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## INFLUENCING FACTORS ON PROFITABILITY OF COMMERCIAL BANKS: STUDY OF SOME SELECTED BANKS IN NIGERIA (2005-2018)

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### ABSTRACT

Against the backdrop of vertical and horizontal merger of Banks and in some cases, outright collapse following management challenges, other endogenous cum exogenous factors occasioning inadequate Return on Investment or low profitability, this study was undertaken to determine the influencing factors to Commercial Banks profitability in Nigeria. This is necessary given the economic importance of Banks in the growth of the National economy. Related literatures were reviewed in the course of the study. The study Data were mainly of secondary sources whereas, Time Series approach was adopted in the methodology of analyse the data sourced. Analysis of the Data revealed that Liquidity, Asset Quality, Management efficiency, Bank size and Monetary Policy Rate among others were the major factors militating or influences Commercial Banks profitability. Conclusions were drawn from the fact that Banks profitability are determined by internal and external variables category. It therefore recommended that decision stalkers should keep tap with the identified variables. Accordingly, the monitoring authorities including the Central Bank of Nigeria and related agencies should intensify supervisory roles of Banks and paying due regard to several endogenous factors within its reach identified in the study.

**Keywords:** Profitability, Banks, Commercial Banks, Nigeria

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## **INTRODUCTION**

The Banking Industry have over the years proved to be a key player in the Economic Growth of the Nigeria. Commercial Banking being one of the kinds is crucial in the growth process and development of any economy. A commercial bank is the type that provides services by accepting deposits and offering same as loans to individuals, agencies, Governments and Business ventures for a fee often referred to as interest. It is not in doubt however, that these funds of Commercial Banks are ultimately deployed, either in full or part for economic activities thereby impacting in the growth of the economy. This process underscores the need to exercise care, act professionally and ensure the continuity and viability of the Banks by their operators and proprietors or otherwise, the investors.

There are factors that influence the attainment of stability, viability or even the profitability of Commercial Banks. These factors vary from internally induced to external concerns and usually described as endogenous and exogenous factors specific. They are so termed as a result of their circumstances. Mostly, these factors are often characterized as Bank individual and industry specific or macroeconomic factors. Bank specific or endogenous factors include; Bank size, capital adequacy, total deposit, liquidity, management efficiency, asset quality, etc. Most of these factors are addressed in this study. There are also macroeconomic factors which this study termed exogenous and wholly outside the control of the operators and managers of the enterprise. Thus, the institution will need to adjust to those contingencies or vagaries. Some of these factors also affect the profitability of Commercial Banks.

Consequent upon the importance and the role of Commercial Banks in the promotion of growth of the economy, it is therefore imperative to make an in-depth analysis or study of these factors. In so doing, appropriate steps could be taken to mitigate those issues that are within the confines and control of the management and operators of their affairs while making necessary recommendations for the policy makers in order to address those that are external to the Banks. This study is comprised of review of related literatures, study methodology, Data analysis and conclusion, preceded by recommendations.

### **Objective of the Study**

This study is set out to assess the influence factors to Commercial Banks profitability in Nigeria. In so doing, it will examine the impact of Bank Asset Quality, Capital Adequacy, Management Efficiency and other prudential variables that are likely to influence the profitability of Commercial Banks in Nigeria.

## **LITERATURE REVIEW**

For the purpose of this study, review of related literature has been made to establish the conceptual and theoretical basis for Profitability. It also showcases previous studies indicating the empirical literatures on the subject matter. However, the reviews were made in view of the perceived factors drawn from the concept of Banking.

## **Conceptual Review**

The concept of profitability buttresses that there are causes or factors that influences Commercial Banks profitability. Literatures abound to confirm these Earning concepts. For the purpose of this study, some of the factors are identified: According to Dechow and Schrand (2004), high earning quality reveals a Bank`s present operating performance and a good gauge for future operating performance. In Commercial Banks, earnings are defined as the profit it made. Thus, the variance or disequilibrium between revenue and expenses. The main source of revenue for Commercial Banks being interest received on loans and other incomes resulting from the general banking operations. On the other hand, expenses relate amongst others, to salaries and wages, rents, and other administrative overheads including taxes, etc. The net off of these from the overall revenue is the net profit. Therefore, a successful bank should strive and display competency to make reasonable profits in order to keep in business and make return on equity of its promoters.

## **THEORETICAL REVIEW**

Discussing the factors that influence Commercial Banks profitability cannot be complete without a review of the theories of profitability. Against this background, the following framework of profitability is reviewed.

### ***Theory of Investment***

This Theory presupposes that investment is a monetary asset acquired to provide income in future with the aim of making profit. Thus, investment bank which is typical of Commercial Banks is a financial services company that employs advisory- based financial transactions for individuals, corporate entities and governments. According to Thangavelu (2017), Investment Bankers raises money in the capital market and provide other services which is advisory in nature. This, however, includes funds mobilization and lending of the pooled funds to provide capital for the borrower`s businesses. Similarly, Commercial Banks aim is to earn revenue and generate profits for their promoters or investors.

### ***Frictional Theory of Profits***

This theory has it that there exist a natural rate of profit that is deemed as the return of capital which must accrue to the owners of the capital being, the reward for saving and investment of funds instead of having the option to consume all their income or leaving them un-invested.

The theorist opined that in a static economy and supposing that there is no expectation in the change of demand in the long run, the firm would earn only normal rate of profit on the invested capital and management efficiency. According to Stigler (1964), frictional theory of investment accords firms in a competitive industry to receive or make profit. Thus, if prices were lower or cost higher than anticipated, entrepreneurs will receive less than the alternative product of their preferences. In our case, that may mean loss of their profit or absence of profit.

### ***Risk and Uncertainty Bearing Theory of Profitability***

Another theory upon which Commercial Banks profitability hinges which is worthy of reference in this study, is that which explains that profits are necessary reward for entrepreneurs. This the theorist argued that entrepreneurs bears risk and uncertainty in a changing economy. Therefore, it is submitted that profits arise as a result of uncertainty of time. Proponents of Risk and Uncertainty Theory observed that uncertainty is caused by changes in Government policies, laws of taxation, welfare and labour policies. These falls under the monetary and fiscal policies of the Central Bank of Nigeria whereas, movement of prices as a result of inflation and depression have been identified as further causes of uncertainty which are further accentuated by the vagaries or the uncertainty of the economy.

### ***Managerial Efficiency Theory of Profit (Compensatory theory)***

This theory observes that firms are more efficient than others in reference to productive management of operations and meeting with the needs and aspirations of their customers. Thus, companies with higher managerial acumen and skills tends to be more efficient and compensated with higher profits. Compensatory theory of profits emphasizes the need to promote managerial skill backed by regular capacity building.

It is important therefore, to note that no theory can satisfy all explanations about profitability. However, economic profits are results of disequilibrium which arises from the dynamics of changes in the business environment and also the frictions also in the instant adjustments of new conditions. Therefore, no single theory explains all.

## **Factors influencing Commercial Banks Profitability**

### ***Assets Quality***

The assets quality is an important feature to evaluate the level of financial power of a bank. The main drive of measuring the assets quality is to define the structure of non-performing assets (NPAs) as a proportion of the total assets. The quality of credit portfolio also articulates the profitability of banks. The key concern of every commercial bank is to reduce and perhaps, as far as possible retain the amount of non-performing loans to small level. This is so because large non-performing loan impacts negatively on bank's profitability (Sangmi & Nazir, 2010).

### ***Management Efficiency***

Efficiency of Management is another essential ingredient to advancing profitability. Management efficiency denotes compliance with recommended standards, ability to stand changing environment. It also includes the management and administrative ability of the operators of the business including their capacity to make good decisions that will propel enterprise growth and sustainability thus guarantee adequate or appreciable return on investment and corporate continuity. Good management will also ensure proper total loans to total deposit ratio of the Bank (Kalakkar, 2012).

Higher deposit ratio is preferable for promotion and profitability assurance of Commercial Banks.

## ***Liquidity***

This is an important factor and a good determinant of a Bank's profitability. It is also an assessment of the performance of the managers and operators of the Bank. Liquidity is the ease with which Banks assets can be converted to cash when the need to raise cash arises. It also referred to that class of assets that allows a bank to react to any financial situation which requires cash injection. When a Commercial Bank has adequate liquidity position, it can meet its financial obligation with ease without necessarily having to tamper with its other resources. Large liquidity as posited by Wahadah and Leithy (2017), specifies a less risky and less profitable Bank. They opined that the trade-off that generally exist between return and liquidity risk are revealed by observing that a shift from short-term securities to long-term securities raises banks return and increases its liquidity risk.

## **Monetary Policy Rate (MPR)**

According to the Central Bank of Nigeria Statistical Bulletin (2016), the MPR is the authorized interest rate of the Central Bank of Nigeria (CBN) which drives all the other interest rates within the money market cum the economy. CBN's pronouncement on the MPR affects the degree of economic activities and prices of goods and services in the economy through number of straits. Thus, a decision by the CBN to change the MPR affects the market interest rate in various ways. The same pronouncement on the MPR, influences the outlooks of individuals Banks in term of profit and those of economic agents concerning the future course of the economy.

Such decisions in like manner, affects the prices of financial assets which include shares and the exchange rate of the local to other currencies, spending capacity of individuals and economic agents to save and spend. For instance, when the interest rate is raised, individuals are moved to save instead of spending. A rise in interest rate would as well result to immigrants spending more to purchase our local currency, thus making imported goods to be economical than goods produced within the country and vice versa. This has the tendency to boost imports and dampens exports of goods and services. It also has a restrictive effect on the amount of external reserves. The change in exchange rate invariably impact domestic prices of imported goods and services. Additionally, the variation in interest rate creates an unintended impact on the prices of goods and services which has substituted value with locally manufactured goods or those that are termed inputs for production. (CBN, 2016)

## **Bank Size**

The total logarithm of the asset value of a Bank determines a Bank size. This determines the offer of financial services it could also extend to customers. By profit theory, it is also an indication of the level of profitability it will harness. The effect of enormous bank size on profitability is generally anticipated to be positive (Smirlock, 1985). Bank size accounts for the presence of economies or diseconomies of scale (Naceur & Goaid, 2008). The banking theory further states that a firm enjoys economies of scale up to a certain degree beyond which diseconomies of scale set in but this is never the case in Bank size as large size makes a Bank to leverage on syndication, engage in voluminous lending, attract high credit portfolio in order to reap huge profit. This infers that profitability rises with increase in size and declines as soon as there are diseconomies of scale. Therefore, the relationship between the bank size and

profitability can be positive or negative (Staikouras & Wood, 2004; Athanasoglou, Delis, & Staikouras, 2005; Flamini, McDonald, & Schumacher, 2009; Dietrich & Wanzenrid, 2009).

### **Inflation Rate**

This captures the total percentage rise in Consumer Price Index (CPI) for every goods and services. Consumer Price Index measures the changes in the price level of a specific quantity of goods and services purchase by a consumer. Inflation influences the actual worth of costs and incomes. Inflation and profitability may have positive or negative relationship depending whether it is expected or unexpected (Molyneux & Thorton, 1992).

### **Capital Adequacy**

Capital adequacy is defined as the right amount of the equity to absorb any crisis that the bank may face, Nwankwo (1991). The financial structure of banks is greatly controlled and are so made in order to maintain capital adequacy which appears to be the spine of the Bank structure and stability. This is because capital acts a major role in decreasing the amount of bank failures and loses to the investors. According to Hardy and Bonaccorsi di Patti (2001), cited in Notta (2004), Nwankwo (1991), capital adequacy is a broadly recognized significant factor in bank assessment and profitability measurement. It is one of the factors approved by the Basel System for bank performance estimation by the Bank International Settlement (BIS).

The capital adequacy measure was implemented in the Nigeria banking system in 1990. This defines the proportion of Bank Tier 1 and Tier 2 capital relative to its weighted assets. The banks need to meet at least requirements specified by the Bank Regulating and Monitoring Authority which is the Central Bank of Nigeria (CBN) in the instance. Though there is universal convention that statutory capital needs are essential to decrease moral hazards, Berndt and Gupta (2009), stressed that large capital result to low profits because banks with a large capital ratio are risk-averse, they disregard prospective (risky) investment prospects as a consequence, investors call for a lower return on their capital in exchange for lesser risk.

### **Total Deposit**

Deposit includes funds placed in financial institutions for safekeeping. These deposits are paid into savings, money market accounts and checking accounts. The deposit is a liability against the bank in favour of the customer. Total deposit consists of the different types of deposits in the bank's Balance Sheet summing the entire value of its total deposit.

Bank deposits are major way funds can flow in the economy. Some of the deposits of Commercial Banks are part of the Money supply (M1) a Country's physical currency plus demand deposit and other liquid assets held by the Central Bank, (Khon, 2004).

### **Empirical Review**

Some studies and findings have been made relative to similar condition of the subject matter of this research. Interestingly, none of those studies emphasizes Nigeria and for the period this very study covers. It will be pertinent therefore, to review some in order to buttress our study objectives.

Dabaghie and Rajha (2019), studied the performance of Saudi Commercial Banks applying CAMELS with a sample of 12 Saudi Commercial Banks listed on the Saudi Stock Exchange during the period 2010-2016. The research estimated the performance by calculating the rate of return on assets, while the independent variables included elements of the CAMELS model, in addition to the rate of growth, inflation and the bank size. The findings indicate that capital adequacy, asset quality, management efficiency, and profitability have a statistically significant positive effect on the profitability of Saudi Commercial Banks. However, Liquidity and Market Risk Sensitivity have a significant negative effect on the profitability of Saudi Commercial Banks. In addition, growth and volume had a positive and statistically significant impact while, inflation had a negative and statistically significant impact on the bank's performance. The study recommended increased attention on training in the evaluation of banks using the CAMELS Model in order to improve regulation. The study also recommends that

Banks should make more efforts to reduce non-performing loans. Ani, Ugwunta, Ezeudu, and Ugwuanyi (2012), in their study carried out to determine the profitability of Commercial Banks in Nigeria for the period from 2001 to 2010 adopted the use of Ordinary Least Square to estimate their coefficient. The study found that Bank Size does not increase the profit of any Commercial Banks in Nigeria. However, The study of Deger and Adem (2011) investigated the internal and external factors that affect Turkey Commercial Banks profitability from 2002-2010. It used the Return on Assets (ROA) and Return on Equity (ROE) as the dependant variables while internal and external factors were the independent variables of the study. They established that profitability increased as the Non-interest income and Asset Size increase. They also established that real interest rate has positive effect on profitability.

Akomolafe, Danladi, Babalola and Abah (2015), also investigated Monetary Policy and profitability of Commercial Banks in Nigeria. Interest Rate and Money Supply were proxies for Monetary Policy, whereas Profit Before Tax for Commercial Banks' performance in a Micro-panel Analysis. The study established that there is a positive relationship between Banks Profits and Monetary Policies in Nigeria.

Similarly, Tomuleasa (2014), examined the determinants of European Bank Performance. It concentrated on Bank Individual factors and macroeconomic variables and found that inflation impact positively on profitability. Ameer (2015), studied the relationship between bank-specific and macro-economic indicators on bank profitability of ten Pakistani banks from 2010-2014. Results showed that both internal and external factors have a strong effect on profitability. It further discovered that total non-performing loan to total loan, total expense to total asset, and inflation have indirect relationship with bank performance. While log of total asset, total equity to total asset, Short term and fixed deposit to total asset, short term and long-term loan to total asset have positive significant relationship with bank's performance. Furthermore, current asset to current liabilities have insignificant relationship with bank performance.

In the study of Nisar, Wang and Jaleel (2015), which examined bank-specific, industry-specific and macroeconomic factors influences the profitability of Pakistan Banking Sector from 2006 to 2013. Results obtained indicates that interest expense to total deposits and loans, liquid assets to total assets, Non- Performing loans to total advances, and administrative cost to total assets adversely affect return on assets. They also established that non-interest income to total income, Shareholders' equity to total assets, log of total assets to log of gross domestic products have positive relationship.

In Ozgur and Gorus (2016), study on the effect of bank specific and macroeconomic factors on Banks profitability in Turkey. The study employed the OLS technique in the

methodology. The findings revealed that Equity to Total Assets, non-performing loans to total loans, net interest income to total assets, and monetary policy rate have a significant effect over return on assets (ROA). On the contrary, non-interest income to total assets, total deposit, operational expenses to total assets, and exchange rate are not statistically significant.

Menicucci and Paolucci (2016) examined the link between Bank specific factors and profitability in European banking sector in order to determine the effect of internal factors on achieving high profitability. This study used Regression Analysis on an unbalanced Panel Dataset related to 28 European Banks for the period of 2006–2015. Regression results of this study revealed that capital adequacy ratio and bank size have positive effect on bank profitability in Europe whereas, large asset quality results in lower profitability levels. Findings from this research further submitted that banks with higher deposit ratio tend to be more profitable. Interesting perspectives in the individualities and practices of profitable banks in Europe were exposed in the study namely; results provided fresh broad perceptions into the factors responsible for the profitability of commercial banks in Europe. Single bank's individualities describe a percentage of a country distinction in European Bank profitability, meaning that more attention must be paid to bank specific factors in order to shore up profitability.

Mazur (2017, assesses the impact of liquidity risk measured by the following; cash, reserve requirement /total asset or liquidity assets / total asset on Bank performance measured by Net interest margin of the major Polish Commercial Banks for the period (2009-2016). The findings from the study showed that increase in liquid asset and loans to total asset have a positive impact on the Net Interest Margin of the Bank.

## **RESEARCH METHODOLOGY**

### **Dependent and Independent Variables**

The statistical techniques employed for this study is the Pearson's Coefficient of Correlation and Regression Analysis. The regression analysis was for Return on Equity (ROE) as a measure of profitability. A high ROE means Profitability and therefore, proficient application of the indicative of superior managerial performance (Alper & Anbar, 2011; Kanwal & Nadeem, 2013; Chinoda, 2014; Abel & Le Roux, 2016).

Return on (ROE) therefore, was the dependent variable of the study. On the other hand, the following were used as independent variables namely; Asset Quality, Capital Adequacy, Management Efficiency, Liquidity, Earning Quality Bank Size, Total Deposit, Monetary Policy Rate and Inflation Rate and Monetary Policy Rate.

### **Data Collection and Sample Technique**

The population of the study comprises of all Commercial Banks quoted on the Nigerian Stock Exchange (NSE)as at 31<sup>st</sup> December 2018. Secondary data were used and collected for the study from the Nigerian Stock Exchange, Central Bank of Nigeria and the Audited Published Accounts of the selected Commercial Banks for the period, 2005-2018. The choice of the banks was based on Post-Consolidation Period for Commercial Banks in Nigeria. Sampling technique were random of the 14 Commercial Banks which was operation at that time.



## Research Model

The Multiple regression Model is applied to test the relationship between banks' profitability, Bank-specific characteristics and the macroeconomic factors as defined in the subject matter of this study. Study literatures on banks' profitability, such as Molyneux and Thornton (1992), Demircuc-Kunt and Huizinga (1999), Athanasoglou et al., (2008), applied regression models to evaluate the effect of various factors that may influence profitability. This further justifies our choice of model. The following equation are modelled to satisfy the methodology of the study thus;

$$ROE = \beta_0 + \beta_1x_1 + \beta_2x_2 + \beta_3x_3 + \beta_4x_4 + \beta_5x_5 + \beta_6x_6 + \beta_7x_7 + \beta_8x_8 + \beta_9x_9 + \mu$$

Where:

$\beta_0$  = Intercept or Constant Term

$\beta_1x_1$  = Asset Quality (AQ), Measured by

$$\frac{\text{Non – performing loans}}{\text{Total loans}} \\ \frac{\text{Total loanloss provision}}{\text{Total loan}}$$

$\beta_2x_2$  = Capital Adequacy(CAR), Measured by

$$\frac{\text{Tier1 plus tier2 capital}}{\text{Risk weight assets}} \\ \frac{\text{Total capital}}{\text{Total asset}}$$

$\beta_3x_3$  = Management Efficiency (MGTE), measured by

$$\frac{\text{Net profit}}{\text{PerEmployee}} \\ \frac{\text{Non – interest expense}}{\text{Gross expense}}$$

$$\frac{\text{Total deposit}}{\text{number of branches}} \\ \frac{\text{Total loans}}{\text{number of branches}}$$

$\beta_4x_4$  = Liquidity (LQ), Measured by

$$\frac{\text{Liquid asset}}{\text{Total deposit}}$$

*Available stable funding*  
*Required stable funding*  


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*High quality assets*  


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*Net cash outflow for 30 days*

$\beta_{5 \times 5}$  = Deposit (DEP) , Measured by Total deposit  
 $\beta_{6 \times 6}$  = Bank Size (BZ) , Measured by Total assets  
 $\beta_{7 \times 7}$  = Earning Quality (EAQ), Measured by  


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*Net interest income*  


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*Total assets*

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*Interest income*  


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*Total income*

$\beta_{8 \times 8}$  = Monetary policy rate (MPR), Measured by annual Interest Rate  
 $\beta_{9 \times 9}$  = Inflation Rate (IFR), Measured by annual inflation rate  
 $\beta_1 - \beta_9$  = Coefficients of the Independent variables  
 $\mu$  = Error Term.

### Data Presentation

Below are the Data obtained for the secondary data computed for the study. The parameters were plugged in the developed equation following the established model above.

The corresponding analyses are reviewed using the afore-stated parameters and discussed in that light.

Statistic	ROE	ASQ	CAR	MGF	LQD	DEP (N'B)	BSZ (N' B)	EAQ	MPR	INF
No. of observation	140	140	140	140	140	140	140	140	140	140
Minimum	0.6400	27.0000	1.4900	37.9650	30.4250	946.6396	4515.1176	2.6000	6.0000	6.6000
Maximum	23.4000	41.2000	17.7000	85.6615	65.0000	6608.6519	37206.9893	4.7000	14.0000	18.5000
Mean	16.4243	34.4950	10.8971	65.5557	47.2392	4362.2337	21258.0779	3.7671	11.1786	11.4786
Standard deviation (n-1)	5.6741	4.8646	4.3848	14.7139	10.4287	1814.6855	9934.0775	0.5264	2.6301	3.3494
Skewness (Pearson)	-1.4727	-0.2085	-0.4465	-0.6660	0.0337	-0.5691	-0.0552	-0.5272	-0.8194	0.4957
Kurtosis (Pearson)	2.3518	-1.3027	0.1782	-0.6475	-0.6504	-0.8435	-0.9380	0.1133	-0.3397	-0.4818

**Source:** Author's Computation and Statmatic 22.1 Output (2019).

### The Arithmetic Mean

Making an allowance for the yearly period (2005 – 2018) used for this research work, the average return on equity of banks in Nigeria was 16.42% per year, while the minimum and maximum return on equity of banks were 0.64% and 23.40% respectively per annum.

The maximum exchange rate was 10.92%. Nevertheless, the mean of some the variables like inflation rate was 11.48%, whereas the minimum inflation rate stood at 6.6% and the maximum inflation rate was 18.50%. Also, the average of capital adequacy was 10.90%, while the minimum capital adequacy was 1.49% and maximum capital adequacy ratio was 17.70%. In addition, the average monetary policy rate was 11.18%, while the minimum monetary policy rate was 6.00% and maximum monetary policy rate was 14.00%.

### Standard Deviation

The standard deviation from the mean for return on equity of banks was 5.67%, the standard deviation of asset quality was 4.87%. Liquidity standard deviation stood at 10.42%. Also, the standard deviation of management efficiency was 14.71%.

### Skewness

The distribution of the variables showed that some are positively skewed to the right and some negatively skewed to the left since their values are different from zero in table 4.1, thereby lending credence that they are all skewed variables.

### Kurtosis

Kurtosis values of all the variables are less than 3.0; this means that their curves are leptokurtic in nature.

### Test of Autocorrelation

#### Durbin-Watson Statistic of the Return on Equity Model

Durbin-Watson stat	2.1290
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Source: Author's computation and Statmatic 22.1 Output (2019)

$H_0$  : There is no positive autocorrelation in the model

$H_A$  : There is a positive autocorrelation in the model

**Decision:** The Durbin-Watson statistic value of 2.1290 which is close to 2 shows no presence of positive autocorrelation in the model. Therefore, the null hypothesis is accepted and the alternate hypothesis rejected.

#### Test of Multicollinearity

$H_0$  : There is no presence of linear relationship among the explanatory variables in the model

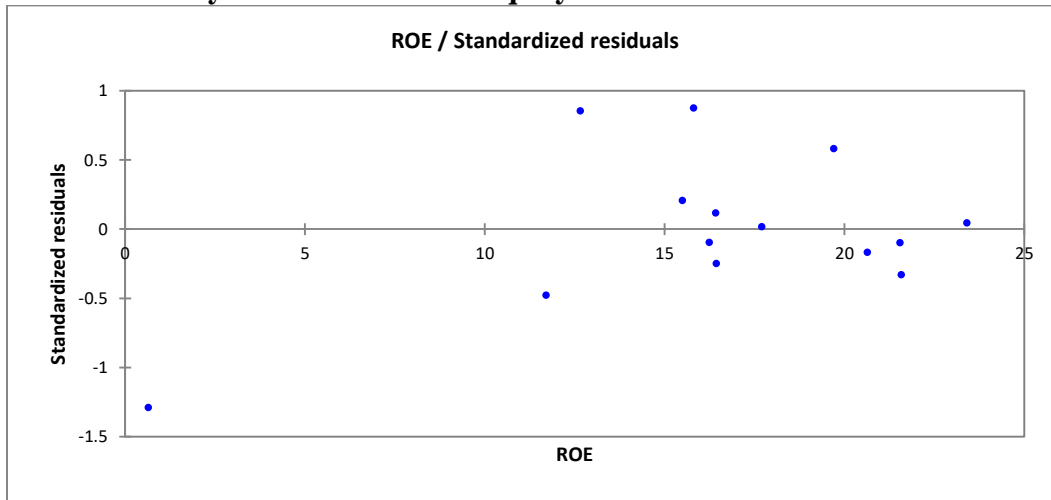
$H_A$  : There is a presence of linear relationship among the explanatory variables in the model

The variance inflation factor for the return on equity model is:

$$\text{VIF}(b_5) = \frac{1}{1 - R_5^2} = \frac{1}{1 - 0.37} = 1.5873$$

**Decision:** Since the Variance Inflation Factor value of 1.5873 is less than 10, it shows that there is no presence of linear relationship among the explanatory variables in the model. Therefore, the null hypothesis is accepted and the alternative hypothesis rejected.

### Test of Stability for the Return on Equity Model



### The Standardized Residual Normality Tests (SRN)

**Source:** Author’s computation and Statmatic 22.1 Output (2019)

The standardized residual normality test (SRN) is used to evaluate the stability of the models when applied on the residuals. The SRN statistic is based on the residuals from the return on equity model in Tables 4.4. Under the null hypothesis of perfect parameter stability, the residuals from the model are expected to follow a normal distribution at  $\alpha = 0.05$ . From Fig. 4.1, the SRN plots, the residuals followed a normal distribution since the p-value (0.8326) of the Jarque-Bera test is greater than the critical value of 0.05. This means that the model is stable, and therefore it can be used for policy formulation.

### Estimated Return on Equity Model

In estimating the model, ordinary least square (OLS) estimation method was used to estimate the model parameters and identify the nature of relationship that existed between return on equity of banks in Nigeria and other variables using yearly data of 2005 to 2018 extracted from the statistical bulletin of Nigerian Stock Exchange, International Financial Corporation and Central Bank of Nigeria. The main focus of this estimation is to check if selected micro-prudential variables have any impact on return of equity of banks in Nigeria within the period under consideration. Besides, in testing the hypothesis, the p-values of the variables was used by comparing it with the hypothesized significant value of 0.05 for this research study.

Source	Value	Standard error	T	Pr>  t
Intercept	45.5378	34.2393	1.3300	0.2749
ASQ	-0.0649	0.7685	-0.0844	0.0368
CAR	-0.2169	0.5224	-0.4152	0.6993
MGF	0.0194	0.2636	0.0738	0.9447
LQD	-0.5386	0.2703	-1.9925	0.0171
DEP (N'B)	-0.0048	0.0070	-0.6792	0.0143
BSZ (N' B)	0.0007	0.0012	0.5416	0.0269
EAQ	-1.2346	3.9881	-0.3096	0.7723
MPR	1.0098	0.7776	1.2986	0.2639
INF	-0.0400	0.6243	-0.0641	0.0019

**Source:** Author's computation and Statmatic 22.1 Output (2019)

Therefore, the return on equity model is:

$$\text{ROE} = 45.53780 - 0.06488 * \text{ASQ} - 0.21691 * \text{CAR} + 0.01945 * \text{MGF} - 0.53862 * \text{LQD} - 0.00478 * \text{DEP} + 0.00067 * \text{BSZ} - 1.23460 * \text{EAQ} + 1.00977 * \text{MPR} - 0.04004 * \text{INF}.$$

## DISCUSSION OF FINDINGS

The effect of selected micro-prudential variables on Commercial Banks return on equity in Nigeria was evaluated using ordinary least square method. From the return on equity model, the coefficient of determination ( $R^2$ ) of 0.8062 which indicates an 81% of total variation in return on equity of commercial banks can be explained by the explanatory variables. The adjusted coefficient of determination ( $R^2$ ) of 0.3703 or 37%, showed that the explanatory variables were not strong in explaining variation in return on equity within the period however, maybe explained by other variables not included in this model.

The Durbin-Watson statistic of the Return on Equity from our data shows (2.1290) which indicate no presence of autocorrelation in the data. Also, the F-Statistic (1.8494) with p-value (0.0098) showed that the all the selected micro-prudential determinants jointly have effect on return on equity of Commercial Banks in Nigeria. This outcome is consistent with the findings of Debaghie and Rajha (2019).

In terms of the variables, the evidence from the estimated coefficient (-0.0649) of asset quality showed a negative sign and statistically significant. This means that a unit increase in asset quality will cause return on equity to decrease by 0.065 units. The reason for the drop in profitability may be as a result of high amount of non-performing loans. The rise of non-performing loans comes as a result of poor performance of the banking industry in particular and the economy in general that resulted to the decline of asset quality. This result is not consistent with the findings of Nwankwo (2001) that provides evidence that there is significant relationship between asset quality and profitability of commercial banks in Nigeria

The estimated coefficient (-0.2169) of capital adequacy showed a negative sign and it is not statistically significant. This is consistent with the traditional argument that higher capital adequacy requirement inspires banks to invest in safer assets, like low risk loans or securities which may affect profitability (Berndt, & Gupta, 2009). This is consistent with findings of

Menicucci and Paolucci (2016); Garcia, and Guerreiro (2016) who stated that the capital adequacy buffer theory maintained that a bank approaching the mandatory minimum capital requirement may have a bait to increase capital and decrease risk in order to escape the regulatory costs prompted by a gap in capital requirement.

In addition, the estimated coefficient of (0.0194) of the management efficiency is positively signed, but not statistically significant. This result is contrary to our a-priori expectation, the findings of Mazur (2017); Ozgur and Gorus (2016) and efficient structure theory. Efficient structure theory states that the relationship between market structure and profitability of any bank is defined by the efficiency of the bank. The efficiency structure theory is grounded on the fact more efficient banks experience low cost, which translate directly to higher profitability. This theory also maintains that the difference in profitability between banks is not generated by differences in the quality of management, but by the differences in the degree of scale of efficiency which a bank is operating. This suggests that some banks achieve better scale of efficiency which results to reduced cost and higher profit.

Also, the estimated coefficient (-0.5386) of liquidity showed a negative sign and it is statistically significant. At any rate, a unit increase in liquidity ratio will cause return on equity to decrease by 0.54 units. This may be as a result of holding large amount none income yielding liquid assets to meet liquidity need thereby reducing profitability. This in line with liability management theory which maintain that banks needs not grant self-liquidating and keep liquid assets since they can borrow reserve money in the money market in the case of need This outcome is contrary to the result of Ashraf, and Tariq (2016), Pasiouras and Kosmidou (2007) Molyneux and Thorton (1992).

Nonetheless, the estimated coefficient (-0.0048) of demand deposits showed a negative sign. It is statistically significant at 5% significance level. This means that total deposits has an influence on return on equity of commercial banks in Nigeria. Therefore, a billion Naira increase in demand deposits will cause return on equity to decrease marginally. This outcome supports the findings of Abobakr (2018), and El-Ansary (2016), who argued that increasing bank deposits might affect profitability negatively, if not well converted into investment opportunities. This result is not consistent with relative market power theory which claims that banks with large market shares and well differentiated products are more efficient and can earn higher profits. This infers that bank with relatively large market share benefits from the application of market power. This theory is consistent with the results of Lee & Hsieh (2013); Ben and Goaid (2008); Saddique, Ahmad, Mumtaz & Arif (2016); Garcia et al., (2016); Menicucci et al. (2016); and Ally (2014).

Equally, the estimated coefficient (0.0007) of bank size showed a positive sign and it is statistically significant. At any rate, a billion Naira increase in bank size will cause return on equity to increase marginally. This finding supports economies of scale theory which states that a bank with large size could enjoy the economies of scale and produce their services at a lower cost per unit. Since large banks are assumed to enjoy the economies of scale, they are able to generate their outputs or services more economically and efficiently than the small banks. As a result, large banks will earn higher profit than small banks. It is expected therefore that bank size is positively associated to bank profitability. This result is in line with the prior studies conducted by Flamini, et al. (2009); Chinoda (2014); and Alemu (2015). However, there is no agreement in the literature weather an increase in bank size offers, economies of scale to banks. For example, some researchers like Athanasoglou, Delis and Staikours (2005), maintain that there is no significant relationship between profitability and size. Ani et al. (2012) also maintained that that

bank size does not increase the profit of any Commercial Bank in Nigeria. Moreso, the estimated coefficient (-1.2346) of earning quality showed a negative sign, but not statistically significant. This outcome is consistent with the findings of Ihenetu and Iwo (2017) who found that earning quality have no significant effect on profits of commercial banks in Nigeria.

Similarly, the estimated coefficient (1.0098) of monetary policy rate showed a positive sign, but not statistically significant. This result is consistent with the finding of Akomolafe et.al (2015) who established that there is positive relationship between inflation MPR and profits of commercial banks in Nigeria.

However, the estimated coefficient (-0.0400) of inflation rate showed a negative sign and it is statistically significant. At any rate, 1% increase in inflation rate will cause return on equity to decrease by 0.04 units. This suggest that commercial banks in Nigeria have not been able to predict future variations in inflation appropriately and promptly enough to adjust rate of interest and margins. This is due to the fact that inflation could affect value of money purchasing power and real interest which is consistent with International Fisher Effect theory and findings of Chinoda (2014); Menicucci and Paolucci (2016); and Pradhan and Shrestha (2016). The outcome is, however, contrary to our a-priori expectation and also to the findings of Akomolafe et.al (2015) who established that there is positive relationship between inflation and profits of commercial banks in Nigeria.

## **CONCLUSION**

At the end of the regression analysis which evaluated the effect of bank-specific variables; asset quality, capital adequacy, management efficiency, liquidity, earning quality, total deposit, bank size, inflation rate, monetary policy rate on profitability of Commercial Banks in Nigeria, during the period of 2005 to 2018. It was found that the key determinants of Banks profitability are bank size, total deposit, asset quality, liquidity, and inflation rate. On the contrary, capital adequacy, management efficiency, earning quality and monetary policy rate did not impact on commercial banks profitability in Nigeria.

The banking sector is critical and for soothing and for ensuring the stability of the financial system and economic growth. Over the years, several studies concerning the evaluation and analysis of banks profitability have been given increased attention, particularly for Commercial Bankss. The key objective of this study was to examine the bank-specific factors that impact on the profitability of Commercial Banks in Nigeria. The results show that bank size and total deposits were key Commercial Banks profitability corroborating that the large banks take advantage of economies of scale. The findings likewise indicate that deposit is a fundamental determinant of bank profitability. On the contrary, regression analysis indicates that higher capital adequacy and earning quality may not positively result to higher profitability.

## **Recommendations**

Against the backdrop of the findings of this study, it will be imperative to make the following recommendations:

- The study revealed that Total deposit and Bank size were the key drivers on profitability of Commercial Banks in Nigeria. Therefore, Bank managers or decision stalkers are advised to give due attention to those variables to improve profitability.

- Given the positive relationship established between assets quality and profitability of Commercial Banks. It is of ultimate importance that Commercial Banks focus on credit risk management. Therefore, we recommend that operators of Commercial Banks should be proactive in management of risk assets.
- Improvement in asset quality, particularly through the reduction and minimization of loan loss provision and granting of loans to cyclical and volatile sectors should be taken seriously to enhance the profitability of the Banks.
- The Central Bank of Nigeria should pay more attention to inflation rate to ensure macroeconomic stability.
- Finally this study recommends that Banks should strengthen their liquidity structure among other conditions in order to meet maturing obligations and to remain stable in business.

It is envisioned that Bank failures could be averted, and National Economic growth sustained if steps are taken to promote the afore-stated recommendations.

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