park and Mercado (2018) assessed the cross-country impact of financial inclusion on poverty and income inequality across country income groups by introducing a new financial inclusion index for 151 economies, using principal component analysis and a cross-sectional approach. The results indicate that higher financial inclusion significantly co-varies with higher economic growth and lower poverty rates, but only for high and middle-high-income economies, not those that are middle-low and low-income. However, they did not find significant effect of financial inclusion on income inequality in any income group.

García-Herrer and Turégano (2015) assessed the role of both dimensions of financial development (size of the financial sector and financial inclusion) in reducing income inequality. They found that financial inclusion contributed to reducing income inequality when the regression was controlled for key relevant factors, especially economic development and fiscal policy. Interestingly, financial deepening (size of the financial system) did not appreciably contribute to a more equal income distribution.

Furthermore, Sarma (2016) continued the study by analyzing the causality relationship between various dimensions of financial inclusion and economic growth, which proves that there is a two-way causality relationship between access to banking services and economic growth. Recently, Pradhan et al. (2016), Kim et al. (2018), and Raza et al. (2019) proved that there is a significant positive relationship between financial inclusion and economic growth. On the contrary, Naceur and Ghazounai (2007) examined the relationship between financial development and economic growth for 11 countries in the Middle East and North Africa and found that bank development has a negative influence on economic



growth. Khan (2011) also showed that financial inclusion has a negative influence on economic growth. Financial inclusion can lower loan standards because financial institutions are trying to reach the lower community by lowering loan terms, but it can also increase the risk of a bank's reputation, as several countries lower the standard of establishing financial institutions for rural areas.

Dhrifi (2013) obtained different findings that financial development encourages economic growth and reduces poverty in middle- and high-income countries, while in low-income countries, the financial system does not have positive influence on economic growth. On the other hand, Nguyen et al. (2020) conducted research in Vietnam and found that economic growth positively contributes to poverty reduction. Seven and Coskun (2016) stated that although financial development encourages economic growth, it does not necessarily benefit low-income people in developing countries, as they found that financial inclusion does not play an important role in poverty reduction. The latest research conducted by Neaime and Gaysse (2018) found that financial inclusion does not have significant influence toward poverty.

Hannig and Jansen (2010) argued that financial inclusion also has the potential to improve financial stability, because poor people's access to formal financial institutions' savings can increase household capacity to manage financial vulnerabilities caused by the adverse effects of the crisis, diversify the funding base from financial institution that can reduce shocks when global crisis occur, increases economic resilience by accelerating growth, facilitate diversification, and reduce poverty. Prasad (2010) added that at the state level, financial inclusion can increase efficiency in financial intermediation through domestic savings and increase in investment to encourage financial stability. Aduda and Kulanda (2012) examined financial inclusion and financial stability in Kenya, and found that financial inclusion is a prerequisite for economic growth and development because various financial programs have an impact on Kenya's financial stability.

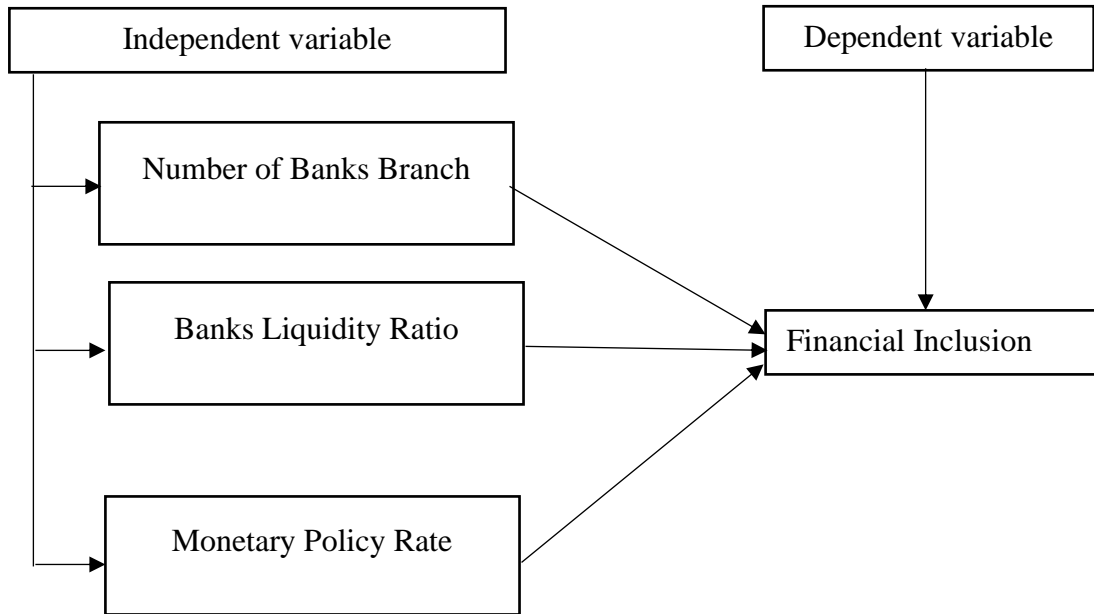


Figure 1: The Conceptual Framework of the Study

3. METHODOLOGY

This section aims in specifying models adopted in this study. For the purpose of this study, the quantitative research design was used. Following the 2004 banking consolidation reform programmed of CBN of Nigeria, the target population is for this study consist of the all (24) deposit money banks in Nigeria.

Linear Regression Model

This study adopted the use of multiple regression analysis. This model was form from the functional and linear relationship that exist between the research variables, from the theoretical and literature review in the previous chapter, it is observed that there was a causal link between number of banks branches, liquidity ration and Monetary Policy Rate with economic growth in Nigeria. The model is to verify the effect of financial on gross domestic product in Nigeria.



The ordinary least square (OLS) is given by the formula below.

The model is specified as:

$$\text{GDP} = f(\text{NBB} + \text{LR} + \text{MPR}) \dots\dots\dots(1)$$

$$\text{Therefore; GDP} = \beta_0 + \beta_1 + \text{NBB}_1 + \beta_2 + \text{BLR}_2 + \beta_3 + \text{MPR}_2 + U_t \dots\dots\dots(2)$$

Where;

GDP = Gross Demotic Product

NBB = Number of Banks Branch

BLR = Banks Liquidity Ratio

MPR = Monetary Policy Rate

B₀, B₂ and B₃ = Parameters

U_t - Error term (white noise)

A' priori expectation

It is expected that: B₁ < 0, and B₂ > 0

4. RESULTS AND DISCUSIONS

This section presents the analysis and interpretation of result from the data collected from the CBN statistical bulletins. The OLS regression and cointegration is also explained in this section.

Table 1
Descriptive Statistics

	GDP	MPR	LR	NBB
Mean	101853.6	11.59615	51.62692	5632.769
Median	95177.74	12.00000	46.23000	5529.000
Maximum	176075.5	14.00000	104.2000	6918.000
Minimum	43461.46	6.000000	26.39000	5301.000
Std. Dev.	40.385.61	2.640901	1.222656	2.582897
Skewness	0.353875	-1.303174	1.222656	2.582897
Kurtosis	2.085553	3.554278	4.539988	8.797785
Jarque-Bera	0.724275	3.845979	4.539988	32.66236
Probability	0.696187	0.146169	4.5234167	0.000000
Sum	1324097	150.7500	671.1500	73226.00
Sum Sq. Dev.	1.96E+10	83.69231	4946.710	2015906
Observations	13	13	13	13

Source: Generated by the Author from the Data Extracted from CBN Statistical Bulletin, 2021



The descriptive statistics is presented in Table 1 where minimum, maximum, mean, median, Skewness, Kurtosis, Jarque-Bera, Probability, sum, Sum Sq. Dev and standard deviation of the data for the variables used in the study are described. The minimum and maximum values of GDP are 43461.46 and 176075.5 with an average of 101853.6. MPR, LR and NBB, vary from a minimum of 6.000000, 26.39000 and 5301.000 and maximum of 14.00000 104.2000 and 6918.000 with an average of 11.59615, 51.62692 and 5632.769 respectively. All the variables are positively skewed except MPR and the probability levels for all the variables at 5% are insignificant except NBB.

Figure 1
Trend Analysis

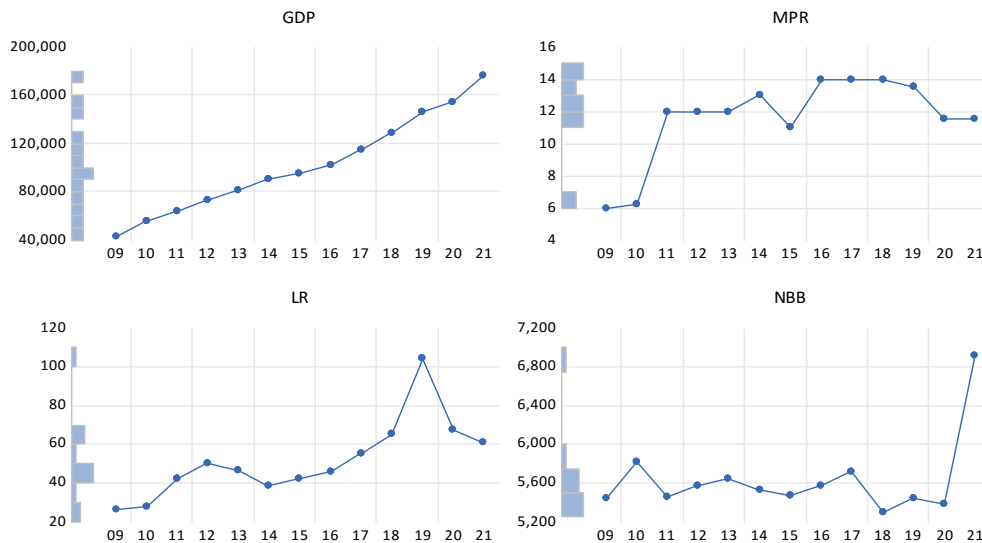


Figure 2: Trend Analysis

Source: Generated by the Author from the Data Extracted From CBN Statistical Bulletin, 2021.



Figure1 shows the trend analysis of the variables, GDP continues raising while MPR, LR NBB keep fluctuating within the study year. The trend of GDP indicates almost uniform continues increase from 2009 to 2021 while the fluctuations in raising and falling of the independent's trends are higher compare to GDP.

Table 2
Unit Root Test

Variables	Stationary	Adf Statistic	Probability	Critical Value
GDP	(d(2))	-4.364648	0.0091	1%level -4.297073
				5%level -3.212696
				10%level -2.747676
				3.460791
MPR	(d(2))	-4.049623	0.0166	1%level -4.420595
				5%level -3.259808
				10%level -2.771129
				3.460791
LR	(d(2))	-5.316029	0.0098	1%level -5.295384
				5%level -4.008157
				10%level -3.460791
				3.460791
NBB	(d(2))	-4.128319	0.00432	1%level -5.295384
				5%level -4.008157
				10%level -3.460791
				3.460791

Source: Generated by the Author from the Data Extracted from CBN Statistical Bulletin, 2021

The results of the unit root test in Table 3 above indicated that all the variables are stationary at first difference (d (2)). The Augmented Dickey-Fuller test statistic value for gross domestic product is -4.364648 and the critical values are --4.297073, 3.212696 and --2.747676 at 1, 5 and 10 percent level respectively. The Augmented Dickey-Fuller test statistic for MPR -4.04962 and the critical values are -4.992279, -3.875302 and -3.388330 at 1, 5 and 10 percent respectively. The Augmented Dickey-Fuller test statistics for LR is 5.316029 and the critical values are level --5.295384, --4.008157 and -3.460791 at 1, 5 and 10 percent respectively. The Augmented Dickey-Fuller test statistics for NBB is -4.128319 and the critical values are level 5.295384, -4.008157 and 3.460791 at 1, 5 and 10 percent respectively Base on the result obtained by comparing the Augmented Dickey-



Fuller test statistic values with the correspondent critical values at 1, 5, and 10 percent all the probability are statistically significant.

This form the bases for conduct the cointegration test in order to find out whether there is a long-term relationship among the variables.

Table 3
Cointegration Test

Dependent Variables	Independent Variables	Trace Statistic	Critical Value	Probability	Lags Interval	Cointegrating
GDP	MPR, LR NBB	45.90937	29.79707	0.0003	1,1	2

Source: Generated by the Author from the Data Extracted from CBN Statistical Bulletin, 2021

The Johansen cointegration test results in Table 4 above confirmed the existence of long run relationship between Gross Domestic Product, Monetary policy rate, liquidity rate and number of banks Nigeria as indicated by the TRACE-statistic 45.90937. The TRACE-statistics results revealed that there is 2 cointegrating equation at 5percent level with critical value of 29.79707.

Table 4
Regression Result

Dependent Variable	Independent Variable	Coefficient	T Statistics	Prob.	F Statistics	Prob.	R ²	Adjusted R ²	Durbin Watson Statistics
GDP	C	-237022.1	2.56374	0.0305	11.19003	0.002161	78.85	71.81	1.978730
	MPR	3076.604	1.060539	0.3165					
	LR	1307.170	3.479368	0.0069					
	NBB	41.84687	2.7534486	0.0223					

Source: Generated by the Author from the Data Extracted from CBN Statistical Bulletin, 2021

Table 4 present the OLS results for the dependent variables. The probability of F-statistics is 11.19003 with P-value of 0.002161. This means that the model is suited for the study, as the value is less than 1%. R² of 0.78.85 indicates that 78% of the variation in the dependent variable (GDP) is jointly explained by the independent variables (MPR, LR and NBB). This position was also good after testing the



adjusted R^2 . Adjusted R^2 was maintained at 71.8 value, which implies that after adjusting for the error term the R^2 still remain significant at 71%.

From table 4, there is positive significant relationship between the liquidity ratio, number of banks branch and rate growth domestic product. The coefficient of liquidity ratio, number of banks branch is 1307.170 and 41.84687 which implies that one percent change in LR and NBB will increase the GDP by 10.37 and 0.42 percent respectively. The null hypothesis which states that liquidity ratio and number of banks branch has no significant effect on the GDP was rejected.

Similarly, table 5 also indicated the positive insignificant relationship between monetary policy rate and gross domestic product. The coefficient of the monetary policy rate is 3076.604 which implies that one percent change in MPR will increase the GDP by 30.6% in negative direction. The null hypothesis which states that monetary policy rate has no significant effect on the GDP was accepted.

5. CONCLUSION AND FINDINGS

The findings of the study shows that gross domestic product in Nigeria is influence by monetary policy rate, liquidity and number of banks. This study concludes that liquidity and number of banks has positive and significant effect on the gross domestic product while monetary policy rate has positive insignificant effect on gross domestic product. This result is in line with Oruojulie (2013), Andrianaivo and Kpodar (2011) and Dixit and Glosch (2013). The study recommends that banks should open many branches, simplify account opening procedure and make special provision for vulnerable people that are excluded in order to promoted financial inclusion. CBN should also set the monetary policy rate at optimum level as these would assist to boost credit expansion, loan and advance to more vulnerable people in other to stimulate them to have banks. Other study only effects of Number of Banks, Bank Liquidity and Monetary Policy Rate on Financial Inclusion, further studies should consider other variables that affect financial inclusion.



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