

Effects of Financial Inclusion on Economic Growth in Nigeria (2000 – 2018)

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Abstract: *The study examined the effects of financial inclusion on economic growth in Nigeria from 2000 to 2018. Archival data sourced from Central Bank of Nigeria Statistical Bulletin was used for the estimation of the variables. The dependent variable of financial inclusion proxied by contribution of financial institutions to gross domestic product (GDP) was regressed on the explanatory variable of loan to small and medium enterprises (LSME), rural bank deposit (RBD) and control variable of inflation (INF). The ex-post factor research design was adopted for the study and diagnostic tests of unit roots and co-integration were conducted which show that the variables co-integration were mixed and show a long term relationship respectively. The statistical estimation of the explained and explanatory variable were done using auto-regressive distribution lag and findings from Wald tests indicate that loan to small and medium enterprise (LSME), rural bank deposit (RBD) and inflation (INF) has a significant effect on economic growth in Nigeria. The study recommended among other things that rural bank deposits (RBD) should be encouraged by Central Bank of Nigeria.*

Keywords: *Financial inclusion, Rural banking, SMEs Loans, Inflation, Economic growth*

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I. Background of the Study

The nexus between financial inclusion and economic growth has become a topical issue in finance since the 2000's. The global economic meltdown of 2007/2008 more than ever before made it imperative for governments to seek out new ways to include the financial excluded populace into the financial system. The role that bank financial intermediation plays in ensuring that unbanked money found their way into the financial systems especially in Africa has been a major monetary policy directive pursued by Central Bank of different Africa countries. The effect that deepening financial inclusion has on economic growth has continued to attract debate among scholars of financial inclusion but the effect has shown different results in countries studied.

The core objective of financial inclusion is to contribute to economic growth which leads to poverty reduction by freeing needed funds for investment. Better access to financial services has a positive impact on poor people's living standards (Hannig and Jansen, 2010). The majority of the populace in Africa which includes Nigeria lacks access to formal financial services. The non-availability of financial services makes savings difficult and since investment is a function of savings and consumption, it then becomes increasingly difficult for the poor segment to make decisions about future investment. In Nigeria in the late 1980's and early 1990's the then government of General Ibrahim Babaginda introduced the people's bank and the community banks aimed at encouraging local savings and thereby deepening financial inclusion of excluded communities of unbanked persons.

Recent efforts by Nigeria Government at improving financial intermediation has seen the licensing of microfinance institutions saddled with the responsibility of ensuring that the financial excluded public in rural and urban centres are brought into the financial system. Other non-formal banking settings such as credit unions and savings cooperatives in Nigeria have made considerable progress in boosting the living standards of their members by encouraging savings and investment. Inclusive financial system promotes effective allocation of productive resources to sectors that need them and a more efficient use of productive resources reduce the cost of capital in form of interest rate payable on borrowed funds. 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 (Abdul & Adamu, 2016). The synergy between the formal inclusive financial systems in form of banks and the informal credit sectors such as corporate societies and credit associations ensure that interest rate for borrowed funds are kept at a minimum as borrowers have choices regarding their choice of accessing finance either through formal or informal sector. Thus, it is possible that countries can enhance efficiency and welfare by an all-inclusive financial system by providing ways for secure and safe saving practices and by promoting efficient financial services (Sarma, 2008).

Economic growth is an objective of financial inclusion which aimed at addressing the key issues of includes political, economic, cultural and social inclusion. The exclusion of any person or group of people from these four dimensions of inclusion will lead to financial exclusion since the four dimensions work in tandem to ensuring healthy financial inclusion in any economy. The effects of non-inclusiveness of a vast majority of the populace from the financial system results in retarded economic growth and leads to economic inequality. Hence, inclusive growth is needed in an economy to mitigate share the benefits of economic growth more or less equally among all sections of people (Uma, Rupa, & Madhu, 2013) which may be a mirage where majority are not part of the financial system.

A review of previous studies (Onaolapo, 2015, Nwafor & Yomi, 2018 and Okoye, Adetiloye, Erin & Modebe, 2017) in Nigeria on effect of financial inclusion on Nigeria used gross domestic product as proxy for economic growth but none of this study has used ratio of financial institution to GDP to measured economic growth from financial inclusive perspective. This void in using financial institution to GDP as dependent variable instead of GDP adopted by previous study is the gap in research that the present study filled and addressed.

The general objective of the study is to examine the effect of financial inclusion on economic growth in Nigeria. The specific objectives of the study are to examine the effect of financial institutions to GDP, loans to SMEs and rural loans to economic growth.

II. Loans to Small and Medium Enterprises and Economic Growth

Nkwede (2015) investigate the effect of financial inclusion on economic growth in Africa with focus on Nigeria. Archival time series data from 1981 to 2013 from various years of central bank of Nigeria statistical bulletin, World Bank inclusive data and annual audited financial statement of banks were used for the study. The independent variables of deposit money banks loans to small and medium enterprises, deposit of rural banks branches, amount of loans by rural bank branches, banks branch spread and specification variables of banking system development and inflation were regressed on the explained variable economic growth proxied by gross domestic product. The unit root tests result showed that the variables were stationary at first difference and statistical analysis using multiple ordinary least regression showed that all the independent variables and specification variables have a significant effect on economic growth measured by gross domestic product. The ordinary least regression adopted for analysis is not appropriate as the variables were not stationary at level. Since the variables are co-integrated at first difference $I(1)$ the appropriate analysis should have been error correction model. The present study would perform the diagnostics test and adopted appropriate analysis for the estimation of the model and this void in previous study is addressed by the present study.

Otiwu, Okoro, Uzowuru and Ozuzu (2018) study tried to establish the relationship between financial inclusion and economic growth with focus on microfinance for the period 1992 to 2013 in Nigeria. The study adopted ordinary least square method and employing the Johansen cointegration tests to test run and short relationship among variables. The dependent variable economic growth was proxied by gross domestic product and the explanatory variables were total deposits mobilized by SMEs, total loans and advances to SMEs, number of bank branches and investment. Findings indicate total deposits mobilized, number of bank branches and investment have an insignificant effect on economic growth while total loans and advances shown a significant effect on economic growth. The previous study did not employed a unit root test to determine the type of analysis to run but the present study would determine the type of regression analysis through unit root tests and this gap is filled and addressed by present study.

Babajide, Adegboye and Omankhanlen (2015) examined the effect of financial inclusion on economic growth in Nigeria. Archival data were sourced from world development indicators. Economic growth was proxied by commercial bank deposit while the independent variables used for the study were capital per worker, total factor productivity, interest rate, whole sale sell and retail contribution to GDP, polity 2, Gini coefficient, total natural resource rent and number of bank branches. Findings from regression analysis show that capital per worker, total factor productivity, interest rate, whole sale sell and retail contribution to GDP, polity 2, Gini coefficient, and number of bank branches all have a significant effect on economic growth measured by commercial bank deposits. The regression results also indicate that total natural resource rent has an insignificant effect on economic growth proxied by number of bank branches. The present study used number of financial institutions to gross domestic product to proxy economic growth and this void in the variable used to measure the dependent variable which is the ratio of financial institutions to GDP is the gap filled by present study.

2.1 Rural Bank Deposits and Economic Growth

Onaolapo (2015) studied the effects of financial inclusion on the economic growth of Nigeria (1982-2012). Data for the study are collected mainly from secondary sources such as Statistical Bulletins of the Central Bank of Nigeria (C.B.N.), Federal Office of Statistics (F.O.S.) and World Bank for the period of 1982 to 2012.

Three models were developed and one of the models related financial inclusion to GDP where the dependent variable is economic growth proxied by GDP while the explanatory variables were ratio of broad money supply to GDP, credit to private sector to GDP, loan to deposit ratio and liquidity ratio. Multiple regression analysis result indicate that broad money to GDP and credit to private sector to GDP have a significant effect on economic growth while loan to deposit ratio and liquidity ratio have an insignificant effect on economic growth. The second regression equation show that the explanatory variables of bank loan to rural areas and agricultural credit guarantee scheme fund have significant effect on economic growth proxied by per capita income. However, demand deposits from rural areas and number of commercial bank branches have an insignificant effect on economic growth measured by per capita income. The explanatory variables for the present study include a specification error variable inflation which the previous study did not use in estimating the regression equation. This moderating variable inclusion in the present study is the gap in previous study filled and addressed.

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 statistical bulletin, Nigerian 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 (M2/GDP), credit to private sector to GDP (CPS/GDP), loan to deposit ratio and liquidity ratio. Findings from multiple regression analysis indicate that broad money to GDP (M2/GDP), credit to private sector to GDP (CPS/GDP), loan to deposit ratio and liquidity ratio have significant effect on economic growth measured by growth in gross domestic product. The present study used the variable of financial institutions to GDP to proxy economic growth of which the previous study used gross domestic product (GDP) to proxy economic growth. This void in using a different variable financial institution to GDP rather than GDP is the gap in the previous study addressed by present study.

Nwafor and Yomi (2018) examined the nexus between financial inclusion and economic growth in Nigeria. Archival data spanning from 2001 to 2016 were obtained. The data were subjected to statistical analysis using a two staged least square regression method. The dependent variable change in GDP to GDP growth rate was regressed on the independent variables are broad money supply to GDP, bank credit to GDP, commercial banks deposit from rural areas, commercial banks loans to rural areas, commercial banks loans to deposit ratio and commercial bank loan to small and medium scale enterprises. Findings from regression result show that broad money supply to GDP, bank credit to GDP, commercial banks deposit from rural areas and commercial banks loans to rural areas have as significant effect on economic growth. Results also indicate that commercial bank loans to deposit ratio and commercial bank loan to small and medium scale enterprises have significant effect on economic growth. The previous study used change in GDP to GDP growth rate as the dependent variable while the present study adopted financial institutions to GDP as the dependent variable. This difference in the variable used to estimate the dependent variable of which the present study used financial institutions to GDP in relation to change in GDP to GDP growth rate is the void the present study filled and addressed.

Research Questions

The following research questions were formulated to guide the study

1. **What is the effect of loans to SMEs on economic growth?**
1. **How effective are loans generated from rural bank on economic growth?**

Statement of Hypotheses

The following null hypotheses were framed to guide this study

1. Loans to SMEs has no significant effect on economic growth
2. Rural bank loans has no significant effect on economic growth

III. Research Methodology

The study adopted the ex-post factor research design since there is already a manifestation of the outcome of the explained and explanatory variables of which the researcher has no control over. The study conducted pre-diagnostic tests of correlation analysis and unit roots tests. Cointegration tests were also conducted to determine the long term effects of the variables. Post-diagnostic tests of normality, serial correlation and hetreoskedasticity was done to determine the fitness of the data.

Model Specification

Multiple regression time series analysis using archival data from 2000-2018 was conducted. The regression line is stated thus:

$$EG_t = \beta_0 + \beta_1 LSME_t + \beta_1 RBD_t + \beta_3 INF_t + \alpha_{it}$$

Where:

EG= Economic growth proxied by the contribution of financial institutions to GDP; LSME_t= Small and Medium Enterprises loan; RBD_t =Rural bank deposit; INF_t = Inflation rate, α_{it} = error term
 $\beta_0, \beta_1, \beta_2, \beta_3, \beta_4$ = regression coefficient

IV. Presentation and Analysis of Results

Table 1: Descriptive Statistics

	EG	LSME	RBD	INF
Mean	1141.441	36243.57	40376.88	12.38684
Maximum	3100.000	90176.50	233823.3	18.90000
Minimum	141.9600	10747.89	19.72000	5.400000
Std. Dev.	865.0718	26205.87	65202.50	4.029607
Observations	19	19	19	19

Source: E-view computation by Author, 2019

Table 1 indicates that the mean value of ECGWT, LSME_{RBD} and INF are 1141.441, 36243.57, 40376.88, and 12.38684 respectively. The lower values of the standard deviations of the different variables when compared with the mean shows that EG, LSME, RBD and INF mean value are greater than standard deviation values showing that the values are not widely dispersed from the mean.

Table 2 :Covariance Analysis

Sample: 2000 2018

Included observations: 19

Correlation Probability	FINC	LSME	RBD	INF
FINC	1.000000 -----			
LSME	-0.754847 0.0002	1.000000 -----		
RBD	-0.141396 0.5637	0.243461 0.3152	1.000000 -----	
INF	-0.146101 0.5506	0.285915 0.2354	0.266171 0.2707	1.000000 -----

Source: E-view computation by Author, 2019

Table 2 shows the correlation matrix and probability of the independents variables (loan to SMEs, rural bank loans and inflation) with respect to the dependent variable (economic growth). This test is a pre-diagnostic test to test if the independent variables are free from multicollinearity. It is observed that the variables did correlate fairly well as the level of correlation is below 80% for all the independent variable (between 0.141396 and 0.754847). Since the relationship among the explanatory variables as shown by correlation coefficient is less than 0.8, there is absence of multicollinearity meaning that the independent variables do not have relationship among themselves.

Table 3: Stationarity Test

Variable	ADF test	Test critical(5%)	Level of integration
EG	-4.759806	-3.052169	1(1)
LSME	-5.253674	-3.052169	1(1)
(RBD)	-3.383797	-3.828975	1(1)
INF	-3.470868	-3.052569	1(0)

Source: E-view computation by Author, 2019

The table 3 above shows that the entire ADF test statistic is greater than critical value, which is why they are stationary. Hence the data are adequate for further treatment and analysis since they have been found to be stationary

4.1 Discussion of Findings

Results of the ARDL test is shown in table 4 below

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
EG(-1)	1.052348	0.328652	3.202010	0.0084
LSME	-0.015748	0.005493	-2.867137	0.0153
LSME(-1)	0.013326	0.009815	1.357798	0.2017
RBD	-0.011149	0.005409	-2.061094	0.0637
RBD(-1)	0.008693	0.006359	1.367069	0.1989
LOG(INF)	134.9238	271.5657	0.496837	0.6291
LOG(INF(-1))	-44.02258	277.7592	-0.158492	0.8769
R-squared	0.817174	Mean dependent var		1196.968
Adjusted R-squared	0.717451	S.D. dependent var		854.6009

The Wald test result on appendix I and J shows that loan to small and medium scale enterprise has a significant effect on economic growth in Nigeria and is in agreement with the studies of Nkwede (2015) who found a significant effect of loans to SMES on economic growth and in disagreement with the works of Otiwu, Okoro, Uzowuru and Ozuzu (2018) whose study found an insignificant effect of loans to SMEs on economic growth. The present study found a significant effect of rural bank deposits on economic growth and this disagrees with the study of Onaolapo (2018) which found an insignificant effect of rural bank deposit on economic growth but agrees with the studies of Okoye, Adetiloye, Erin and Modebe (2017) whose works found a significant effect of rural bank deposit on economic growth.

V. Conclusion and Recommendations

The study concludes that rural bank deposits and loan to SMEs are significant effect on economic growth in Nigeria. Rural bank deposit and Loan to SMEs has long run effects on economic growth in Nigeria. This agrees with the financial liberalization hypothesis that states that lowering interest rate would encourage investment and hence economic growth.

The study recommends that the Central Bank of Nigeria should increase interest payable to rural bank depositors to encourage rural deposits and intensify efforts aimed at credit facilities to small and medium scale businesses to boost financial inclusion in the economy by mandating banks to dedicate 10% of their profit after tax to SMEs loans.

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