

## **IMPACT OF FINANCIAL INCLUSION ON FINANCIAL PERFORMANCE OF DEPOSIT MONEY BANKS IN NIGERIA**

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### **ABSTRACT**

This study examines impact of financial inclusion on financial performance of Deposit Money Banks (DMBs) in Nigeria. The study measures financial inclusion with Micro, Small and Medium Enterprises (MSMEs) Financing, Rural Financing, Number of branches of DMBs, Pricing and Usage of banking services, while financial performance (FP) is measured with return on assets. The study utilizes ex post facto research design and data were collected from secondary sources obtained from the Central Bank of Nigeria (CBN) Statistical Bulletins and financial reports of the National Deposit Insurance Corporation (NDIC) for the period of 1982 – 2016. Ordinary least square regression model, with the aid of Autoregressive Distributed Lag Error Correction Method, was used to analyze the data. The stationarity property of the time series variables were tested using the Augmented Dickey Fuller test statistics for unit root and data were found to be stationary at levels and first difference. The study finds that MSMEs financing has a significant positive impact on financial performance of DMBs in Nigeria, while rural financing, pricing of banking services, number of bank branches and usage of banking services have no significant impact on the financial performance of DMBs in Nigeria. The study concludes that MSMEs Financing as a measure of financial inclusion improves financial performance of deposit money banks in Nigeria. The study recommends that DMBs should increase the amount of loan and advances given to MSMEs as this will strengthen financial performance of DMBs in Nigeria. CBN and NDIC should also encourage DMBs through their regulatory and supervisory functions to give priority to SMEs financing in Nigeria.

**Keywords:** Financial Inclusion, Financial Performance

## **1. INTRODUCTION**

Financial inclusion is an extension of banking and financial services (such as savings, deposits, payments, withdrawals, loans and advances) to an individual, a group of people or a community that were hitherto excluded. It is universal access to and usage of a wide spectrum of banking and financial services at affordable pricing, particularly by Micro, Small and Medium Enterprises (MSMEs), low income earners and the rural populace (Thingalaya 2012; Yoshino & Morgan, 2016). The importance of financial inclusion to economic growth and financial development cannot be overemphasized. This importance is further heightened by several empirical evidences that link a high degree of financial inclusion to economic growth and financial development (Onaolapo 2015). Studies have also alluded to the fact that a low level of financial inclusion is associated with poverty, economic deprivation and social exclusion (Aduda & Kalunda 2012). Following the Maya Declaration of 2011 in Mexico (Fernando, 2015), financial inclusion received increased attention in national strategies and has become more pronounced ever since. But despite the Declaration, the World Bank (2015) affirms that around 2 billion people in the World do not make use of formal financial services and that more than half (50%) of adult populations in the Developing Countries are unbanked.

In Africa, the recent global financial inclusion Index shows that less than a quarter of bankable adult population has an account with formal financial institutions (Demirgüç-Kunt & Klapper, 2012). This further confirms the high rate of financial exclusion, as Nkwede (2013) asserts that majority of African Adults in many African Countries appear to be financially excluded and perhaps use informal methods to save or borrow funds outside the banking systems.

In the case of Nigeria, according to Central Bank of Nigeria (2012), 39.2 million adult populations, representing 46.3% of Nigerian Adults are financially excluded with regards to access and usage of financial services. This concern has led Nigeria, among others, (more than 50 countries), after the Maya Declaration in 2011, to set formal targets of universal financial access by 2020. Consequent upon this, the CBN launched the National Financial Inclusion Strategy (NFIS) in 2012, with the main objective of achieving 80% financial inclusion success by the year 2020 by increasing the bankable businesses and adult populations enrolled into the banking nets through easy access and usage of broad range of banking and financial services to Micro Small and Medium Enterprises (MSMEs), rural populace and low income earners at affordable pricing.

Financial performance, as reiterated by Bessler and Bittelmeyer (2006), is an indicator of how a firm has transformed its assets to generate revenue in its day-to-day business operations. Performance also mirrors how external parties assess a firm's ability to operate on the long run. Therefore, managers of firms are under constant pressure from a wide spectrum of stakeholders (managers themselves inclusive) for better performance resulting in conflict of interests and subsequent agency costs which are borne by shareholders (Watts & Zimmerman, 1979).

The Banking industry plays a very key role in the economy of any nation, through financial intermediation, robust but seamless credit and payment systems and Nwala & Abubakar (2014) assert that viability of any nation's economy therefore depends more often than not on how healthy the banking sector fairs. Subsequently, governments all over the world attempt to establish an efficient and effective banking system to promote economic growth and enhance the financial performance of the banking sector through supervision, regulations and reforms (Aruwa & Naburgi, 2014). Deposit Money Banks provide the platform and delivery vehicle for financial inclusion activities in the payment-credit systems and more financial inclusion could bring more people into the banking nets, which could radiate positively into the financial performance of banks through increased services patronage and broader clientele services. This study is thus necessitated by concerns on current state of financial inclusion and its implications on financial performance of Deposit Money Banks (DMBs) in Nigeria. This is premised on the fact that, it is the banks that provide, in the main, the platform, delivery vehicle and the operating environment for the financial inclusion activities.

There is a plethora of studies in the areas of financial inclusion and financial performance. But studies that link the interconnectivity between the two are few. Early studies on financial inclusion focused on macroeconomic variables, which do not clearly show the specific industry dynamics of financial inclusion and the important financial intermediation role of deposit money banks in financial inclusion activities. Although there are pockets of studies in the areas of financial inclusion and banks profitability, studies in this area are few and this vacuum has not been exhaustively explored. For instance, Ikram and Lohdi (2015) investigated the impact of financial inclusion on banks' profitability in Karachi, Pakistan. Their study oversimplified bank revenue generation as a proxy for financial performance and the use of questionnaire instead of a more robust data collection technique has been considered inadequate by this study.

In addition, the work of Chauvet and Jacolin (2015) examined the impact of financial inclusion on firms' performance, measuring financial inclusion with SME financing.

This study however suggested further studies in other financial inclusion variables not captured by their research, particularly ones that consider financial intermediation role of financial institutions for a resilient banking industry. This study tries to fill these gaps and seeks to examine the impact of financial inclusion on financial performance of DMBs in Nigeria.

Against this backdrop, the study investigates the impact of financial inclusion on financial performance of deposit money banks in Nigeria.

## **2. LITERATURE REVIEW AND THEORETICAL FRAMEWORK**

### **MSMEs Financing and Financial Performance**

Boadi, Dana, Mertena and Mensa (2017) examined the impact of SME's financing on bank profitability in Ghana, using regression model anchored on fixed effect model. The study found that SME financing has a significant positive impact on banks financial performance in Ghana. The study offered a fresh perspective on the SME financing and bank profitability. Chauvet and Jacolin (2015) studied the impact of financial inclusion on financial performance of firms in countries with low financial development, using firm-level data panel for a sample of 26 countries. The study found that there is a significant positive impact of financial inclusion on firms' performance. The study highlighted access to funds by SMEs as a very important financial inclusion variable. Shahchera and Taheri (2011) investigated the impact of loans to SMEs and banks profitability in Iran, using panel data regression model based on Generalized Method of Moments (GMM). The study found that SMEs financing has a negative significant impact on profitability of banks in Iran as banks considered SME financing a highly risky business venture.

### **Rural Financing and Financial Performance**

Adusei (2015) studied the impact of rural financing on banks profitability in Ghana, using a multiple regression model. The study found a negative statistically significant impact of rural financing on bank profitability. George, James and Margret (2014) investigated the effect of financial performance of rural banks in Ghana, using a regression model to establish nexus between rural financing and banks profitability. The study found a positive significant effect of rural financing on financial performance of banks. Emire, Mills and Amowine (2013) examined the nexus between rural financing and bank profitability in Ghana, using a panel data regression model. The study found that rural financing has a positive significant effect on financial performance on rural banks. Rachana (2011) studied the relationship between financial inclusion and performance of rural co-operative banks in Gujarat in India, using qualitative and quantitative data obtained from Ambasan, Jotana and Khadalpur villages and rural banks in Gujarat. The study found that there

is no significant relationship between rural financing and profitability of banks in Gujarat, India as a result of high rate of non-performing loans. Awo (2010) studied the financial performance of rural banks in Ghana, using a multiple regression model. The study found that a significant relationship exists between rural financing and financial performance of Naara Rural Bank in Ghana. The study was relevant and good reference point in rural financing and financial performance of bank. However, it was a case study of Naara Rural Bank of Ghana, which could hardly be generalized for the entire industry.

### **Pricing of Banking Services and Financial Performance**

Enyioko (2012) examined the impact of interest rate policy and financial performance of Deposit Money Banks in Nigeria, using a combination of regression and correlation methods to find and analyze the nexus between interest rate and bank performance. The study found that bank interest rate has no significant impact on profitability and efficiency of banks. The study used an elaborate methodology to analyze data during the consolidation era. But this study was limited to 2009. An update in research off this nature will expose the current trends.

Wambari and Nwangi (2017) investigated the effect of interest rates on the financial performance in Kenyan deposit taking commercial banks, using a multiple linear regression technique. The study found that lending interest rate has a positive significant effect on financial performance of banks in Kenya. Ikram and Lohdi (2015) investigated the impact of financial inclusion on Banks' profitability in Karachi, Pakistan, using Correlation statistics and linear regression model for the data analysis of the study. The study found that pricing of banking services (i.e. cost of banking services) has no significant impact on financial performance of banks as a result of the fact that banks do not pursue more financial inclusion as a corporate strategy. Ahmed, Rehan, Chhapra and Supro (2014) evaluated the impact of interest rate on financial performance of banks in Pakistan, using a regression model. The study found that interest rate has a significant impact on profitability of banks in Pakistan. The study added to the research having nexus between pricing of banking services and financial performance of banks. But the period was limited to the year 2014. Mwangi (2013) studied the effect of lending interest rate on financial performance of deposit taking microfinance institutions in Kenya, using multivariate regression model. The study found that there is a strong relationship between lending interest rate and financial performance of deposit taking microfinance institutions. The study offered an incisive multivariate analysis. However, this study was limited by scope which was restricted to microfinance institutions. Enyioko (2012) examined the impact of interest rate policy and financial performance of Deposit Money Banks in Nigeria, using a combination of regression and correlation methods to find and

analyze the nexus between interest rate and bank performance. Musiu (2005) investigated the relationship between lending interest rate and financial performance of commercial banks in Kenya, using a linear regression model. The study found that lending rate affects the financial performance of commercial banks in Kenya. The study considered pricing of banking services as related to financial performance of commercial banks.

### **Numbers of Branches of DMBs and Financial Performance**

Prasetyo and Sunaryo (2015) examined the branch expansion and the performance of banks in Indonesia, using path analysis to link the causal relationship between number of branches of banks and financial performance. The study found that there is no significant impact of number of branches on the financial performance of banks. Nader (2011) investigated the effect of Banking Expansion on the profit efficiency of Saudi Arabia Banks, using a secondary data spanning a period of 9 years (1988 – 2007). The study found that network of branches has positive effect on profit efficiency. Hirtle (2007) investigated the impact of number of U.S. bank branches on overall financial performance of institutions, using a pooled regression model to analyze data. The study found that no significant relationship exists between number of branches and banks financial performance. Pastor, Lovell and Tulken (2006) evaluated the relationship between bank branches spread and overall financial performance of big banks in Europe, adopting a complimentary non parametric technique. The study found nexus between bank branch offices and overall financial performance of banks and that, banks can increase their financial performance of its branch network.

### **Usage of Banking Services and Financial Performance**

Harelimana (2016) examined the impact of financial inclusion on financial performance of microfinance institutions in Clecam Ejoheza, Rwanda, using a combined technique of primary and secondary data anchored on a regression model. The study found a positive correlation between customers' deposits and financial performance of banks. The study highlighted financial inclusion variable on rural areas deposits mobilized by banks. Chauvet and Jacolin (2016) examined the impact of financial inclusion, bank concentration on firm performance, using a firm level data of 55,596 firms in 79 countries. The study found that usage and distribution of banking and financial services (financial inclusion) across firms has a positive impact on financial performance of firms. Tuyishime, Memba and Mbera (2015) studied the effects of deposit mobilization on financial performance in commercial banks in Rwanda adopting a combination of primary and secondary data analysis tools. The

study found nexus between a rise in deposits and financial performance of banks. Ikram and Lohdi (2015) considered impact of financial inclusion on Banks' profitability in Karachi, Pakistan, using Correlation statistics and linear regression model for the data analysis of the study. It was found that usage of banking services has no significant relationship between on financial performance of banks as a result of the fact that banks do not pursue financial inclusion as a corporate strategy to the depressed population who were excluded from usage of financial services/products. Okun (2012) examined the effect of level of deposits on financial performance of commercial banks in Kenya, based on regression model to find the nexus between deposits level and profitability of banks. The study found that there is a positive significant relationship between deposits level and financial performance of banks. The study was precise in using the appropriate research method in data analysis considered to be very reliable. But the study was conducted in 2012 and an update is needed. Kithaka (2011) investigated the effect of mobile banking on financial performance of banks in Kenya, based on multiple regression models. The study found that usage of banking services via mobile banking has a positive effect on Financial Performance of Kenyan commercial banks. Kagan, Acharya, Rao and Kodepaka (2005) in their study examined the impact of usage of banking services (internet banking) on financial performance of commercial banks. The study found that usage of online banking services impacted positively on the financial performance of banks. This research demonstrated a positive correlation between usage of banking services and financial performance of banks.

### **Theoretical Framework**

This study relies on Financial Inclusion Lifecycle and Innovative Financial Inclusion Models. Financial Inclusion Model was propounded by Frost and Sullivan (2009). The model depicts financial inclusion as a continuous access as well as usage of banking and financial services on a regular basis and not a one-off transaction. This model adopts a three-model approach for a financially inclusive society: financial literacy, opening of accounts and usage of the account as a continuous process and a gateway to enjoying other banking and financial services. Onaolapo (2015) used this model to explain the access, usage of banking and financial services as a means of robust financial inclusion. On the other hand, Innovative Financial Inclusion Model was propounded by G20 leaders (An alliance of twenty richest countries in the world) in 2009. Arising from the Pittsburgh Summit in September, 2009, it was resolved that encompassing usage and access to financial services deliveries to the downtrodden, low income earners and small businesses through an array of products that encourage easy patronage and inclusion should be advocated. This model emphasizes that financial inclusion could be deepened through a wide range of different banking and financial products and services to attract more customers. G20

leaders (2010) explained that Innovative Financial Inclusion is delivery of financial services beyond conventional service points of banks but also through the use of ICT, non-banking retail agents, POS, mobile banking and other device networks to reach a wide spectrum of clientele. The two models explain the variables of this study on financial inclusion as it relates to easy access and usage of banking and financial services to engender continuous usage of financial services.

### **3. METHODOLOGY AND MODEL SPECIFICATION**

This study adopts ex-post factor research design, relying on secondary data obtained from CBN statistical bulletins and annual reports of the Nigeria Deposit Insurance Corporation (NDIC). The population of this study is all 24 deposit money banks in Nigeria within the research period between 1982 and 2016. Since the number of the population is not many, all the 24 DMBs are taken as sample. Analyzing data, the study utilizes multiple ordinary least square anchored on autoregressive distributed error correction model with the aid of e-view 9 statistical package.

In view of the discussion above, the various hypotheses and variables are combined into a functional relation to explain the nexus that subsists between financial inclusion and financial performance of DMBs in Nigeria. Multiple panel regression equation is econometrically expressed as follows:

$$ROA_{t-1} = \beta_0 + \beta_1 \log MSF_{t-1} + \beta_2 \log RFI_{t-1} + \beta_3 \log PBS_{t-1} + \beta_4 \log NBR_{t-1} + \beta_5 \log UBS_{t-1} + e_{t-1}$$

Where; ROA = Return on Assets

$\beta_0$  = Intercept or regression constant

$\beta_1 - \beta_5$  = Regression Coefficients

MSF = MSMEs Financing (DMBs loans to SMEs)

RFI = Rural Financing (Loans of rural branches of DMBs)

PBS = Pricing of Banking Services (Weighted average lending rate)

NBR = Number of Bank Branches of DMBs

UBS = Usage of Banking Services (Deposits of rural branches of DMBs)

e = Error Term



#### 4. RESULTS AND DISCUSSIONS

In this section, results are presented and discussed. An analysis of the descriptive statistics is presented followed by the regression result for our hypotheses tests:

**Table 1: Descriptive Statistics**

Variables	Mean	Median	Max	Min	S.Dev	Skewness	Kurtosis	JB Stat	JB Prob.	OBS
ROA	3.002	3.910	5.920	-9.280	2.578	-3.325	16.868	345.0	0.000	35
MSF	4.108	4.200	5.000	2.300	0.667	-1.215	3.829	9.623	0.008	35
RFI	3.894	4.100	5.940	1.600	1.009	-0.704	3.654	3.515	0.172	35
NBR	3.502	3.400	4.000	2.900	0.433	0.127	1.311	4.253	0.119	35
UBS	3.447	3.800	4.970	1.300	1.081	-0.777	2.509	3.874	0.144	35
PBS	1.325	1.300	1.600	1.100	0.119	-0.403	3.120	0.969	0.615	35

**Source: E-view Output, 2018**

The table above indicates that the mean of return on asset (ROA) is 3.002 with standard deviation of 2.578, the minimum and maximum values of -9.280 and 5.920 respectively. The mean value of SMEs Financing (MSF) is 4.108 with standard deviation of 0.667, the minimum and maximum values of 5 and 2.3 respectively. The mean value of Rural Financing (RFI) is 3.894 with standard deviation of 1.009, the minimum and maximum values of 1.6 and 5.94 respectively. Usage of banking services (UBS) mean value is 3.447 with standard deviation of 1.081, the minimum and maximum values of 1.3 and 4.97 respectively. The mean value of number of bank branches (NBR) mean value is at 3.502 with standard deviation of 0.433, the minimum and maximum values of 2.9 and 4 respectively. The mean value of pricing of banking services (PBS) is 1.325 with SD of 0.119, the minimum and maximum values of 1.1 and 1.6 respectively.

These results suggest that the data are not widely dispersed from the mean because the standard deviations of all the variables are less than the mean values. Also, the skewness value of all the variables is close to zero, it means that the distribution of the variables is symmetric in nature, except MSF and ROA. The Kurtosis values of all the variables is also closer to 3, it indicates that the shape is a normal distribution, except ROA and NBR. The P-value of Jarque-Bera test of all the variables is more than 5%, except ROA and MSF. However, Shao (2003) submits that normality of data does not in any way affect the inferential statistics estimate to the BLUE.

**Table 2: Correlation Matrix**

	ROA	MSF	RFI	NBR	UBS	PBS
ROA	1					
MSF	-0.07849941	1				
RFI	-0.17154786	0.771913252	1			
NBR	-0.40817320	0.336136632	0.645048513	1		
UBS	0.062047694	0.532458977	0.219411164	-0.09347206	1	
PBS	-0.15263317	0.684750682	0.670790957	0.361401568	0.282775963	1

**Source: E-view Output, 2018**

Table 2 presents the correlation matrix of the independents variables. It is observed that the variables correlate fairly well (between - 0.40 and 0.77). There is no correlation coefficient greater than 0.8, hence there is no problem of multicollinearity of data.

**Table 3: Post Estimation Diagnostics Tests**

Test	P-Values
Heteroscedasticity Test	0.19
Breusch-Godfrey Serial Correlation LM Test	0.24

**Source: E-view Output, 2018**

Table 3 shows the absence of both serial correlation and heteroscedasticity in the estimated ARDL-ECM model as the p-values of both (0.24 and 0.19) were observed and found to be greater than 0.05 or 5%.

**Table 4: ADF Unit Root Test**

Variable	ADF test statistics	Test Critical Value	Maximum Lag	Probability Value @ 5% level	Stationarity
ROA	-5.145	-2.951	1	0.0002	1(0)
MSF	-3.518	-2.951	1	0.0135	1(0)
RFI	-5.585	-2.957	1	0.0001	1(1)
NBR	-5.640	-2.954	1	0.0000	1(1)
UBS	-4.347	-2.954	1	0.0016	1(1)
PBS	-3.112	-2.951	1	0.0351	1(0)

**Source: E-view Output, 2018**

From the table above, it is obvious that study's variables were stationary at different orders, of 1(1) and 1(0), i.e. at first difference and at levels. It is safe for the study to employ bound test approach to validate or substantiate for the presence or otherwise of Co-integration, thus the study runs Autoregressive Distributed Lag (ARDL).

**Table 4.1 ARDL-Cointegration Test Results**

**Wald Test (ARDL Long Run Equilibrium Condition)**

Test Statistics	Value	Probability
F-Statistics	2.756	0.047
Chi-square	13.78233	0.0171

Source: E-view Output, 2018

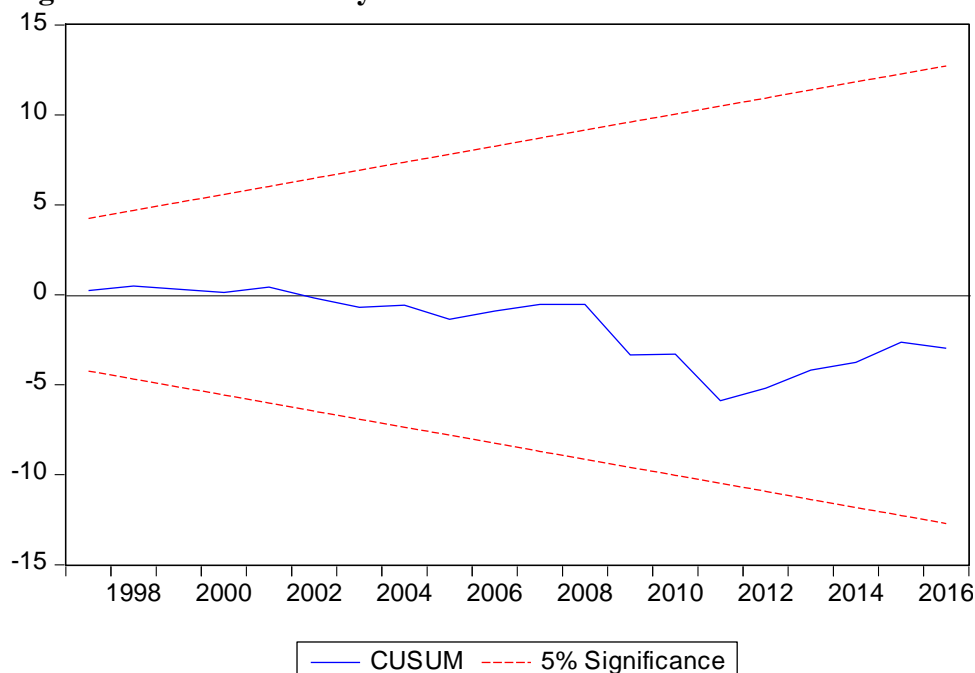
**Table 4.2 Bound Critical Values by Pesaran (2001)**

Significance Level	Lower Bound	Upper Bound
10%	2.72	2.77
5%	3.23	4.35
1%	4.29	5.61

Source: Researchers Compilation (2018) Using E-Views 9

Tables 4.1 and 4.2 elaborate the result of the ARDL bound test approach to Co-integration. Obviously, the result discovered non presence of co-integration among subsisting variables. The f-statistics value of 2.75 is less than the lower and upper bound values at 5% level of significance. This therefore shows there is abundant evidence proving the absence of a long-run equilibrium nexus between financial inclusion and financial performance of DMBs in Nigeria within the study period of 1982 and 2016.

**Figure 1 : Cusum Stability Test**



**Source: E-view Output, 2018**

The CUSUM stability tests in Figure 1 revealed that the model is stable and the regression equation is correctly detailed and specified as the plots of the charts lie within the critical bounds at 5% significant level.

**Table 5: Summary of Regression Results**

VARIABLES	COEFFICIENT	STD ERROR	T-STATISTICS	PROB
C	-0.210429	0.476525	-0.441591	0.6626
D(ROA(-1))	-0.027971	0.231113	-0.121028	0.9046
D(MSF(-1))	5.915318	2.505940	2.360519	0.0264
D(RFI(-1))	-0.712101	1.081885	-0.658204	0.5164
D(NBR(-1))	0.184958	2.479718	0.074588	0.9411
D(UBS(-1))	-0.601014	0.805541	-0.746100	0.4626
D(PBS(-1))	-2.863911	4.780415	-0.599093	0.5545
ECT(-1)	-0.998009	0.343332	-2.906832	0.0075
R <sup>2</sup>	0.615773			
Adjusted R <sup>2</sup>	0.508189			
F-Statistics	5.723669			
Prob(F-Statistics)	0.000493			

**Source: E-view Output, 2018**

The results in table 5 indicate that financial inclusion accounts for about 62% variation in financial performance of DMBs in Nigeria. The model is considered fit and appropriate because the p-value of F-Statistics is 0.000493 which is statistically significant at all levels (1%, 5% and 10%) of significance.

On the relationship between SMEs financing and financial performance, the study found that SMEs financing has a positive and statistically significant (p-value=0.0264) effect on financial performance of DMBs in Nigeria. This supports the findings in Boadi, Dana, Mertena and Mensa (2017), Chauvet and Jacolin (2015). On the other hand, rural financing (RFI) has negative but statistically not significant relationship (p-value=0.5164) with financial performance of DMBs in Nigeria. This finding is not consistent with the findings in Adusei (2015), Emire, Mills and Amowine (2013).

The relationship between pricing of banking services and financial performance of DMBs also negative but statistically not significant (P-value=0.5545). This finding shows that banking services may be highly priced to encourage more financial inclusion; this barrier needs to be mitigated appropriately so that patronage can be improved upon. Thus, the issue of interest rate (pricing) increase should not be contemplated by DMBs in the interim. This position is perhaps in congruence with recent tide of the CBN recently for consecutive downward reviews of Monetary Policy Rate (MPR) in a row in pursuit of a single digit interest rate regime. This result supports the findings of Enyioko (2012) but contradicts Musiu (2005); Nwangi (2013).

This study established that number of bank branches has no statistically significant (p-value=0.9411) impact on financial performance of DMBs in Nigeria. This indicates that number of branches of DMBs in terms of spread and locations does not really matter to encourage better financial inclusion. This is because banking services can be accessed on many platforms electronically in real time and online without physical visitation to the branches, or perhaps branches are wrongly located and thus unable to support the overall profitability of banks. This result supports the findings of Hirtle (2007); Prasetyo and Sunaryo (2015); but contradicts Pastor, Lovell and Tulken (2006); Nader (2011).

On the effect of usage of banking services and financial performance of DMBs in Nigeria, the study found no significant effect (p-value=0.4626). This finding may not be unconnected with service failure, spurious charges by DMBs, frequent systems downtime and general service dissatisfaction which discourage opening of new accounts and maintaining usage of existing accounts from going dormant. This is

because when customers experience service failure, they may discontinue the service patronage. This result supports the findings of Ikram and Lohdi (2015) but contradicts kagan, Acharya, Rao and Kodepaka (2005); Kithaka (2011); Okun (2012); Harelimana (2016); Chauvet and Jacolin (2016).

## **5. CONCLUSION AND RECOMMENDATIONS**

The study investigates the impact of financial inclusion on financial performance of deposit money banks in Nigeria. Financial inclusion is measured with MSMEs financing (DMBs Loans to Micro Small Medium Enterprises (MSMEs), Rural Financing (Loans of rural branches of DMBs), Pricing of Banking services (weighted average lending rate) as charged by DMBs, Number of branches of DMBs in Nigeria (Accessibility and Availability of banking and financial services and products through service outlets and points) and Usage of Banking services (Deposits of rural branches of DMBs arising from usage of different banking products and services by customers) as independent variables, while financial performance of Deposit Money Banks, as a dependent variable, is measured with Returns on Assets of DMBs calculated as Profit Before Interest and Tax (PBIT) over Total Assets of DMBs. This study finds that MSME financing has a positive significant impact on financial performance of DMBs in Nigeria, whereas rural financing, number of branches of DMBs, pricing and usage of banking services have no significant impact on financial performance of DMBs in Nigeria. Based on the findings, the study concludes that MSME financing as a measure of financial inclusion improves financial performance of DMBs, while rural financing, number of branches of DMBs, pricing and usage of banking services have no significant impact on financial performance of DMBs. The study recommends that DMBs should increase the amount of loan and advances given to MSMEs as this will strengthen financial performance of DMBs in Nigeria. CBN and NDIC should also encourage DMBs through their regulatory and supervisory functions to give priority to SMEs financing in Nigeria. It is also recommended that usage of banking services should be properly encouraged through excellent and satisfactory service delivery of DMBs to ensure continuous usage of banking services in line with Financial Inclusion Lifecycle and Innovative Financial Inclusion Models.

## REFERENCES

- Aduda, J., & Kalunda, E. (2012). Financial inclusion and financial sector stability with reference to Kenya: A Review of Literature. *Journal of Applied Finance and Banking*. 2,(6), 2012, 95-120
- Adusei, M. (2015). Branch profitability: insights from the rural banking industry in Ghana. *General and Applied Economics Research Article*. Cogent Economics & Finance, 3: 1078270 Sept, 2015
- Ahmed, A., Rehan, R., Chhapra, I.U. & Supro, S. (2014). Interest Rate and financial performance of banks in Pakistan. *International Journal of Applied Economics, finance & Accounts*, 2, (1), 1-7
- Aruwa, S. A. S, & Naburghi, M.M. (2014). Impact of Capital Adequacy on the financial performance of quoted deposit money banks in Nigeria. *Nasarawa Journal of Administration*, Vol. 1, NO 1. 2014
- Athanasoglou, P. P., Brissimis, S.N, & Delis, M. D. (2005). Bank-specific, Industry Specific and Macroeconomic Determinants of Bank Profitability. *Bank of Greece. Working Paper No. 25*
- Awo, J. P., & Akotey, J.O. (2010) financial performance of rural banks in Ghana: A case study of Naara Rural Bank. Faculty of economics and business administration, catholic university college of Ghana, 2010
- Bessler, N., & Bittelmeyer, C. (2006). Innovation and the Performance of technology firms: Evidence from, Initial Public Offerings in Germany. Center for Finance and Banking, Justus – Liebug – University Giessen, 2006
- Boadi, I., Dana, L.P. Martens, G. & Mensah L. (2017). SME's financing and bank profitability: A good date for banks in Ghana. *Journal of African Business*, vol 12, issue 2, 2017
- Central Bank of Nigeria (2012). National Financial Inclusion Strategy, Financial Inclusion Secretariat, Summary Report, Central Bank of Nigeria, Abuja
- Central Bank of Nigeria (2016). Statistical Bulletin, Annual Report, Vol. 13, Central Bank of Nigeria, 2016
- Chauvet, L. & Jacolin, L. (2015). Financial inclusion and firms' performance. ird, leds, dial UMR 225, Banque de France, PSL, Universit~Ac Paris-Dauphine, FERDI. Banque de France. 2015
- Chauvet, L. & Jacolin, L. (2016). Financial inclusion, bank concentration and firms' performance. *Banque de France, PSL, Universit~Ac Paris-Dauphine*, FERDI. Banque de France. Working paper No 615 SSRN
- Demirgüç-Kunt, A., Cordora E. L., Martinez Peria, M, Woodruff C, (2011). Remittance and Banking Services Sector Breadth and Depth: Evidence from Mexico. *J. Dev. Econs*, 95, 229-241

- Emire, E. F., Mills, A., & Amowire, N. (2013). The rural bank profitability nexus: evidence from Ghana. *International Journal of Applications and Innovation in engineering and Management*. ISSN 2319 – 4847 vol. 2, issue 4, April, 2013
- Enyioko, N. (2012). Impact of interest rate policy and performance of deposit money banks in Nigeria. *Global Journal of Management and Business Research*. Vol. 12, issue 21 version 1.0 year 2012. ISSN 2249 – 2588
- Fernando, N.A. (2015). National Financial Inclusion Strategy, Current State of Practice. AFI Financial Inclusion Strategy Peer Learning Group (FISPLG) 2015
- Frost & Sullivan (2009). Bringing financial services to the masses: An NCR White Paper on Financial Inclusion, NCR Corporation, 2009
- Georges, O, James, A., & Margaret, C. (2014). The performance of rural banks in Ghana: The ages have past anything recommended for the future. *International review of management and business research*, vol 3, issue 2, June, 2014
- G20 Financial Inclusion Expert Group (2010). Innovative Financial Inclusion from Access through Innovation Sub Group of the G20 Financial Inclusion Experts Group, 2010
- Harelimana, J.B., (2016). Financial inclusion and financial performance of microfinance institutions in Rwanda: analysis of the Clecam Ejoheza kamonyi. *Bus. Eco J7 269* doi: 1047172/2151
- Hirtle, B. (2007). The impact of network size on bank branch performance, Federal Reserve Bank of New York, 33 liberty street, New York, NY 10045
- Ikram, I., & Lohdi, S. (2015). Impact of financial inclusion on banks profitability: An empirical study of banking sector of Karachi. Pakistan. *International Journal of Management Sciences and Business Research*, October 2015 ISSN) 2226- 3235) Vol 4, Issue 10
- Kagan, A., Acharya, R.N., Rao, L.S., & Kodapaka, V. (2005). Does internet banking affect the performance of commercial banks? Paper prepared for presentation of American Agricultural Economics Association Annual Meeting, Providence, Rhode Island, July 74-27, 2005
- Kithaka, E. (2011). The effect of mobile banking on financial performance of commercial banks in Kenya. A research project submitted in partial fulfillment of the requirements of degree of the masters of business administration, school of business, university of Nairobi, Kenya
- Musiu, D.K. (2005). Relationship between lending interest rates and the financial performance of commercial banks in Kenya. A research submitted in partial fulfillment of the requirements for the award of M.sc in business administration, school of business, university of Nairobi, Kenya



- Mwangi, N. S. (2013). The effect of lending interest rates on financial performance of deposit taking microfinance institutions in Kenya. A research project submitted in partial fulfillment of the requirement for the award of M.Sc in Finance, School of Business, University of Nairobi, Kenya. 2014
- Nader, A. (2011). The effect of banking expansion on profit Efficiency of Saudi Banks. 2<sup>nd</sup> International Conference on Business and Economic Research (2<sup>nd</sup> ICBER 2011) Proceedings 269.
- Nkwede, F. (2013). Financial inclusion and economic growth in Africa: Insight from Nigeria. *Journal of Business and Management* Vol 7, No 35
- Nwala, M.N., & Abubakar, H. S. (2014). Impact of corporate governance on the financial performance of selected banks. *Nasarawa Journals of Administration*, Vol 1, No 1, 2014.
- Okun, D.M. (2012). The effect of level of deposits on financial performance of commercial banks in Kenya. A research project submitted in partial fulfillment of the requirements for the degree of masters of business administration, university of Nairobi, Kenya
- Onaolapo, A.R. (2015). Effects of financial inclusion on the economic growth of Nigeria (1982 – 2012). *International Journal of Business and Management Review*, Vol. 3, No. 8, September, 2015
- Pastor, J.T., Lovell, C.A., & Tulken, H. (2006). Evaluating the financial performance of banks branches. *Ann Oper res* (2006) 145: 321-337.springer science + business media, LLC 2006
- Prasetyo, H. & Sunaryo, S. (2015). The branch expansion and the performance of the banks: the case of Indonesia. *Bulletin of monetary, Economics & Banking*. Vol., 18, No 1, July, 2015
- Rachana, T. (2011). Financial inclusion and performance of rural co-operative banks in Gujarat. *Research Journal of finance and accounts* ISSN 2222 – 1697 (paper) ISSN 2222 – 2847, vol 2, NO 6 2011
- Shahchara, M. & Tahen, M. (2011). Loans to SME and banking profitability. *Research of Monetary and Banking Institute*, Iran Vol 1, issue 2. 2011
- Shao, J. (2003). Impact of Bootstrap on Sample Survey, *Statistical Science*, 18, 191-198
- Thingalaya, D. N. (2012). Role of rural banks in achieving financial inclusion. *Bank Quest*, 2012
- Tuyishime, R., Memba, F., Mbera, Z. (2015). The effects of deposit mobilization on financial performance in commercial banks in Rwanda. A case study of Equity Bank, Rwanda. *International Journal of small business and Entrepreneurship Research*. European Centre for Research Training and Development UK Vol 3, no 6. Pp-44-71 Nov, 2015

- Wambari, K.A., & Nwangi, M. (2017). Effects of interest rates on financial performance of commercial banks in Kenya. *International Journal of finance and Accounting (IJFA)*. ISSN xxxx xxxx (paper) ISSN 2518 – 4113 (online) vol. 2 Issue 4, pp 19-35, 2017
- Watts, R. L., & Zimmerman, J.L. (1979). The demand for and supply of accounting theories: The market for excuses. *The Accounting Review* Vol. LIII, No 2, April, 1979
- World Bank (2015). Measuring financial inclusion around the World. The Global Findex Data Base Accessed <http://worldbank.org/en/programs/globalfindex>. September, 2016
- Yoshino, N., & Morgan, P. (2016). Overview of financial inclusion, regulation and education. Asian Development Bank Institute. *ADB Working Paper No 591*, Tokyo