

## FINANCIAL INCLUSION AND THE ECONOMIC GROWTH OF NIGERIA

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### ABSTRACT

*This study access financial inclusion on economic growth of Nigeria. The study covered a period between 1990-2021. The study made use of deposit of rural branches of deposit money banks and loan of rural branches of deposit money banks as proxy for the independent variables while gross domestic product was used as proxy for the dependent variable. The study employed ex-post facto research design. The study conducted various pre and post estimation test to fulfill the assumption of regression and to avoid spurious regression result. E-view 10.0 statistical software was used. The study found that deposit of rural branches of deposit money banks has positive (0.342) and insignificant (0.735) effect on gross domestic product of Nigeria, the study also found that loan of rural branches of deposit money banks has positive (7.050) and significant (0.00) effect on gross domestic product of Nigeria. The study recommended Rural branches of deposit money banks should fashion out more innovative ways of attracting more deposits from the rural dwellers as a way of contributing more to the economic growth of Nigeria. This can be achieved by creating platforms that would make depositing money easier and accessible. Rural branches of deposit money banks should closely monitor the loans they granted to their customers to make sure that sure loans are not misallocated.*

**Keywords:** Deposit Money Bank, Economic Growth, Financial Inclusion, Financial Deepening and Gross Domestic Product.

### 1.0 INTRODUCTION

Financial inclusion can be defined as the process that ensures the ease of accessibility, availability, and affordability of formal financial services for all members of an economy (Sarma 2008). World Bank (2018) observed that financial inclusion gradually increasing globally. This increase was attributed to the use of mobile phones and internet. Globally, 69% of adults (3.8 billion) are financially included as at 2018, a step in poverty reduction. From 2014 – 2017, a total of 515 million adults have obtained bank account globally (World bank, 2018). Some countries account ownership surged while some progressed slowly, often caused by large disparities between the male and female folks and between the high, middle and low income earners. In East Asia and the Pacific, digital financial transactions (DFT) have risen, especially in China. The share of account holders who use internet to pay bills have doubled to about 57%. The same is said for Europe and Central Asia, where account ownership rose from 58% of adults in 2014 to 65% in 2017 (World bank, 2018). Government payments of salaries and wages, social services (pensions and other social benefits) through digital technology accounted for the increase. Digitizing all public payments could help in the reduction of unbanked adults by 20 million. Also, in Latin America and the Caribbean, 55% of adults own at least one mobile phone and can access the internet. Since 2014, the number

of adults accessing digital payments has risen by about 8%. About 20 percent adults who are account holders use mobile phone or internet to make payment (World bank, 2018). In 2012, Nigeria introduced the National Financial Inclusion Strategy (NFIS) and promoted it as a key driver in becoming one of the world's largest economies. The goal of NFIS is to decrease the number of Nigerians without access to financial services from 46.3% to 20% by the year 2020. These developments present an exciting opportunity for female entrepreneurs, especially, to participate in the banking system. Despite being Africa's largest economy, only 50% of Nigerian adults have an account at a formal banking institution. Currently, more women are excluded than men, with about 45% of them holding no account (Njideka, 2020). According to CBN (2013), achieving pervasive financial inclusion has remained a global challenge with as much as 54.0 percent of adults worldwide being financially excluded, i.e. without access to financial services. This situation is even worse in the developing economies where some countries have as much as 70.0 percent financial exclusion levels. The consequence of financial exclusion is that it minimizes the scale of economic activities that can be financed and thus, limiting the potentials for economic growth. Financial inclusion guarantees improved ability of the poor to save, borrow and make payments throughout their lifetime, thus actively participating in economic activities and contributing to the growth of the economy. It will help pave way for sustainable economic growth by providing financial services to individuals and communities that hitherto have limited or no access to the formal financial sector as evidenced in Nigerian rural dwellers.

In Nigeria, there are many reasons for the high rate of the unbanked and those lacking of access to financial services, especially among the rural dwellers. These include, lack of infrastructural development, illiteracy, poverty and insecurity. The result of access to financial services in Nigeria in 2020 survey showed that about 349 million adults representing 39.7% of the adult populations were financially excluded. This means that only 28.6 million adults were banked, representing 32.5% of the adult's population (EFInA, 2013). Over the years, financial inclusion of rural dwellers and active poor suffers the needed attention from the financial institutions in Nigeria. Rural financial intermediation and small business financing are conspicuously missing on the priority of the conventional banks. As a result, the rural sector and the active poor remained heavily constrained by its small economic capacity due to inadequate financial consideration. Yet, the rural sector and active poor with its characteristic small business has the potential for capacity building and economic drive in any economy. Therefore, failure to recognize this as a challenge would amount to undermining the roles of the sector in economic growth. Financial inclusion has increasingly become a crucial topic among researchers, stakeholders and policymakers especially in developing nations. However, 65% of adults in the poorest developing nations still lack access to a transaction account and only 20% save through a formal financial institution (Pazarbasioglu et al., 2020). According to the Global Findex report in 2017, only 33% of the adult population own a bank account at a formal financial institution in sub-Saharan Africa (SSA), which is less than any other region in the world (Demirguc-Kunt et al., 2018). Primarily, financial inclusion begins with adults owning a transaction account which can be used to save money, send and receive payments (Demirgüç-Kunt et al., 2017). For low-income individuals and households, owning formal bank accounts involve inconveniences and high transaction costs (Beck & Demirgüç-Kunt, 2008; Karlan et al., 2016; Soumaré et al., 2016) but the availability of mobile telephony has helped to reduce the

constraints, especially, in rural areas (Andrianaivo & Kpodar, 2011; Pazarbasioglu et al., 2020). Although Nigeria is among the prevalent economies in Africa, little emphasis has been directed towards Financial Inclusion, where only a minor percentage of the adult population are included. According to a survey done by Enhancing Financial Innovation & Access (EFInA) in Nigeria, “about 39.7% of adult population are not included in the financial sector” EFInA (2013). Mbutor & Ibrahim (2013) explained how Nigeria has a formal payments penetration of 21.6%, that is lower than the level of 46% in both South Africa and Kenya.

This study would provide answers to the following research questions;

- i. Does deposit of rural branches of deposit money banks have positive and significant effect on gross domestic product of Nigeria?
- ii. Does loan of rural branches of deposit money banks have positive and significant effect on gross domestic product of Nigeria?

The broad objective of this study is to investigate the effect of financial inclusion on economic growth of Nigeria. While other specific objective includes;

- vii. To access whether deposit of rural branches of deposit money banks have significant effect on gross domestic product of Nigeria.
- viii. To examine whether loan of rural branches of deposit money banks have significant effect on gross domestic product of Nigeria.

The following hypotheses of this study is stated in null form;

H0<sub>1</sub>: Deposit of rural branches of deposit money banks do not have positive and significant effect on gross domestic product of Nigeria.

H0<sub>2</sub>: Loan of rural branches of deposit money banks do not have positive and significant effect on gross domestic product of Nigeria.

## **2.0 LITERATURE REVIEW**

### **Concept of Financial Inclusion**

Financial inclusion is the process of ensuring access to financial products and services needed by vulnerable groups at an affordable cost in a transparent manner by institutional players (Lenka, 2021). Financial inclusion is a method of offering banking and financial services to individuals. It aims to include everybody in society by giving them basic financial services regardless of their income or savings. It focuses on providing financial solutions to the economically underprivileged. The term is broadly used to describe the provision of savings and loan services to the poor in an inexpensive and easy-to-use form (Olubanjo, 2017).

Lenka (2021) posited that financial sector can be broadly discussed within two folds— financial development (financial depth and liquidity) and financial inclusion (financial access). Financial development is the realisation of financial innovation and institutional developments to reduce information asymmetry, advance market inclusiveness, promote competitiveness and ease transaction cost in a financial system (Hartmann et al., 2007; Ibrahim & Alagidede, 2017). It defines the development of financial institutions and markets, and foreign capital flows that work together to reduce information, transaction and enforcement costs. However, the maxim of financial inclusion is connecting unbanked and underbanked people to affordable, transparent and reliable financial services which have far-reaching

economic benefits (Sarma, 2015; Siddik et al., 2019). Although financial development and financial inclusion are broadly two inseparable concepts (financial inclusion is a basic determinant of financial development), it is imperative to know that a country may be financially developed with several people still remaining outside the formal financial system (Lenka, 2021; Sarma, 2008). Both promote economic growth with differing magnitudes (Chauvet & Jacolin, 2015).

### **Measuring Financial Inclusion**

Not surprisingly, as there is no consensus on the definition of financial inclusion, so it is in the measurement of financial inclusion. Earlier scholars have discussed diverse financial inclusion measurements with numerous proxies. One of the major efforts in measuring financial access was done by Beck et al. (2007). The researchers developed new measures of two types of bank access—loans, deposits, and payments—reflecting access and use of financial services. Honohan (2008) similarly measured financial inclusion using the fraction of households that have access to accounts in the formal financial sector. Other studies used a set of specific indicators—savings, credit and payment as financial inclusion measures (Demirguc-Kunt & Klapper, 2012; DemirgucKunt et al., 2018; Demirgüç-Kunt et al., 2015). The indicators were developed through interviews in a survey of more than 150, 000 persons between the ages of 15 and above in 148 countries. Nevertheless, financial inclusion cannot be accurately measured using individual indicators due to its multidimensional nature (Clamara & Tuesta, 2014). Individual indicators being used alone can only provide partial evidence about the financial system's inclusiveness and the level of coverage within an economy (Nguyen, 2020; Sarma, 2016). The two measures of financial inclusion by this study includes; Deposit of rural branches of deposit money banks, this has to do with the deposit that was gotten from rural branches of the bank. Due to financial illiteracy and lack of bank branch in some rural areas in Nigeria, the deposit that has been gotten from rural areas has been very small. Also another dimension of financial inclusion is loan of rural branches of deposit money banks. This connotes the loan that was given to rural dwellers in a particular year. Loan to rural dwellers has been very small because most of the rural dwellers don't have enough security to be able to secure loan and also the past records of some rural dwellers diverting loan into unproductive use has made most banks to putout signet measures of administering loans to rural dwellers which many of them are unable to meet.

### **Concept of Gross Domestic Product**

GDP measures the monetary value of final goods and services i.e. that is, those that are bought by the final user produced in a country in a given period of time (say a quarter or a year). It counts all the output generated within the borders of a country (Lenka, 2021). GDP is composed of goods and services produced for sale in the market and also includes some non-market production, such as defense or education services provided by the government. An alternative concept, gross national product, or GNP, counts all the output of the residents of a country. So if a Nigerian-owned company has a factory in the United States, the output of this factory would be included in US GDP, but in Nigeria GNP. Not all productive activity is included in GDP. For example, unpaid work (such as that performed in the home or by volunteers) and black-market activities are not included because they are difficult to measure and value accurately. That means, for example, that a baker who produces a loaf of bread for

a customer would contribute to GDP, but would not contribute to GDP if he baked the same loaf for his family.

### **Financial Inclusion and Economic Growth**

Migap et al (2015), submitted that access to basic financial services in Nigeria would lead to increased economic activities and employment opportunities for rural households, as more people get engaged in economic activities, the disposable income of the rural household would rise, leading to more savings and a robust deposit base for the bank, the multiplier effect will result in economic growth, this implies inclusive growth. Hariharan and Marktanner (2012) concluded that financial inclusion has the potential to enhance economic growth and development. They found a strong positive correlation between a country's financial inclusion and total factor productivity (TFP), implying that financial inclusion possesses the ability to create capital. The study concluded that financial inclusion has the potential to increase the financial sector savings portfolio, enhance efficiency of intermediation, and boost entrepreneurial activities which ultimately results in economic growth.

According to Sarma and Pais (2010), a financially inclusive system helps in reducing the prevalence of informal financial institutions that are in most cases exploitative, it encourages easy access to capital and usage of the formal financial system by all segments of the economy. Financial inclusion enhances efficient allocation of productive resources and in the process reduces the cost of capital. They concluded that financially inclusive systems enhance efficiency and welfare by providing avenues for secure and safe financial practices. Mbutor and Uba (2013) presented a simple model showing the impact of financial inclusion on monetary policy in Nigeria between 1980 and 2012. The result from the study shows that growing financial inclusion improves the effectiveness of monetary policy. Subbarao (2009) asserted that a very few economies transit from an agrarian system to a postindustrial modern society without a broad-based financial inclusion strategy. Financial inclusion will make it possible for governments to make payments such as credit guarantee funds, subsidies and wages, directly to the bank accounts of beneficiaries through electronic transfer channels. This will minimize transaction costs, pilferages, leakages and subsequently eliminate corruption from the society.

### **Efforts and Strategies of Government at Financial Inclusion in Nigeria**

Financial access to all and sundry has been identified as an important policy tool employed by government globally to stimulate growth in world economies. Over the years in Nigeria, the government and monetary authorities have introduced varying policies and programmes designed to facilitate access of the financially excluded to formal financial services. Some of these according to the CBN (2013) include:

- i. The adoption of the rural banking programme in the late 1970s. The scheme was introduced by the CBN in 1977 with the goal of achieving one bank branch in each of Nigeria's local government areas. Government hoped that the scheme will encourage banking habit among rural population via the mobilization of savings in the rural areas as well as the provision of credit for the growth of small scale industries and entrepreneurs (Okorie, 1990).

- ii. Again, to promote increased savings and growth banking habit, the government founded the People's Bank and also facilitated the establishment of Community Banks which later metamorphosed into Microfinance Banks in 2005.
- iii. E-Banking Products, Electronic Payment System and Cashless Policy. The CBN has in recent times stepped up campaign for banks to invest heavily on other low-cost branchless channels such as ATMs, Point-of-Sale (POS), Mobile Banking etc. This policy is intended to drive financial inclusion based on the implicit assumption that reduced banking cost and more efficient payment system will encourage more people and business to embrace the formal financial services platforms.
- iv. Non-interest Banking. The CBN also introduced Non-Interest Financial Institutions in 2011. The aim is that Islamic Bank products would bring into the banking sector a large number of the country's population that had earlier stayed away (avoided) from organized conventional financial services, due to their aversion to interest and interest-based products.
- v. Some of the other specific institutional initiatives to promote funding and growth of small and medium-scale enterprise (SMEs) and small business included the National Economic Reconstruction Fund (NERFUND) and family Economic Advancement Programme (FEAP). NERFUND was created in 1988 to provide local and foreign funds for small and medium scale businesses, while the FEAP was established principally to assist rural women who were considered not to be having access to finance to grow their businesses.

## **Theoretical Review**

### **Supply Led Finance Theory**

This theory was first developed by Patrick (1966), who posits that finance is one of the leading aspects of economic development. Supply led finance theory is growth inducing or growth induced, which means finance is the most significant factor for promoting economic development. The provision of funds through financial institutions to support the creation, transformation, expansion of industries and developmental projects is an element of the supply led theory. Furthermore, the supply-led finance theory can simply be described as the establishment of financial institutions in some areas before their products and services are effectively demanded. This includes, Pius Okigbo's financial review committee in Nigeria, with respect to rural banking schemes of 1977 and the introduction of community banking system in 1990 which helped encourage savings mobilization and credit expansion which were direct reactions to the supply-led finance theory. The theory assume that finance is regarded as a means of promoting small enterprises. In this case, productive resources are often transferred from non-growth sectors to growth or modern sectors of the economy to boost economic growth in the economy.

### **Financial Intermediation Theory**

This theory was first developed by Diamond (1984). Efficient financial inclusion promotes financial intermediation which is seen as the extent to which financial institutions bring deficit spending units and surplus spending units together (Ndebbio, 2004). An important question that theories try to answer is why do investors first lend to banks who then lend to borrowers, instead of lending directly? Arguments point out to the fact that banks are able to effectively monitor borrowers and thus play the role of delegated monitoring. The theory assume that financial intermediaries play a crucial role of intermediation in the growth process by transferring financial resources from the net savers to net borrowers, thus

influencing investment and thereby economic growth. The theory suggests that financial intermediaries can overcome a market failure and resolve an information asymmetry problem by transforming the risk characteristics of assets. These asymmetries in credit markets arise because borrowers generally know more about their investment projects than lenders do. Information failures lead to specific forms of transaction costs and financial intermediaries appear to overcome these costs, at least partially.

### **Underpinning Theory**

The study was anchored on the financial intermediation theory. This is because each of the selected arms of financial inclusion has a significant role in the channeling of fund from economic agents having surplus to economic agents having deficits. All the two sectors generate large pool of funds, and provide mechanisms that allow such fund to be assessed by other economic units in the economy especially those in the rural areas. It is through the later (providing mechanisms that allow funds to be assessed) that the respective sectors foster financial inclusion in the economy.

### **Empirical Review**

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 two staged Least Squares Regression Method. Findings revealed that Loan of Rural Branches of Deposit Money Banks have significant impact on gross domestic product in Nigeria. The study 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.

Anyanwu et al., (2018) evaluated the effect of available microfinance banks products in rural communities via rent savings, child education, new born and daily savings account on women empowerment. A descriptive survey design was utilized to realize our objective. Two hundred (200) questionnaires were distributed to respondents, out of which one hundred and ninety (190) were fully completed and used for the analysis. The study recommended the creation of more women tailored products by microfinance banks. This will avail them the opportunity to choose from variety of products and services that specifically suit their needs. Furthermore, collateral for women to access finance from these microfinance banks should be community/socially based rather than individually based.

Olubanjo (2017) studied income, education, age, gender, urban-rural classification and access, as key drivers of financial inclusion and analyzed their impact on the likelihood of being banked in Nigeria. The study used a survey of over 20,000 respondents in 37 states in Nigeria from 2008 to 2016. Being a woman, a youth and living in a rural area, however, have significant negative effects on financial inclusion. Lastly the lower the average travel time to the nearest branch of a bank, the more likely an individual will be financially included in Nigeria.

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.

Mbutor and Uba (2013) studied a simple model showing the impact of financial inclusion on monetary policy in Nigeria between 1980 and 2012. The result of the study supported the notion that growing Deposit of Rural Branches of Deposit Money Banks would improve the effectiveness of monetary policy. However, the coefficient of the number of bank branches has the wrong sign and this is explained by the fact that, in opening branches, banks mainly pursue profits but not financial inclusion which is a policy objective, so that there are clusters of branches which are under-utilized while numerous locations which are considered not favorable for balance sheets are under-branched.

### Gap in Literature

The reviewed empirical works above showed that extant studies has been carried out on financial inclusion and economic growth. Studies such as Nwafor and Yomi (2018) and Mbutor and Uba (2013) made use of old time-series data of which this present study made used of a more recent time-series data. Also, from the review, the study of Anyanwu et al., (2018) and Olubanjo (2017) employed survey research design as against *ex-post facto* research design that was supposed to be used for study of this nature. Also from the reviewed works, none combined the financial inclusion variables that was used by this study. This study filled the highlighted gaps.

### 3.0 METHODOLOGY

In this study, ex-post facto design was adopted in obtaining, analyzing and interpreting data relating to the objectives of this study. This design enables the researcher to observe variables over a long period of time. Secondary data sources were used in this work. Data of deposit of rural branches of deposit money banks, loan of rural branches of deposit money banks and gross domestic product were mainly obtained from published materials of the Central Bank of Nigeria Statistical Bulletin. The scope of this study covers a period of thirty-two (32) years from 1990 to 2021. This study was carried out in Nigeria using deposit of rural branches of deposit money banks and loan of rural branches of deposit money banks as proxies for the independent variable (financial inclusion) while gross domestic product was used as the proxy for the dependent variable (economic growth). The study conducted various pre and post estimation test to fulfill the assumption of regression and to avoid spurious regression result. Descriptive statistics and multiple regression were used to analyze the result. E-view 10.0 statistical software was used.

#### Measurement Variable

**Table 3.1**

S/N	Variable Name	Description/Measure	Variable Type	Source	A-priori Expectation
1	GDP	Measured as Gross Domestic Product	Dependent	Nwafor & Yomi (2018)	Nil
2	DRBDMB	Measured as Deposit of Rural Branches of Deposit Money Banks	Independent	Mbutor & Uba (2013)	Positive
3	LRBDMB	Measured as Loan of Rural Branches of Deposit Money Banks	Independent	Nwafor & Yomi (2018)	Positive

**Source:** Researcher compilation from the Literature, 2023.

**Model Specification**

In order to investigate the effect of financial inclusion on economic growth in Nigeria, multiple linear models was established for the variables in use. The models summarised the effect of Deposit of Rural Branches of Deposit Money Banks and Loan of Rural Branches of Deposit Money Banks and gross domestic product of Nigeria.

The structural form of the model is stated as equation below;

$$GDP_t = \beta_0 + \beta_1 DRBDMB_t + \beta_2 LRBDMB_t + \epsilon_t \dots\dots\dots 1$$

Where:

GDP= Gross Domestic Product in Nigeria (Dependent Variable)

DRBDMB= Deposit of Rural Branches of Deposit Money Banks (Independent Variable)

LRBDMB = Loan of Rural Branches of Deposit Money Banks (Independent Variable)

B<sub>0</sub> = intercept

B<sub>1</sub> – B<sub>2</sub> = Coefficient of the explanatory variables

e = error terms of the model.

**4.0 DATA ANALYSIS AND DISCUSSION OF FINDINGS**

The data for this study were presented in two forms i.e the raw data as gotten from CBN statistical bulletin and the log transformed data.

**Descriptive Statistics**

The summary statistics for the proxy for the variables are presented and discussed in this section. The mean represents the average value of the variables whilst standard deviation indicates how variables are distributed around their mean values. Table 4.1 shows the descriptive statistics of the variables. The minimum, maximum, mean and standard deviation of the data collected in this study are described in Table 4.1 as follows;

**Table 4.1: Descriptive Statistics**

Variable	OBS	Mean	Std. Dev.	Min	Max
GDP	32	4.244086	0.769507	2.694292	5.245699
DRBDMB	32	0.950065	1.218396	1.705022	2.630882
LRBDMB	32	1.387443	0.690808	0.204717	2.995015

Source: E-VIEW Output, 2023

Table 4.1 reveal the outcome of the descriptive statistics. The mean of GDP is 4.244086, maximum and minimum values of 5.245699 and 2.694292 respectively implied that gross domestic product variable had a higher performance levels during the study period. The standard deviation 0.769507 also indicates that the performance indicator deviates from the mean by 0.769507.

The table also shows that the mean of DRBDMB is 0.950065, maximum and minimum values of 1.705022 and 2.630882 respectively implied that the DRBDMB construct had higher performance levels during the study period. The standard deviation of 1.218396 also indicates that the performance indicator deviates from the mean by 1.218396.

Lastly, Table 4.1 shows that the mean of LRBDMB is 1.387443, maximum and minimum values of 2.995015 and 0.204717 respectively implied that the LRBDMB variable has a

higher performance levels during the study period. The standard deviation of 0.690808 also indicates that the performance indicator deviates from the mean by 0.690808.

### Correlation Matrix

Correlation matrix shows the direction (positive) and magnitude (significance) between the variables. The outcome may be positive correlation, negative correlation or zero correlation. Decision rule: If the t-statistics is greater than 2.5 (rule of thumb) and the p-value less than 0.05, the correlation is significant.

### Correlation Matrix

Covariance Analysis: Ordinary

Date: 07/01/23 Time: 21:22

Sample: 1990 2021

Included observations: 32

**Table 4.2**

Correlation t-Statistic Probability	GDP	DRBDMB	LRBDMB
GDP	1.000000 ----- -----		
DRBDMB	0.015425 0.084496 0.9332	1.000000 ----- -----	
LRBDMB	0.793818 7.149354 0.0000	0.067829 0.372371 0.7122	1.000000 ----- -----

Source: E-VIEW Output, 2023

### Deposit of Rural Branches of Deposit Money Banks vs Gross Domestic Product

As shown in Table 4.2 above table, the correlation “R” is (0.015) and the t-stat (0.084) which is lower than 2.5 and with an associate p-value of 0.93 it therefore concludes that Deposit of Rural Branches of Deposit Money Banks and Gross Domestic Product shows a positive and insignificant linear association. By this, we reject the null hypotheses and accept the alternate hypotheses.

### Loan of Rural Branches of Deposit Money Banks vs Gross Domestic Product

As shown in Table 4.2 above table, the correlation “R” is (0.793) and the t-stat (7.149) which is higher than 2.5 and with an associate p-value of 0.00 it therefore concludes that Loan of Rural Branches of Deposit Money Banks and Gross Domestic Product shows a positive and insignificant linear association. By this, we accept the null hypotheses and reject the alternate hypotheses.

**Multicollinearity Test**

A multicollinearity test is conducted to ascertain presence or absence collinearity among the predictor variables it is shown in the table 4.3. The centered VIF is used in determining its presence, when it has a value greater than 10.

**Table 4.3: Summary of Multicollinearity Result**

Variable	Coefficient Variance	Centered VIF	Remarks
C	0.035225	NA	NA
DRBDMB	0.005090	1.004622	Absence of Multicollinearity
LRBDMB	0.015834	1.004622	Absence of Multicollinearity

Source: Survey; from E-view computation, 2023

Table 4.3 shows in summary the variables of the study, the coefficient variances, centered VIFs and remarks. The result shows VIF values for all the variables at less than 10, which indicates that there is absence of multicollinearity.

**Stationarity Test**

The unit root test is conducted to ascertain the stationarity level of the variables under study (dependent and independent variables).

**Table 4.4: Summary of Unit Root Results (ADF Test)**

Variables	t-statistics	Critical Values @5%	Order of Integration	Prob.	Remarks
GDP	/2.674091/	/2.971853/	I(0)	0.0311	Stationary
DRBDMB	/3.953595/	/2.963972/	I(0)	0.0246	Stationary
LRBDMB	/5.458373/	/2.967767/	I(0)	0.000	Stationary

Source: Survey; E-view computation, 2023

The result shows that the variables under study stationary at levels. Based on this, the study would adopt Ordinary Least Square Regression (OLS) method to test the hypotheses of this study.

**Regression Output****Regression Output (OLS)**

Dependent Variable: GDP

Method: Least Squares

Date: 07/01/23 Time: 21:33

Sample: 1990 2021

Included observations: 32

dependent and independent variables).

**Table 4.5**

Variable	Coefficient	Std. Error	t-Statistic	Prob.
DRBDMB	-0.024376	0.071346	-0.341665	0.7351
LRBDMB	0.887168	0.125835	7.050276	0.0000
C	3.036349	0.201883	15.04013	0.0000
R-squared	0.631630	Mean dependent var	4.244086	
Adjusted R-squared	0.606225	S.D. dependent var	0.769507	

S.E. of regression	0.482877	Akaike info criterion	1.470952
Sum squared resid	6.761946	Schwarz criterion	1.608365
Log likelihood	-20.53523	Hannan-Quinn criter.	1.516500
F-statistic	24.86256	Durbin-Watson stat	1.070156
Prob(F-statistic)	0.000001		

Source: E-VIEW 10.0

### Interpretation of Estimated Results

The results of the least square estimate of the regression in table 4.5 shows the variables, their coefficients, standard errors, t-statistics and probability values. The model coefficient of determination ( $R^2$ ) has a value of 63.16% with adjusted  $R^2$  value of 60.62%. Thus, indicating that 63.16% of change in economic growth (outcome variable) can jointly be influenced by these explanatory variables (Deposit of Rural Branches of Deposit Money Banks and Loan of Rural Branches of Deposit Money Banks). The overall coefficient of determination  $R^2$  is 0.631630 which means that the predictor variables explained 63.16% of the variations in the outcome variable, the remaining 36.84% could not be cover by this study. The F-statistics value of 24.86% with a corresponding probability value of 0.000001 shows that the model is fit.

Table 4.5 above reveal that Deposit of Rural Branches of Deposit Money Banks has a negative relationship with Gross Domestic Product on Deposit of Rural Branches of Deposit Money Banks. This is based on coefficient of -0.024376. This implies that a unit increase in Deposit of Rural Branches of Deposit Money Banks would lead to decrease in Gross Domestic Product on the economy by 0.24376 and vice versa. The p-value of 0.7351 which is higher than the conventional alpha value of 0.05 shows that it is statistically insignificant.

Finally, Table 4.5 above shows that Loan of Rural Branches of Deposit Money Banks has positive relationship with Gross Domestic Product on Loan of Rural Branches of Deposit Money Banks. This is based on coefficient value of 0.887168. This implies that a 1% increase on Loan of Rural Branches of Deposit Money Banks would lead to an increase in Gross Domestic Product of the economy by 1.887168 and vice versa. The p-value of 0.0000 which is lower than the conventional alpha value of 0.05 shows that it is statistically significant.

### Test of Hypotheses

The study considered to test two hypotheses. The hypotheses which were earlier stated in null forms would be tested using the result obtained from E-view regression output as presented in Table 4.5 above.

**Table 4.6 Summary of Hypotheses Testing**

Relationship	Expected sign	Reported sign	Prob	Observation	Decision
DRBDMB	Negative sign	Negative sign	0.7351	P-value<0.05	Accept null
LRBDMB	Positive sign	Positive sign	0.0000	P-value>0.05	Reject null

**Source:** Researcher's compilation from E-VIEW 10.0 output, 2023.

### **Hypotheses Testing**

**H<sub>01</sub>:** Deposit of Rural Branches of Deposit Money Banks has positive and significant effect on economic growth of Nigeria.

The regression shows a coefficient value Deposit of Rural Branches of Deposit Money Banks and Gross Domestic Product was negative and insignificant (t-statistics value =-0.342, p-value=0.735). Thus, the null hypothesis was accepted while the alternate was rejected.

**H<sub>02</sub>:** Loan of Rural Branches of Deposit Money Banks has positive and significant effect on economic growth of Nigeria.

The regression shows a coefficient value Loan of Rural Branches of Deposit Money Banks and Gross Domestic Product was negative and insignificant (t-statistics value =7.050, p-value=0.00). Thus, the null hypothesis was rejected while the alternate was accepted.

### **Discussion of Findings**

Firstly, the study found that Deposit of Rural Branches of Deposit Money Banks has negative and insignificant effect on gross domestic product of Nigeria. This reveals that a unit increase in Deposit of Rural Branches of Deposit Money Banks would lead to decrease in gross domestic product of Nigeria. This finding is not in line with the a-prior expectation of this study. Also, the findings is consistent with the findings of Mbutor and Uba (2013).

Lastly, the study also found that Loan of Rural Branches of Deposit Money Banks has positive and significant effect on gross domestic product of Nigeria. This implies that a unit increase in Loan of Rural Branches of Deposit Money Banks would lead to an increase in gross domestic product of Nigeria. This findings correspond with the a-prior expectation of this study. Also the find is in line with the findings of Nwafor and Yomi (2018).

## **5.0 CONCLUSION AND RECOMMENDATIONS**

The study broadly investigated the effect of financial inclusion on economic growth in Nigeria. From the empirical result obtained, the study concluded that deposits of rural branches of deposit money banks in Nigeria has negative and insignificant effect on gross domestic product of Nigeria while loans of rural branches of deposit money banks has positive and significant effect on economic growth of Nigeria. The study concluded that financial inclusion affects economic growth of Nigeria.

The following recommendations were made from the study:

- i. Rural branches of deposit money banks should fashion out more innovative ways of attracting more deposits from the rural dwellers as a way of contributing more to the economic growth of Nigeria. This can be achieved by creating platforms that would make depositing money easier and accessible.
- ii. Rural branches of deposit money banks should closely monitor the loans they granted to their customers to make sure that sure loans are not misallocated.

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