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# Contribution of Financial Inclusion on the Economic Development of Nigeria (1999 – 2020)

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## ABSTRACT

Financial inclusion strategy was set up so that all people have access to banking and insurance services as well as financial literacy and capabilities that will help improve standard of living in the country. Therefore the study examined the contribution of financial inclusion on the economic development of Nigeria. Secondary data were collected from Central Bank of Nigeria statistical bulletin and UNDP Human Development Reports spanning from 1999 to 2020.The research work selected Nigeria as its sample and used the Error Correction Mechanism (ECM) to test the contribution of the explanatory variables (Deposits from rural branches of commercial banks, Loans to rural branches of commercial banks, Number of Micro Finance Banks, Commercial Bank Loans to Small Scale Enterprise) on the dependent variable (Human Development Index).The findings from the study revealed that financial inclusion has not contributed significantly on the economic development of Nigeria for the period under review. The granger causality test also shows a unidirectional causality between financial inclusion and economic development of Nigeria. The results suggest that financial inclusion can help improve the standard of living of the country and reduce high unemployment rate in the country, if implemented effectively. The study therefore recommends that Central bank of Nigeria should approve the establishment of more micro-finance banks in order to meet the financial needs of low-income neighborhoods and rural dwellers. The Central bank of Nigeria should intensify efforts aimed at credit facilities to small and medium scale enterprises (SMEs) to boost financial inclusion in the economy by mandating banks to dedicate 10% of their net profit after tax to SMEs loans. Commercial banks should diversify their portfolios as this will help reduce various investment risks they face while extending financial service to the poor and rural dwellers in the country. There is need to improve the financial infrastructure in the country which will help banks in deposit mobilization especially the unbanked and rural dwellers in the country.

***KEYWORDS:*** *Financial Inclusion and Human Development*

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## 1. INTRODUCTION

Nigeria as a whole is the most populated African country with a population of over 180 million (Uruakpa, Kalu & Ufomadu, 2019). A current statistics showed in the year 2012, a total of 39.2 million adult Nigerians (46.3% of the adult population of 84.7 million) were financially excluded with no access to either formal or informal finances. Further analysis revealed that 54.4% of the excluded populations were women, 73.8% were below the age range of 45 years and 34% had no formal education while 80.4% resides in rural areas. Nigeria has 28.6 million bank accounts with a population of over 168 million people, out of which 84.7 million are adults (EFInA, 2012). These percentages of individuals are

financially excluded, due to lack of access to Deposit Money Banks (DMBs), Micro-finance banks (MFBs), insurance and so on (EFInA, 2016). Some individuals even prefer to keep their money at home or even patronize the informal service providers such as the popular "Esusu" or "Isusu" co-operatives other than operating a bank account and these informal service providers are prone to high risks such as theft, frauds etc. and they are rather exploitive in these dealings (EFInA, 2010). Due to the insecurities in the country, citizens have reduced their use of financial products and services and would rather use informal financial savings method (such as Ajo, Esusu moneylenders). Prospective banking customers, especially those in the rural areas also tend to avoid the use of banking services as a result of the excessive charges bank charge their customers, these charges includes; SMS charges, stamp duties, ATM maintenance charges. Also, as a result of shortage of power supply in the country, level of financial illiteracy and other related problems stated in various research studies, there is limited access and availability of formal financial services and these unreliable infrastructural facilities makes it very difficult and costly for financial transaction (Aube & Laidlaw, 2010).

All these are the causes of financial exclusion and as such financial inclusion program was introduced by the Federal Government in 2012. Financial inclusion is also known and referred to as Inclusive financing. The core objective is to contribute to economic growth and development in Nigeria. Prior to this statement, Hanning and Jansen (2016) proposed that better access to financial services has a positive impact on poor people's living standards. Abdul & Adamu (2016) were also of the idea that the deepening of financial system makes access to finance easy and less stringent conditions attached in accessing loans for investment for individuals and corporate bodies.

Due to lack of financial access by less-advantaged sectors, the Nigerian government obliged financial institutions, especially the micro-finance banks and the banking sectors with the responsibility of ensuring that rural and urban dwellers get easy access to financial products and services and are fully brought into the financial system (Uruakpa, Kalu & Ufomadu, 2019). Thus, financial inclusion can be referred to as a state in which all people have access to banking and insurance services as well as financial literacy and capabilities (CBN, 2013). Financial inclusion is all about delivery of banking services such as savings, credit, insurance, pension at an affordable cost to vast sectors of the economy, especially the low-income segment and disadvantaged sectors (Ahmed, 2006). Over the years, access to financial services allows the poor to save money outside the house safely and helps in mitigating the risks that the poor faces as a result of economic shocks (Mehrotra, 2009). Hence, providing access to financial services is increasingly becoming an area of concern for every policymaker because it has far reaching economic and social implications. An economy cannot develop on its own when a large number of people are excluded from gaining access into the financial system because they are the real pillars of the economy (Uma, 2013).

In essence, financial inclusion is complementary to economic growth as the two factors contribute to poverty alleviation. Demirgue-kunt, Beck and Honohan (2016), Johnson & Murdoch (2016) and Hanning & Jansen (2015) noted that financial sector development is a driver of economic growth which indirectly reduces poverty while appropriate financial services for the poor can improve their welfare. In contrast to this statement, Sanusi (2011) in his research has attributed the rise in poverty level in Nigeria to the challenges in financial inclusion.

However, a large number of bankable adult populations in Nigeria seem to have no financial access and usage. In other words, they are financially excluded from the economy. As a matter of fact, most adults and bankable citizens in Africa are not fully financially integrated within the economy (World Bank, 2013). A small loan, a savings or current bank account and an insurance scheme can make a great difference to a poor and low income family or community; this enables them to have better infrastructures, shelters and education which leads to an increase in their standard of living and in turns encourages a very healthy economy (Yunus & Karl, 2007). Basically, the key financial inclusion and exclusion indicator or variable in Africa are financial services accessibility, financial services availability; financial services usage (Kempson, Alkinson & Pilley, 2004).

The specific goals of financial inclusion as outlined by the United Nations (AusAids, 2010) are; Access at a reasonable cost for all households to a full range of financial services, including savings or deposit services, payment and transfer services, credit and insurance services; sound and safe institutions governed by clear regulations and industry performance standards; financial and institutional sustainability to ensure continuity and certainty of investment; competition to ensure choice and affordability to customers. NFISR (2012) recommends that the goal of inclusive growth is accomplished when users of financial products have

access to a broad range of products created according to their needs and provided at affordable costs.

Various studies has been done on financial inclusion and Nigeria economy, results from these studies indicates positive relationship amid financial inclusion and Nigeria economy whereas some has a negative relationship, hence the need to take a stand in the literature on the subject matter. It is therefore imperative that a recent study be conducted to give clarity as to how financial inclusion contributes to the economic development of Nigeria.

## 2. LITERATURE REVIEW

Financial inclusion is the process of ensuring access to appropriate financial products and services needed by vulnerable groups at an affordable cost in a fair and transparent manner by mainstream institutional players. It has been defined in various ways by various researchers. There have also been various considerations on the effects it has on economic growth and development. Swarmy (2010) was of the view that finance promotes economic growth. Rajan and Zingales (2003) argued that financial system development had a say in economic growth. Centre for financial inclusion (2013) defined financial inclusion as a stake in which all people have access to a complement of quality financial services provided at affordable prices in a convenient manner and with dignity for the client. The CBN (2011) proposed financial inclusion as the delivery of financial services at an affordable cost to sections of disadvantaged and lower income segments of the society. It is the provision of broad range of high quality financial products, such as credit, savings, insurance, payments and provisions which are relevant, appropriate and affordable for the entire adult population especially low income segment. It is the process which ensures that a person's incoming money is maximized; outgoing is controlled and can exercise informed choices through access to basic financial services (PCC Financial Inclusion Strategy, 2009). Formal financial services should be affordable even for low-income groups, particularly when compared to informal services, e.g. Esusu or moneylenders (CBN-NFIS, 2012).

Financial inclusion can also be seen as the process of ensuring access to timely and adequate financial services, particularly credit, when needed by vulnerable groups at an affordable cost (Lakshmi &Visalakshmi, 2013). Onaolapo (2015) defined it as a process that ensures the ease of access to or availability of and usage of the formal financial system by all members of the economy. Chima (2011) provided an all-encompassing definition, he defined financial inclusion as the state of financial system where every member of society has access to appropriate financial products and services for effective and efficient management of resources; get needed resources to finance their businesses; and financial leverage to take up opportunities that will lead to increase in their income. Lack of financial inclusion is a multifaceted socioeconomic phenomenon that results from various factors such as geography, culture, history, religion, socioeconomic inequality, structure of the economy and economic policy (Hariharan & Marktanner, 2012). They concluded that financial inclusion has the potentials to enhance economic growth and development. Convoy (2005) stated that the process that prevents the poor and the disadvantaged social groups from gaining access to formal financial systems of their countries is a form of financial exclusion.

Financial Exclusion is the direct opposite of financial inclusion where bankable individuals of a country don't have access to financial products and services. Sinclair (2011) defined financial exclusion as the inability to access necessary financial services in an appropriate form as a result of difficulties with access, conditions, prices or marketing or sect exclusion in response to negative perception or experience.

Reyes, Canote, & Mazer (2005) viewed financial inclusion as a state where the majority of the populations have broad access to a portfolio of quality financial products and services which include loan, deposit services, insurance, provisions and payment system as well as financial education and consumer protection mechanism. It is the provision of access to financial services to all members of the population, particularly the poor and the other excluded members of the population (Ozili, 2018). The provision of affordable financial services to owners of Small, Medium and large scale enterprises allows rural dwellers to earn an independent income and contribute financially to those households and communities. This enables families to have access to a decent standard of living which lessens the level of poverty in the nation (Nwanne, 2015).

### 2.1. Objectives of Financial Inclusion

The objectives of the financial inclusion programme in Nigeria, as listed by Wikipedia (2020), are stated below;

1. Financial inclusion intends to help people secure financial services and products at affordable prices such as deposit services, fund transfer services, loans granting, insurance policies and schemes, payments services e.t.c.
2. Financial inclusion aims to set up appropriate financial institutions to cater to the needs of the

poor individuals. These institutions specify vital rules and regulations and ought to maintain exclusive standards that are existent in the financial industry.

3. Financial inclusion intends to build and maintain financial sustainability so that the less fortunate and advantaged sectors have a certainty of funds which they battle to have.
4. It intends to acquire mobile banking or financial products and services in order to reach the less advantaged sectors and the economically active poor in extremely remote regions of the country.
5. It aims to bring in digital financial solutions for the economically underprivileged sections of the economy.
6. Financial inclusion programme intends to have numerous institutions that offer affordable financial assistance so that there is sufficient competition so that the customers have a lot of options to choose from. There are traditional banking institutions in the country but the number of institutions that offers inexpensive financial products and services is very minimal.
7. Financial inclusion programme aims at improving financial literacy and financial awareness in the nation.
8. It also targets giving customized and uniquely designed financial solutions to poor and disadvantaged sectors of the economy according to their individual financial conditions, household needs, preferences and income levels.

### 2.2. Importance of financial inclusion

For the purpose of this study, the importance of financial inclusion would be classified into the following partitions;

1. **Access to financial services:** Access to financial products and services will assist in equipping individuals to begin and expand businesses, invest in education, health and so forth. It enables the less fortunate and most vulnerable in the society to step out of poverty and reduces the inequality in the society by gaining access to banking products and services such as cash receipts, cash payments or installment and so on.
2. **Empowerment of the society:** Financial inclusion, through the access to an account (savings, current or fixed account) and a payment system enables and empowers individuals and the whole nation which in turn promotes; investment within the community, employment opportunities and improves standards of living. It also brings equality within communities and families. It enables individuals to have the ability to manage and save their money as well as empowering them with the skills and knowledge to make the right financial decisions.
3. **Provision of a healthy banking habit:** Financial inclusion instills the habit to save, therefore, expanding capital formation in the nation and giving it an economic boost. It will, especially the rural area dwellers, develop a savings habit because they either keep their money at their homes which is very unsafe, but if there are banks and financial institutions, they can save their money and rely on these institutions in time of emergencies.
4. **Standard of Living:** Financial inclusion assists with improving the standard of living of residents and citizens of a specific nation, particularly those at the base of the pyramid, who are mostly neglected by deposit Money Banks (DMBs) and other financial institutions.

### 2.3. Advantages of Financial Inclusion

Wikipedia (2020) stated the advantages of financial inclusion as;

1. Capital Formation: Financial inclusion will help the Nigerian economy as a whole especially in the area of capital formation through the means of channelizing the little savings of the rural dwellers.
2. Provision of Subsidies to the Poor: In villages where there are no banks, the available active poor people take loans from moneylenders and rich people who tend to exploit them by charging them higher interest rate than normal. With financial inclusion, these people can take loan from banks which are well regulated and the government, through banks, would provide various subsidies to poor people and thus be saved from greedy moneylenders.

### 2.4. Challenges of Financial Inclusion

Moghalu (2012) stated that the dearth of access to financial services by billions of adults all over the world poses serious challenges to global economic growth and development. According to Him, the major challenges of financial inclusion are:

1. The inability of the populace to save as a result of double digit inflation in the economy, with its attendant effects on real interest rate and continuous loss of money value.
2. Inability to ensure that the poor rural dwellers are carried along considering the lack of sophistication among this segment of the Nigerian

society due to the general low level of financial literacy. Majority of the financially excluded Nigerians lack knowledge of the services and benefits derivable from accessing financial services.

3. The uncompetitive wage levels, particularly in the public sector where a large number belongs to the low-income means that these groups are excluded financially.
4. The challenge of increasing poverty.

### 2.5. Tools for implementing the Financial Inclusion Programme

According to the Central Bank of Nigeria (CBN), the major tools for implementing the financial inclusion strategy include the following;

- Agent Banking
- Know-Your-Customer (KYC) requirements
- Implementation of the Micro, Small and Medium Enterprises Development Fund
- Financial Literacy
- Mobile Money Operation
- Consumer Protection
- Credit Enhancement Programmes such as;
- Agricultural Credit Guarantee Scheme (ACGS)
- Commercial Agricultural Credit Scheme (CACS)
- Nigeria Incentive-Based Risk Sharing System for Agricultural Lending (NIRSAL)
- Small and Medium Enterprises Credit Guarantee Scheme
- Entrepreneurship Development Centers

The study adopted to look at how financial inclusion affects economic development since it broadens the resource base of the financial system by developing a culture of savings among large segments of rural population and plays a role in the process of economic development (Joseph & Varghese, 2014). Therefore economic development looks at what is happening to poverty, unemployment and inequality in the country (Onwumere and Ige 2010).If any of these various are increasing even when the per capita income (GDP) is doubled there is no development. Economic development is when there is improvement in these three variables (poverty, unemployment and inequality).

## 3. Theoretical Framework

For the purpose of this research paper, two theories were used to analyze its theoretical framework and these include; Great spurt theory (Gerschenkron) and financial inclusion theory of change (Corps, 2014). This research would be anchored on the financial inclusion theory of change, propounded by Mercy Corps in the year, 2014.

### 3.1. Great Spurt Theory:

The great spurt theory was propounded by Alexander Gerschenkron. In the research work of Ibrahim and Odunlami (2019), it was explained that, this theory assumes that for a less developed nation to grow from the level of economic backwardness to an industrial modern economy, such country requires a very sharp break with the great spurt of industrialization. It states that banks and government will often start the development in the countries and therein bring to fore the importance of financial inclusion as a launch pad to drive economic revolution for countries with high financial exclusion. According to Balami (2006), the great spurt theory established that industrialization differs from one country to another depending on the level of the country's backwardness, since, according to this theory, all countries were once backward and classified into various segments, namely; very backward, backward, moderate and advanced.

### 3.2. Theory of Change:

This theory was propounded by Mercy Corps (2014). The theory is evidence-based and adheres to market development principles. It states that within inclusive financial systems, if participants are able to access, use and afford a range of financial services then they will better manage economic assets to cope with shocks and stresses, adapt to changing circumstances, and transform their lives. It builds systems that include and serve poor clients beginning from the market where Mercy Corps work. Mercy Corps embraces a broad definition of financial inclusion, seeking to improve access, ensure quality and actual usage of financial products and services, including credit, insurance, leasing, payments, remittances, and savings.

### 3.3. Empirical Review

Nkwede (2015) examined financial inclusion and economic growth in Africa: an Insight from Nigeria covering a period of 1981 to 2013. The study used quantitative research design through the multiple regression model anchored on Ordinary Least Square technique. The extrapolated time series was used for analysis. Findings from this research revealed that financial inclusion has a negative impact on the growth and development of the Nigerian economy over the years. The research revealed the negative impact to be as a result of the high level of financial exclusion of bankable adult citizens in Nigeria. It was further stated by the researcher that Nigerians, and Africans as a whole, should be more financially

inclusive and this could be solved by focusing on the rural populace.

Uruakpa, Kalu and Ufomadu (2019) analyzed the impact of financial inclusion on the economic growth of Nigeria covering a period of 12 years from 2003 to 2015. The study made use of the ex-post facto design. Secondary data gotten from the Central Bank of Nigeria Statistical Bulletin was used and these data were analyzed using the Ordinary Least Square Technique (OLS) involving multiple regression analysis. The study concluded that deposits of rural branches of commercial banks and ATM transactions exert a positive and significant impact on economic growth in Nigeria while Loans of rural branches of commercial banks exert a negative and insignificant impact on economic growth of Nigeria for the period under study. The researcher further suggested that rural branches of commercial banks should mold out more innovative ways of attracting deposits from rural dwellers while also encouraging them to continue the effective utilization of ATM cards in some of their transactions due to its numerous benefits.

Onaolapo (2015) studied the effect of financial inclusion on the economic growth of Nigeria for a period of 30 years spanning from 1982 to 2012. The data used were collected from secondary sources such as the Statistical Bulletin of the Central Bank of Nigeria (CBN), Federal Office of Statistics (FOS) and World Bank. Three econometrics models were adopted for the study. The researcher found out that there is a significant relationship between financial inclusion and poverty reduction in Nigeria but marginally determine national output growth. In any case, the research recommended the need to create deposits and various borrowings windows to the unbankable poor and income groups.

Babajide, Adegboye and Omankhanlen (2015) worked on the financial inclusion and economic growth in Nigeria spanning a period of 31 years (1981-2012) using the Ordinary Least Square regression model as a method of analyzing the data needed in the research through the unit test root and the test of multicollinearity. In the Unit test root, the Augmented Dickey Fuller (ADF) and the Phillips-Perron (PP) tests were used. Data (secondary) were extracted from World Development Indicators (WDIs). Findings from this research indicated that financial inclusion is an important determinant of whole factors of production, which perpetually determines the final level of output in the economy. The research further suggests that natural and economic resources ought to be sufficiently utilized, as alternative methods for renewal and diversification of Nigeria's oil-dependent economy.

In the work of Odeleye and Olusoji (2016), an econometric perspective was used to conduct a research on financial inclusion and inclusive growth in Nigeria for a period of 33 years spanning from 1981 to 2014. The regression model was used to analyze the data needed for the research study. The Ordinary Least Square technique was employed to be used and three tests were used for the interpretation of the data results analyzed, namely; unit test root, co-integration test and causality tests. It was concluded that financial inclusion significantly affects Nigeria's economic growth. The research further stated that money supply, liquidity ratio and credit to the private sectors are the drivers of economic growth and also, finance causes growth in Nigeria.

Okaro (2016) conducted an analytical method of data analysis on financial inclusion and the Nigerian economy covering a period of 25 years spanning from 1990 to 2015. The study adopted a descriptive and quantitative research technique. The data used for the study was analyzed using two analytical tools, namely; descriptive statistics and multiple regression analytical models. In testing the hypotheses used for the research, E-view statistical software version 8.0 was used. Data were sourced from secondary sources such as Central Bank of Nigeria (CBN) statistical bulletin of 2015 and World Bank Indicators (WBI). Employing the technique of Ordinary Least Square (OLS) analytical technique, the researcher found out that there was no relationship between financial inclusion and poverty eradication in Nigeria. Findings from his research revealed that Deposit Money Banks (DMBs) financial intermediation activity, financial deepening, accessibility to financial products and services and infrastructures of various institutions, all have a positive and significant effect on the economic growth in Nigeria.

Nwanne (2015) examined the relationship between financial inclusion and economic growth in Nigerian rural dwellers. The study was analyzed using the descriptive study and content analysis. Findings of this research postulated that the sustainability of financial inclusion to rural dwellers in Nigeria remains the mainstream for economic growth and development in any country.

Otiwu et.al (2018) adopted the Ordinary Least Square (OLS) technique to carry out an investigation on the relationship between financial inclusion and economic growth with focus on micro finance banks (MFBs) in Nigeria for a period of 21 years spanning from 1992 to 2013. The study employed the Johansen co-integration tests to test short relationships among

variables. The research determined the type of regression analysis needed to analyze the data needed through the unit root tests. Findings from this research concluded that total deposits mobilized, number of bank branches and investment have an insignificant effect on economic growth in Nigeria while total loans and advances has a significant effect on economic growth in Nigeria..

Ibeachu (2010) showed financial inclusion as a growth strategy for banking institutions. The comparative analysis method of data analysis was adopted by him to conduct a study on financial inclusion using a case study of Nigeria and the United Kingdom. He employed a deductive approach to measure financial inclusion, accessibility and quality of bank services in Nigeria by analyzing the responses from the survey questionnaires administered. He concluded that financial inclusion was more market driven in terms of consumer behavior and customer satisfaction when offering financial services.

Okoye, Adetiloye, Erin and Modebe (2017) investigated the effect of financial inclusion as a strategy for enhanced economic growth and development in Nigeria. Archival data were collected from Central Bank of Nigeria (CBN) statistical bulletin, Nigeria Deposit Insurance Corporation and website of Nigeria Bureau of Statistics. The estimation equation were developed using dependent variable of economic growth proxied by Gross Domestic Product and explanatory variables of ratio of broad money to GDP, credit to private sector to GDP, loan to deposit and liquidity ratio. Findings from multiple regression analysis indicate that broad money to GDP, credit to private sector to GDP, loan to deposit and liquidity ratio have significant effect on economic growth measured by growth in gross domestic product.

Nwafor and Yomi (2018) studied the relationship between financial inclusion and economic growth in Nigeria. Two hypotheses were formulated, corresponding data (spanning from 2001 to 2016) were obtained and tested using Twostaged Least Squares Regression Method. Findings revealed that financial inclusion have significant impact on economic growth in Nigeria and that financial industry intermediation have not influenced financial inclusion within the period under review. It was recommended that Nigerian banks should develop financial products to reach the financially excluded regions of the country as this will increase GDP per capital of Nigeria and consequently economic growth.

Aina and Oluyombo (2014) investigated the economy of financial inclusion in Nigeria. The study found that though access to bank accounts is high, a majority of the respondents operate savings accounts. However, bank account ownership penetration ratio of 1.4 accounts to an adult including inactive accounts is very low. The use of bank accounts in receiving money from, and sending money to family members living far away helps to service and maintain good family bond typical of Africans where family ties are held in high esteem. Most adults use their accounts between one and five times in a month but 24.01% of the accounts are inactive in receiving deposits while 6.91% are inactive for withdrawal in a month. The most popular non-cash payment methods are ATM/Debit card and wire transfer/on-line payment. 59.58% of those who save used a bank account, 32.5% save with cooperative societies while 26.25% used daily contributors and rotational savings scheme.

## 4. METHODOLOGY

The data used in this research was secondary data and was sourced from Central Bank of Nigeria (CBN) statistical bulletin and UNDP Human Development Reports from 1999 to 2020

Error Correction Mechanism (ECM) analysis was employed in the study in order to explore the contribution of financial inclusion on economic development of Nigeria. In order to achieve the objective of the study, the model from the work of Uruakpa, Kalu & Ufomadu (2019) who investigated the impacts of Financial Inclusion on the Economic growth of Nigeria was adopted and modified. Their model was stated thus;

RGDP=f(FI)……1

RGDP= f(DRBCB,LRBCB,ATM)…….2

Where

RGDP= Real Gross Domestic Product(proxy for Growth)

F.I = Financial Inclusion made up of :

DRBCB= Deposits from rural branches of commercial banks

LRBCB= Loans to rural branches of commercial banks

ATM= Automated teller machine transactions

In other to achieve the objective of this study RGDP was replaced by HDI so as to capture economic development. The study also introduces number of micro finance banks in the country since they are set up to cater for the poor and unbanked in the country.

The model of the study is

HDI=f(FI)……..3

HDI=f(DRBCB,LRBCB,NMFB,CBLS)

where

HDI = Human Development Index

DRBCB = Deposits from rural branches of commercial banks

LRBCB= Loans to rural branches of commercial banks

NMFB= Number of Micro Finance Banks

CBLS= Commercial Bank Loans to Small Scale Enterprise

The first step in this study is to describe the variables and degree of association before we proceed to carry out stationarity test. Stationarity test was conducted using ADF test. The result of the ADF test is shown in Table 3 to 5.

**Table 1: Descriptive Statistics**

| | Mean | Median | Maximum | Minimum | Std.Dev | Obs |
|---|---|---|---|---|---|---|
| HDI | 0.483407 | 0.485000 | 0.539000 | 0.400000 | 0.045121 | 22 |
| DRBCB | 71.54818 | 16.37000 | 354.8600 | 0.020000 | 117.2726 | 22 |
| LRBCB | 141.6727 | 25.76500 | 988.5900 | 7.500000 | 264.3466 | 22 |
| NMFB | 846.5909 | 826.5000 | 1014.000 | 695.0000 | 98.19934 | 22 |
| CBLS | 284.7955 | 142.6400 | 1049.680 | 31.05000 | 280.1119 | 22 |

*Source: Author's Computation*

## 5. RESULTS AND DISCUSSION

Descriptive statistics was used to explain the features of the variables in the model. The mean and the standard deviation of any given set of data are usually reported together, though standard deviation in most cases is a measure of uncertainty .They measure how spread out a trend is in a set of data. A high standard deviation of any given set of data indicates that the data points are far from the mean and a low standard deviation indicates that the data points tend to be very close to the mean. Table 1 shows the summary of descriptive statistics used in the analysis. The mean value was shown to be 0.483407 for HDI, 71.54818 for DRBCB, 141.6727 for LRBCB, 846.5909 for NMFB and 284.7955 for CBLS. The median value was shown to be 0.485000 for HDI, 16.37000 for DRBCB, 25.76500 for LRBCB, 826.5000 for NMFB and 142.6400 for CBLS. The standard deviation for HDI, DRBCB, LRBCB, NMFB and CBLS were 0.045121, 117.2726, 264.3466, 98.19934 and 280.1119 respectively

### Multicollinearity Test

Correlation indicates the degree of association between variables. It assesses the extent and strength of the association between two variables. The result as presented in the table 2 showed that most of the variables employed are highly correlated and that there is significant correlation between the variables used in the model as most of them are not considered insignificant as they are above 50% level of significant. The study found that there was a positive correlation coefficient between DRBCB (0.528), LRBCB (0.475), NMFB (0.657), CBLS (0.803) and HDI respectively. Hence, there is no suspicion of possible multicollinearity.

**Table 2: Multicollinearity Test**

| | HDI | DRBCB | LRBCB | NMFB | CBLS |
|---|---|---|---|---|---|
| HDI | 1.000000 | 0.528066 | 0.475411 | 0.657304 | 0.803668 |
| DRBCB | 0.528066 | 1.000000 | 0.089274 | 0.510811 | 0.841380 |
| LRBCB | 0.475411 | 0.089274 | 1.000000 | 0.255746 | 0.373352 |
| NMFB | 0.657304 | 0.510811 | 0.255746 | 1.000000 | 0.594062 |
| CBLS | 0.803668 | 0.841380 | 0.373352 | 0.594062 | 1.000000 |

*Source: Output Data via E-views 10.0*

### Unit Root Test

### Augmented Dickey-Fuller (ADF)

Augmented Dickey-Fuller (ADF) unit root test was conducted in order to determine whether there are unit roots or stationary series. In conducting this test, the Augmented Dickey-Fuller (ADF) unit root test with intercept would be employed to determine the stationarity of data.

**Table 3: ADF Test Result at Level: Intercept Only**

| Variables | ADF Test Statistic | Test Critical Value at 1% | Test Critical Value at 5% | Remarks |
|---|---|---|---|---|
| HDI | -0.810873 (0.79) | -3.788030 | -3.012363 | Not Stationary |
| DRBCB | 1.202028 (0.99) | -3.788030 | -3.012363 | Not Stationary |
| LRBCB | -3.006033 (0.05) | -3.788030 | -3.012363 | Not Stationary |
| NMFB | -1.998575 (0.28) | -3.788030 | -3.012363 | Not Stationary |
| CBLS | -2.084757(0.25) | -3.788030 | -3.012363 | Not Stationary |

*Source: Output Data via E-views 10.0*

**Table 4: ADF Test Result at 1st DIFF: Intercept Only**

| Variables | ADF Test Statistic | Test Critical Value at 1% | Test Critical Value at 5% | Remarks |
|---|---|---|---|---|
| HDI | -4.198148 (0.00) | -3.808546 | -3.020686 | Stationary |
| DRBCB | -3.075628 (0.04) | -3.808546 | -3.020686 | Stationary |
| LRBCB | -4.794176(0.00) | -3.808546 | -3.020686 | Stationary |
| NMFB | -4.254100 (0.00) | -3.808546 | -3.020686 | Stationary |
| CBLS | -4.620981(0.00) | -3.808546 | -3.020686 | Stationary |

*Source: Output Data via E-views 10.0*

**Table 5: ADF Test Result at 2nd DIFF: Intercept Only**

| Variables | ADF Test Statistic | Test Critical Value at 1% | Test Critical Value at 5% | Remarks |
|---|---|---|---|---|
| HDI | -5.908292 (0.00) | -3.831511 | -3.029970 | Stationary |
| DRBCB | -6.234075 (0.00) | -3.831511 | -3.029970 | Stationary |
| LRBCB | -5.520280(0.00) | -3.831511 | -3.029970 | Stationary |
| NMFB | -6.725956 (0.00) | -3.831511 | -3.029970 | Stationary |
| CBLS | -5.411068(0.00) | -3.831511 | -3.029970 | Stationary |

*Source: Output Data via E-views 10.0*

Unit root test in Table 3 to 5 shows that none of the variables was stationary at level hence the need to difference the variables further. Table 4 and 5 shows that the variables were stationary at order one and two which allows for the use of Error Correction Mechanism (ECM).

**Diagnostic Test**

**Serial Correlation LM Test**

The Breusch-Godfrey test is used to test for the presence or absence of serial autocorrelations in the model.The presence of serial correlation in a model casts dent to the statistical reliability of the regression result.From table 6, the p-value is greater than the chosen level of significance of 5%, indicating the absence of autocorrelation in the models.

**Table 6: Breusch-Godfrey Serial Correlation LM Test**

| Model | F-statistic | Prob |
|---|---|---|
| HDI | 0.937874 | 0.4306 |

*Source: Data output via E-views 10.0*

**Heteroskedasticity Test**

The presence of heteroskdedasticity in a model might result in bias in regression outcome. The magnitude of residuals of most financial time series data appears to be related to the magnitude of recent residuals, hence it should be avoided. Heteroskdedasticity test for the models were checked and Table 7 absolved the model from the problem of heteroskdedasticity as the p-values is insignificant at 5% level of significance.

**Table 7: Heteroskedasticity test**

| Model | F-statistic | Prob |
|---|---|---|
| HDI | 0.230957 | 0.9811 |

*Source: Data output via E-views 10.0*

**Ramsey Reset Test**

The result of the Ramsey RESET test shows that the p-value of about 21.32% (0.2132) is greater than the critical value of 0.05 This shows that there is no apparent non- linearity in the regression equations and it would be concluded that the linear models are appropriate.

**Table 8: Ramsey RESET test**

| | Value | df | Probability |
|---|---|---|---|
| t-statistic | 1.339740 | 9 | 0.2132 |
| F-statistic | 1.794903 | (1, 7) | 0.2132 |
| Likelihood ratio | 3.636989 | 1 | 0.0565 |

*Source: Data output via E-views 10.0*

**CUSUM and CUSUM of squares tests of stability**

The stability test results are shown in Figs.1 and 2. The CUSUM and CUSUM of squares are the tests used to check stability within the model. The results of stability test show evidence that the model is stable. This is indicated by a movement of blue lines located within the critical lines (two-red dotted lines) in the figures. Therefore, at 5% level of significance, the CUSUM and CUSUM of squares stability tests confirm good performance of the model.

**CUSUM TEST**

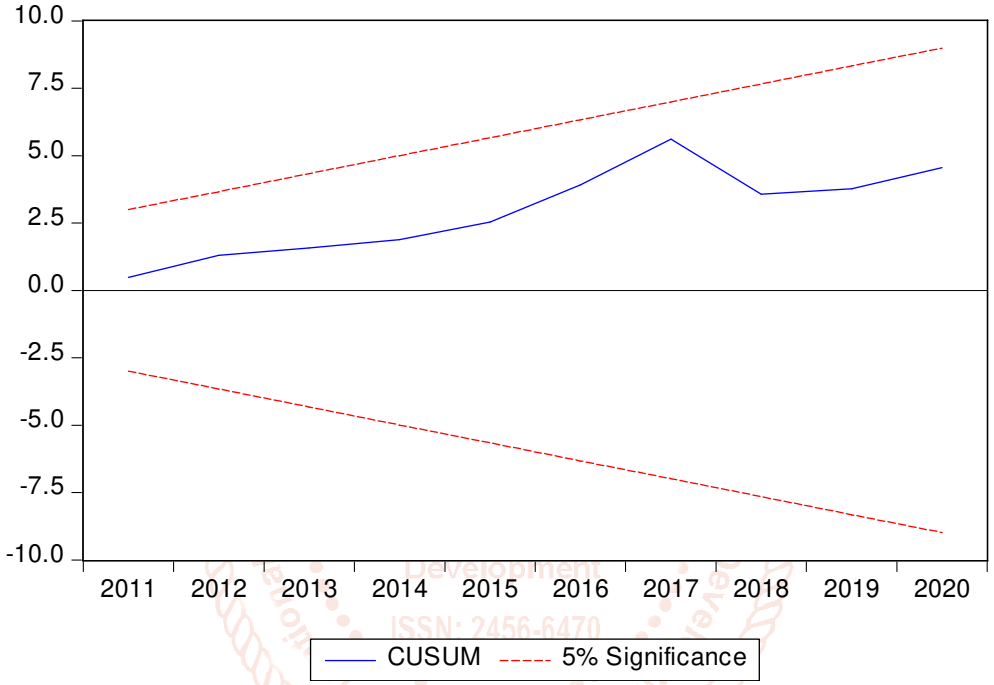


**Fig. 1. CUSUM text Source: E-views 10.0 version data output**

**CUSUM SQUARE TEST**

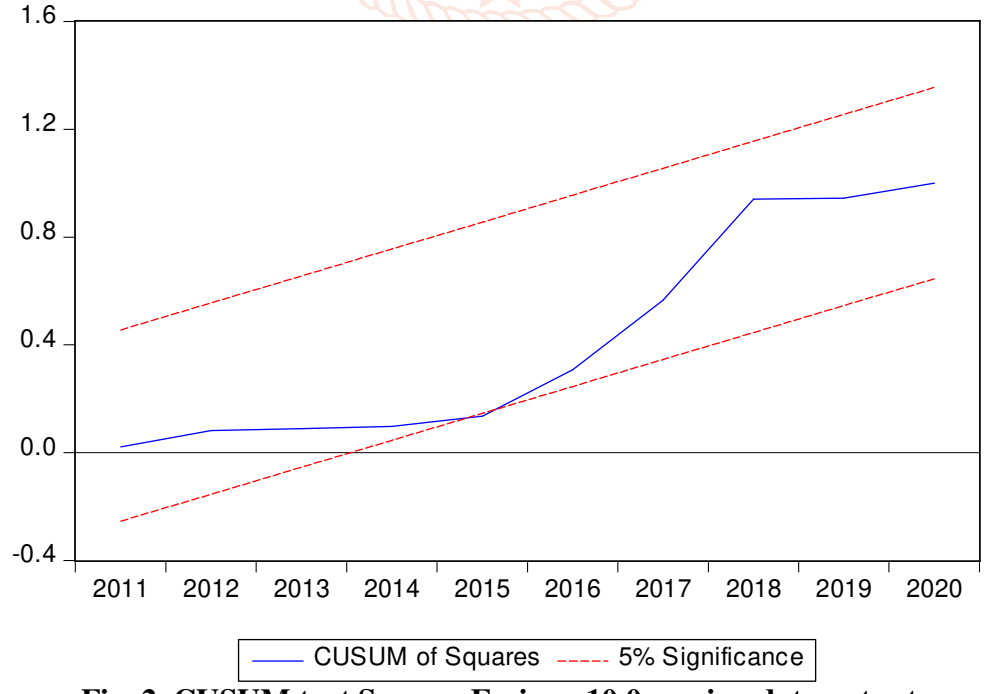


**Fig. 2. CUSUM text Source: E-views 10.0 version data output**

**Co-Integration Test**

The co-integration test is used in the determination of the long-run relationship that exists between variables. Table 9 shows that long-run relationship (co-integration) exists among the variables. There is one cointegrating equation in the model. This is reflected in the trace statistic of table 9 which shows a value greater than that of the 5% critical value respectively. With the existence of long run relationship, there is need to analyze normalized long run coefficients based on Johansen test. The result of the normalized coefficients shown in Table 10 shows a long-run effect between financial inclusion and economic development in Nigeria.

**Note**: Standard errors in ( ) and t- statistic in [ ].** implies significant at 1% level of significant.

In long run number of micro finance banks and commercial bank loans to small scale enterprise have positive effect on human development index while deposits from rural branches of commercial banks and loans to rural branches of commercial banks have negative effect on human development index The coefficients of DRBCB, NMFB and CBLS are statistically significant at the 1% level.

**Conclusion:** The null hypothesis of no cointegration is rejected against the alternative of cointegrating relationship in the model.

**Table 9: Presentation of Johansen co-integration result**

| Eigen Value | Trace Statistic | 5% Critical Value | Prob. ** | Hypothesized no. of CE(s) |
|---|---|---|---|---|
| 0.962135 | 122.2956 | 88.80380 | 0.0000 | None* |
| 0.736237 | 56.82099 | 63.87610 | 0.1700 | At most 1* |
| 0.564706 | 30.16692 | 42.91525 | 0.4924 | At most 2* |
| 0.324746 | 13.53226 | 25.87211 | 0.6959 | At most 3 |
| 0.247193 | 5.678941 | 12.51798 | 0.5021 | At most 4 |

*Source: Output Data from E-views 10.0*

**(**) denotes rejection of hypothesis @ 5% and (1%) Significant level*

*L.R. test indicates 1co-integrating equation @ 5% significant level*

**Table 10: Normalized Long-Run Coefficient Based on Johansen Test**

| Dependent Variable HDI | | | | |
|---|---|---|---|---|
| C | DRBCB | LRBCB | NMFB | CBLS |
| -342.0609 | 0.000233 | 2.42E-05 | -0.000291 | -0.000129 |
| | (2.8E-05) | (4.7E-06) | (1.4E-05) | (6.6E-05) |
| | [8.3214] | [0.51489] | [-2.07857] | [-1.95454] |

*Source: Output Data from E-views 10.0*

**Table 11: Error Correction Model**

| Dependent Variable: HDI | | | | |
|---|---|---|---|---|
| Method: Least Squares | | | | |
| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
| D(HDI) | 0.641887 | 0.356183 | 1.802128 | 0.1017 |
| D(DRBCB(-1)) | 0.000712 | 0.000189 | 3.771404 | 0.0037 |
| D(LRBCB) | -2.45E-05 | 1.84E-05 | -1.329028 | 0.2134 |
| D(LRBCB(-1)) | 6.39E-05 | 1.99E-05 | 3.217187 | 0.0092 |
| D(NMFB) | -0.000182 | 0.000110 | -1.651160 | 0.1297 |
| D(NMFB(-1)) | 0.000205 | 0.000100 | 2.050087 | 0.0675 |
| D(CBLS) | -0.000228 | 0.000281 | -0.811644 | 0.4359 |
| D(CBLS(-1)) | 0.000294 | 0.000266 | 1.103276 | 0.2957 |
| ECM(-1) | -1.373395 | 0.218278 | 6.291944 | 0.0001 |
| C | 0.469045 | 0.005399 | 86.87030 | 0.0000 |
| R-squared | 0.891093 | Mean dependent var | | 0.485898 |
| Adjusted R-squared | 0.793078 | S.D. dependent var | | 0.046660 |
| S.E. of regression | 0.021225 | Akaike info criterion | | -4.560432 |
| Sum squared resid | 0.004505 | Schwarz criterion | | -4.062566 |
| Log likelihood | 55.60432 | Hannan-Quinn criter. | | -4.463243 |
| F-statistic | 9.091316 | Durbin-Watson stat | | 1.662885 |
| Prob(F-statistic) | 0.000940 | | | |

*Source: Output Data from E-views 10.0*

Error Correction Mechanism (ECM) in Table 11 and shows that Constant and DRBCB has a positive effect on HDI while LRBCB, NMFB and CBLS has a negative effect on HDI. The result also shows that all the variables have insignificant effect on HDI except DRBCB which has significant effect. This shows that financial inclusion as presented in Table 11 has negative and insignificant effect on the Nigerian economic development for the period under study which is consistent with the study of Nkwede (2015). The disequilibrium error term, ECMt-1, is negative and statistically significant (as expected) in the equation. The significance of the error terms confirms the existence of long-run relationship between the variables in the error correction model. Of particular interest is the coefficient on the lagged ECM in the HDI equation. The ECM induces about 137% adjustment per period in this equation. In addition, the equation is statistically significant and the overall statistical fit is good. The marginal significance level of the F-statistics is zero. Hence, the null hypothesis of the F-statistics is rejected at all specified significance levels. Therefore, the conclusion is that, as groups, the regression coefficients are significantly different from zero. The high value of the Durbin-Watson (DW) indicates absence of autocorrelation.

**Table 12. Pairwise granger causality test on input variables**

| Pairwise Granger Causality Tests | | | |
|---|---|---|---|
| **Null Hypothesis:** | **Obs** | **F-Statistic** | **Prob.** |
| DRBCB does not Granger Cause HDI | 20 | 0.51294 | 0.6089 |
| HDI does not Granger Cause DRBCB | | 1.83585 | 0.1936 |
| LRBCB does not Granger Cause HDI | 20 | 0.09756 | 0.9076 |
| HDI does not Granger Cause LRBCB | | 3.06587 | 0.0765 |
| NMFB does not Granger Cause HDI | 20 | 3.42302 | 0.0596 |
| HDI does not Granger Cause NMFB | | 5.22357 | 0.0190 |
| CBLS does not Granger Cause HDI | 20 | 0.05021 | 0.9512 |
| HDI does not Granger Cause CBLS | | 0.97234 | 0.4008 |

*Source: Output Data from E-views 10.0*

The work tested the causality of the variables studied on the dependent variable HDI using granger causality test. The output data were shown in Table 12.Table 12 revealed that there exist a unilateral causality between Number of Micro Finance Banks (NMFBI) and Human Development Index (HDI); since the probability value is less than 5% and the F-statistic is greater than the F-tabulated, therefore, we reject the Null Hypothesis (H0) and accept the Alternate Hypothesis (H1). This shows that the unidirectional relationship between NMFB and HDI will help increase the economic activity in the rural areas. The increase in the number of micro finance banks will help provide financial services at an affordable cost to sections of disadvantaged and lower income segments of the society poor which will help improve the standard of living in the country.

## 6. CONCLUSION AND POLICY IMPLICATION

Financial inclusion is expected to ensure inclusive growth and development since it allows the users of financial products have access to a broad range of products created according to their needs and provided at affordable costs. Financial inclusion strategy of Central Bank of Nigeria has been viewed as a way of engaging our teeming youthful population and reducing high unemployment rate in the country. Despite these benefits of financial inclusion previous studies on this topic has been conflicting which makes it possible for the researcher to make its own input on the contribution of financial inclusion on the economic development of Nigeria from 1999 to 2020. Descriptive statistics was used to describe the variables while correlation was used to explain the degree of the association among the variables. The unit root status of the variables was established and was discovered to be intergrated at order I(1).This necessitated the use of Error Correction Mechanism (ECM) in the study The result of the analysis shows that financial inclusion has negative and insignificant effect on the Nigerian economic development within the period of the study and is consistent with the study of Nkwede (2015) and Babajide, Adegboye and Omankhanlen (2015) .The study therefore agrees that financial inclusion will help in economic development of the country and thus reduction in the poverty rate in the country if implemented effectively. As such it becomes imperative to make the following recommendation: The Central bank of Nigeria should intensify efforts aimed at credit facilities to Small and Medium scale Enterprises (SMEs) to boost financial inclusion in the economy by mandating banks to dedicate 10% of their net profit after tax to SMEs loans. Commercial banks should diversify their portfolios as this will help reduce various investment risks they face while extending financial service to the poor and rural dwellers in the country.. There is need to improve the Financial infrastructure in the

country which will help banks in deposit mobilization especially the unbanked and rural dwellers in the country..The Central bank of Nigeria should approve the establishment of more micro-finance banks in order to meet the financial needs of low-income neighborhoods and rural dwellers. This will strengthen the financial inclusion drive thereby increasing economic development in Nigeria. Banks should ensure that the Know Your Customer (KYC) directives/manual issued by the Central Bank of Nigeria (CBN) is properly implemented so as to encourage prospective customers in the rural areas of the safety of their accounts.

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