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EFFECT OF CENTRAL BANK OF NIGERIA (CBN) REGULATION ON THE PROFITABILITY OF SELECTED DEPOSIT MONEY BANKS IN NIGERIA

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ABSTRACT

This Study examined the effect of Central Bank of Nigeria regulation on the profitability of Selected Deposit Money Banks in Nigeria (2004-2018). Banking regulation is implemented to ensure stability, safety and sound financial system in the economy. Study used secondary data sourced from published Annual Financial Statements of the selected Deposit Money Banks and the Central Bank of Nigeria Statistical bulletin over the study period (2004-2018). Regression analysis was used to test the desired hypotheses with the aid of E-view Statistical package. Findings revealed that regulation (liquidity rate & monetary rate) has positive & significant relationship with return on assets (ROA) of all the selected deposit money banks while capitalization and lending rate have negative and insignificant relationship with the selected deposit banks. Similarly, regulation (liquidity rate, capitalization & lending rate) portrayed a negative and insignificant correlation with net profit margin whereas, monetary rate showed positive and significant relationship with net profit margin. The study thus recommended that central Bank of Nigeria should review regulatory guidelines in such a way that it should not be too stiffened to enable deposit money banks achieve reasonable level of profitability.

***KEYWORDS*: Profitability, Regulation, Deposit Money Banks, Bank Supervision, Prudential guidelines, Financial Stability**

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INTRODUCTION

Banking is an economic activity, which deals with the intermediation of funds between the surplus and the deficit units of an economy and channeling of such resources to profitable investments. The banking sector occupies a vital position in the Nigerian economy and therefore subjects itself to constant reform to enable it function efficiently. Similarly, importance of banking regulation in Nigeria cannot be over emphasized, as it has helped in market liberalization towards efficiency in resource allocation, savings mobilization, promotion of investment and growth in returns. Regulation provides the quality of surveillance frame work towards healthy competition, effective inflation control and economic growth, (Anyanwu, 2010; Central Bank of Nigeria, 2012; Muniraju & Kumar, (2012). The reforms have been directed principally towards financial intermediation and stability to inspire confidence in the financial system. The 2004/2005 reforms are still seen as the most impactful in the Nigeria banking regime as they led to the consolidation of the banks by raising their capital base from ₦2 billion to ₦25 billion and a reduction in the number of banks from 89 to 25 in 2005. Currently, the Central Bank of Nigeria observed that foreign investment has declined sharply from 2017 and rising current debt and uncertainty surrounding the 2019 presidential election have been a draw-back for existing reform in the banking sector (CBN Economic Review, August, 2019). In a nutshell, regulations ensure the achievement of micro and macro-economic goals. Banking regulation is expected to effectively play a significant role in the stability of international financial markets (CBN, Annual Report, and Dec. 2012). A sound, profitable, efficient and well managed banking system contributes to the stability of the financial system and protects a country from any undesirable crisis (Althanasoglu, Brissimis & Delis, 2005; Aburime, 2008; & Ramlall, 2009).

In Nigeria, banks are the dominant financial institutions thus, their health condition is crucial to the growth and development of the economy (Suffian, 2009). Therefore, having the knowledge of factors that affect deposit banks' performance is not only important but crucial towards the financial stability of the economy. The importance of banks' performance/ profitability cannot be overemphasized. Profitability is considered as a crucial objective to conduct a business without which Deposit money banks cannot survive or succeed. With good profit figures, banks are able to enhance the confidence of their stakeholders, maximize shareholders' wealth as well as being able to stay competitive in the financial market. However, in an effort to achieve their desired level of profitability, banks are confronted with several factors both internal and external. One of such external factors is regulation.

The major objectives of the various banking sector regulations are to strengthen the banking industry and position it to meet the world standard. Bank supervision entails not only enforcement of rules and regulations, but also judgments concerning the soundness of bank assets, its capital adequacy and management. Therefore, effective supervision is expected to lead to a healthy banking industry that possesses the power to propel the economic growth (Ogunleye, 2001; Adam, 2005; Soludo, 2007 & Scott, 2010). Right from inception, the changes in the banking industry have been influenced by the need for a more sound banking industry, globalization of operations, technological innovation and the adoption of supervisory and prudential requirements that conform to international standards and the need to make Nigerian banks Basel Accord complaint.

The Nigerian banking sector has undergone series of reforms in the past aimed at improving its performance, yet deposit money banks in Nigeria seem to be reducing in numbers despite the banking reform in 2005. Furthermore, the devastating effect of the last global economic crises (2007/2009) is still generating a lot of debate among Nigerians and researchers if the last banking reform which reduced the number of deposit banks operating in Nigeria from 89 to 25 banks in 2005 has actually improved bank performances. It will be recalled that in Nigeria, the reform in the banking sector preceded the banking crises due to high undercapitalization of deposit money banks, weakness in the regulatory and supervisory framework, weak management practices and deficiencies in the corporate governance behavior of banks (Uchendu, 2005) It is against this backdrop that this study strives to examine the effect of Central Bank of Nigeria (CBN) regulation on the performance of selected deposit money banks (DMBs) in Nigeria.

The broad objective of this research was to examine the effect of Central Bank of Nigeria regulation on the profitability of selected deposit banks in Nigeria. In specific terms, the study was designed to achieve the following objectives; (i) to establish the relationship between CBN regulation and deposit money banks' Return on Assets and (ii) to examine the relationship between CBN regulation and deposit money banks' Net Profit Margin. In order to achieve the objective, two (2) research questions were formulated. They include: (1) Is there any significant relationship between CBN regulation and deposit money banks' Return on Assets? (2) Is there any significant relationship between CBN regulation and deposit money banks' Net Profit Margins? To answer these research questions, two null hypotheses were stated; Ho1: CBN regulation does not have any significant effect on deposit money banks' Return on Asset. Ho2: CBN regulation does not have any significant effect on deposit money banks' Net Profit Margin.

LITERATURE REVIEW

Regulation and Supervision

Bank regulation is a form of government policies which subjects banks to certain requirements, restrictions and guidelines, designed to create market transparency between banking institutions and the individuals and companies with whom they conduct business, among other things. Regulation means an official rule made by government or some other authorities. It is a set of specific rules or agreed behavior either imposed by some government or external agency or self-imposed by explicit agreement within the industry to achieve a defined objective (Chris, 2003).

Uche (2001) opined that "regulation generally suggests some form of intervention in any activity and ranges from explicitly legal control to informal peer group controlled by government or some authoritative bodies, sometimes it stems from market transactions giving rise to spillover effects (or externalities) or third parties, or when there is information inefficiency in the market". Okaro (2013) defined regulation as government enforcements of permissible and non-permissible business operations in Nigeria. Financial system is a composition of various institutions, markets, instruments and operators that interact within an economy to provide financial services (Uffot, 2003). These services among others include resource mobilization, allocation, financial intermediation and facilitation of foreign exchange transactions to boost international trade (Olorunshola, 2003). Buhari (2001) defined financial regulation as the process of ensuring that cash and other financial resources of government are in accordance with the legislation, regulation and accounting manual which constitute legal and administrative framework of a particular entity. Specifically, in the case of banks regulation, it is necessary to maintain safe and sound banking system that can meet its obligations without difficulty hence a high solvency and liquidity level is expected of individual banks than they would ordinarily maintain.

As stated by Idam (2005), there are two types of regulations in financial institutions. They are:

External Regulation

This is a situation where governments establish some bodies to regulate the activities of financial institutions to avoid distress. The bodies charged with these functions in Nigeria are:

I. Central Bank of Nigeria (CBN)

II. Nigeria Deposit insurance corporation (NDIC)

Internal Regulation

Internal regulation is a situation where banks are regulated at the branch level. Internal regulation are policies, procedures, practices and organizational structures implemented to provide reasonable assurance that an organization's business objectives will be detected and corrected, based on either compliance or management initiated concerns (Awe,2005; Mordi, 2004; Jimmy 2008). According to Nagy (2005) internal regulation consists of collection of measures at management's disposal intended to ensure bank's proper functioning of a correct management of bank's assets and liabilities, and a true recording in accounting evidence.

Banking Supervision

Supervision involves assessing the safety and soundness of regulated financial institutions, providing feedback to the institutions, and using supervisory power to intervene in a timely manner to achieve supervisory objectives. The goal is to prevent avoidable losses that could result in the failure of a bank and loss of confidence in the banking system.

Accordingly, the Basel Committee on banking supervision has proposed the Basel III (or the Third Basel Accord) as a global regulatory standard on bank capital adequacy, stress testing and market liquidity risk which is scheduled to be introduced from 2013 until 2018.

Bank Profitability

The issue of profitability is a contentious subject that a bank has to consistently face. Profit is the disparity between expenses and revenue over a period of time, normally one year. As explained by Heibati, Nourani & Dadkhah (2009), a business is organic; it survives and grows. Therefore, it is important that a bank earns profit for its long term survival and growth. It is also necessary that enough profit must be earned to maintain the activities of the business to be able to obtain funds for expansion and growth of the bank.

Agbada & Osuji (2013) argued that corporate profit planning remains one of the most difficult and time consuming aspects of bank management because of many variables involved in the decision, which are outside the control of the bank, it is even more difficult if the bank is operating in a highly competitive economic environment, such as that of Nigeria.

According to Tabari, Ahmed & Emami (2013) the profitability variable is represented by two alternatives measures: the ratio of profits to assets, i.e., the return on assets (ROA), net profit margin (NPM) and the returns to equity ratio (ROE).

In principle, return on assets reflects the ability of a bank's asset to generate profit, although it may be biased due to off-balance sheet activities. ROE indicates the returns to shareholders on their equity and equals ROA times the total assets-to equity ratio.

Monetary Policy Rate

This is the rate at which the Central Bank, as a lender of last resort, lends to the banking system. This is normally done through discounting of bills. The monetary policy rate of the Central Bank affects other interest rates in the country. If the level of money supply in the economy is very high, the central Bank increases the discount rate as a means of reducing inflationary pressures, but when the level of money supply is low, the rate is increased as a means of reducing the liquidity of the banking system.

The current study used the two measures of profitability indicators namely: Return on Assets (ROA), and Net profit Margin (NPM). They are widely used to determine bank profitability, evaluate performance of banking industry and predict the market structure trend.

The focus on profitability for DMBs is underscored by the fact that Nigeria has a bank- based financial system. In view of the nature of her financial system, the success of these banks is measured in terms of profitability. This actually determines the level of financial development which is a major prerequisite for economic growth.

Liquidity

A lot of works have been carried out on liquidity and its effect on the banking sector. A measure of the extent to which a person or organization has cash to meet immediate and short term obligations, or assets that quickly converted to do this. The availability of large liquidity is beneficial to the banking sector. Kehinde (2013) maintained that liquidity has significant effect on profitability.

Bank capitalization

This is the bank's capital strength. Abreu & Mendel (2002) explained that well capitalized banks face lower bankruptcy and funding cost and this advantage translates into better profitability.

Bank Lending Rate

Bank Lending rate is the rate of interest which deposit banks charged on the loans and advances to their customers. Okoye and Eze (2013) assert that lending rate has positive effect on the performance of Nigeria banks.

Corporate governance requirements for Deposit Money Banks include:

To be a body corporate (i.e. not an individual, partnership, trust or other unincorporated entity)

i. To be incorporated locally, and /or to be incorporated under as a particular type of body corporate, rather than being incorporated in a foreign jurisdiction
ii. To have a minimum number of directors
iii. To have an organizational structure that includes various offices and officers, e.g. company secretary, treasurer, auditors, Asset liability management committee, and Compliance officer etc.
iv. To have a constitution or articles of associations that is approved.
v. Or contains or does not contain particular clauses, e.g. clauses that enable directors to act other than in the best interest of the company (e.g.in the interest of apparent company) may not be allowed.

Credit Rating Requirement

Siddiqi (2009) observed that Banks may be required to obtain and maintain a current credit rating from an approved credit rating agency, and to disclose it to investors and prospective investors. Here, banks are required to maintain a minimum credit rating.

Empirical Review

Jegede (2014) examined the role played by banking reforms (regulation) in the development of the Nigerian financial system. Descriptive survey research (questionnaire of the Likert type) was administered and analyzed using simple frequency tables and Z- scores. The results showed that banking reforms (regulations) in Nigeria have significantly improved the performance of the services provided in the industry and that challenges of banking sector reforms in Nigeria will guarantee future operations. The study also revealed that banking sector reform in Nigeria has significantly strengthened healthy competition in the industry. It was then recommended that Nigerian banks should improve on their operational efficiency with more time allowed for full adjustment.

Efeanyi and Chukwufumnanya (2016) analysed the effect of central bank regulation on the performance of selected commercial banks in Nigeria. The regression analysis used to test the variable was Statistical Package for social sciences (SPSS). Variables used to measure performance include return on asset, return on equity, net profit margin and management efficiency. Regulatory indices used include liquidity rate, capitalization, lending rate and monetary policy rate. Findings showed that liquidity rate and capitalization have positive and significant effect on return on asset of selected banks while monetary rate and lending rate have negative and insignificant effect on net profit margin and return on equity of selected commercial banks.

Okoye & Eze (2013) examined the effect of bank lending on the performing of Nigerian deposit money banks between 2000 & 2010. Study utilized secondary data econometrics in regression. Findings showed that lending rate and monetary rate has significant and positive effects on the profitability of Nigerian deposit banks.

Idowu & Babatunde (2010), investigated the effect of financial reform (regulation) on capital market, using time series data (1986-2010), applying ordinary least square regression found a negative relationship between the two variables, i.e. financial reform deterred capital market development.

Barth, Caprio and Levine (2004) examined the relationship between regulatory and supervisory practices and banking sector development in 107 countries and found that direct regulation and supervision of banks activities by the government significantly hinders bank performance. Owolabi & Ogunlalu (2013) examined the effect of banking consolidation on the performance of selected banks in Nigeria using 5-year pre and post-consolidation data on net profit margin (NPM), return on assets (ROA) and return on capital employed (ROCE). Data were analyzed using the statistical test of equality of means to ascertain whether or not there exists evidence of significant difference between the means of these variables as a result of the exercise. Four banks were selected for the study and data over the period 2001-2010 were employed. They found evidence of significant difference between mean of ROCE in pre and post- consolidation periods but not for NPM and ROA.

Olayinka and Farouk (2014) examined the impact of banking consolidation on bank performance in Nigeria using data from four deposit money banks. Data on return on assets, net profit margin and return on equity over the period 2000-2011 were employed for the study. They found that banking regulation impacts positively and significantly on return on assets and net profit margin but lowers return on equity. They concluded that banking regulation in Nigeria had significant impact on performance of Nigerian banking sector.

Izevbigie & Arodoye (2016) studied the effect financial liberalization has on the banking industry in Nigeria with time series quarterly data between 1981 and 2012 using ordinary least square estimation technique and found that liberalization of financial variables visa- a-vis interest rate and lending rate enhances bank performance. They recommended among others that the government should pursue and sustain the policies of financial liberalization in order to enhance the competitiveness and efficiency of the Nigeria banks.

An empirical study by Demena (2011) on profitability determinants of Ethiopian commercial banks used 10 years' balance sheet data of 7 leading banks confirms positive effect of GDP, inflation and interest rate.

Abah (2011) used gross earnings, profit-after-tax and net assets of the selected banks as indices to determine financial efficiency by comparing the pre-merger and acquisition indices for the post- merger and acquisition indices for the period under review. Three Nigerian banks were selected, using convenience and judgmental sample selection methods. Data were collected from published annual report and accounts of the selected banks and were subsequently analyzed applying t-test statistics through the statistical package for social science. It was found that post- merger and acquisition period was more financially efficient than the pre-merger and acquisition period.

Epure & Lafuente (2012) in their own work examined Bank performance of the Costa-Rican banking industry that was faced with risk during 1998- 2007 and the results of the study showed that performance improvements traced regulatory changes and that to a large extent risk explained differences in banks.

Okafor (2012) evaluated the performance of Nigeria Banks before and after 2005 consolidation exercise. Capital adequacy, Return on asset, Net profit margin and management efficiency were used to analyze the banks' performance. The period 2004-2005 was designated the pre-consolidation era, while 2006-2009 was deemed the post- consolidation period. The statistical tool applied in testing the hypothesis was the t-test, which help to ascertain whether there was a significant difference in the performance of banks before and after consolidation. The result showed that consolidation improved the performance of the Nigerian banking industry in terms of asset size, Return on asset and capital adequacy.

Goddard, Molyneux & Wilson (2004) investigated the profitability of European banks during the 1990s using pooled cross- sectional time-series and dynamic panel models. Their model for the determinant of profitability incorporates size, diversification, risk and ownership type, as well as dynamic effects. They found that despite intensifying competition there is significant persistence of abnormal profit from year to year. The evidence for any consistent or systematic size- profitability relationship was relatively weak.

Uremadu (2012) carried out a study on the effect of liquidity on the profitability of selected Nigerian Banks. Time series data for the period 1980 to 2006 was used for the study. The data was analyzed using descriptive statistics and regressive distribution lag (ARDL) model. The empirical results indicated a positive and significant relationship between cash reserve ratio, liquidity ratio, corporate income and banks profitability. The result however showed negative association between liquidity and Net profit margin.

Ibe (2013) investigated the impact of liquidity management on the profitability of banks in Nigeria. The banks were randomly selected to represent the entire bank industry in Nigeria. The proxies for liquidity management include cash and short- term fund, bank balances and treasury bills and Certificates, while Profit after tax was the proxy for profitability. Elliot Rosenberg Stock (ERS) Stationery test model was used to test the association of the variables under study, while regression analysis was used to test the hypothesis. The result showed that there is a statistically significant relationship between the variables of liquidity management and profitability of the selected banks.

The study by Kehinde (2013) critically examined the relationship between credit management, liquidity position and profitability of selected banks in Nigeria using annual data of ten banks over the period of 2006 and 2010. The results from ordinary least squares estimate found that liquidity has significant positive effect on Return on Asset (ROA).

Agbada & Osuji (2013) explored the efficacy of liquidity management and banking profitability performance in Nigeria. Profitability and Return on Capital Employed (ROCE) were adopted as proxy variables. Findings from empirical analysis were quite robust and clearly indicated that there was a statistically significant relationship between efficient liquidity management and banking performance and that efficient liquidity management enhances the soundness of the banks.

Uchendu (2005) analyzed the impact of monetary policy on the performance of commercial banking sector in Nigeria. He developed a profit function employing three different measures of profitability namely: Interest earning rate, rate of return on assets and rate on return on capital as dependent variables and six independent variables which include: Interest rate (saving or lending), exchange rate, concentration ratio (a variable measuring efficiency unit labor cost). Estimating using OLS method, findings showed that variables in interest rates are a major source of changes in commercial bank performance.

The banking industry is highly regulated in any economy. This owes to the nature of its services, which involves mainly financial intermediation. Bank services become more complex as the financial system develops and or become more globally integrated. The Central Bank of Nigeria has embarked upon a variety of reforms to safeguard the financial sector. While these reforms date back to the 1950s, there have been more efforts over the years to enhance competition and efficiency, in the supply of financial products. These have included the deregulated policies of the mid-1980s and the universal banking guidelines in 2001. The market directed reforms ushered in a financial system that relied on market dictate. Consequently, leading to phenomenal growth in the number of banking institutions most of which unfortunately grew without a strong capital base. Thus, the 2004 bank consolidated reform aimed at ensuring growth in a way that would enable them play pivotal roles in driving development in other sectors of the economy and to improve their operational efficiency as well.

Okoro (2006) explained that banks hold unique positions in developing and developed countries and it is as a result of this position that the Government often deems it necessary to formulate policies aimed at achieving macro-economic objectives of growth, price stability, employment and available external payments position and the micro-economic objectives of stability, efficiency and soundness of the financial system. These policies are in general effected through regulation of the banking system. From earliest history, there have been fears of concentration of power in the banking business which in turn, have been a reflection of levels and stages of political and economic development from pre- independence period to the present-day.

Following the adoption of the Structural Adjustments Programme (SAP) in 1986, the financial sector also witnessed significant changes through the deregulation of the financial system. The upsurge in the growth of financial institutions (banks) and non- banks necessitated the need for great attention to prudent regulation and supervision of the institutions. Anyanwu Okoro (2008) emphasized that the conduct of banking business in Nigeria as in other countries is regulated by several laws. These laws are put in place to provide some set of standard and establish government agencies to be responsible for ensuring that banks comply with the requirements of all relevant laws. Banking operation includes its relationship with customers and other banks, the Central Bank, and dealings in banking instrument, all covered by laws such as the Banks and other Financial Institutions Acts, Central Bank of Nigeria Act 2007 as amended, the prudential guidelines and other related legislations.

Theoretical Framework

A regulatory model consists of agencies and a set of measures embodied in legislation or in government policy, primarily designed to constrain, shape and control the behavior of financial institutions has been fairly treated in literature. In particular, using Keynes' advocacy of direct and active government intervention through "the invisible hand of the public sector" to strengthen and enhance the flow of capital in the economy. This research can adopt any of the three working theories of financial regulations, such as agency theory, risk management theory and the dialectic theory.

The agency theory is relevant to this study because it is geared towards customer's protection and safety so as to maintain public confidence which is what this study is all about. This agency theory was developed by Jensen and Mecking in 1976 in an article "Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure" to justify the government's goals of safety and protection. Regulatory intervention is required for the protection of public savings when it is threatened by the behavior of financial institutions. The main tenet of this theory is that, government agencies must be present to supervise and limit the excesses of financial institutions towards customer safety and protection. The theory also focuses attention on the problems of hidden actions and hidden information, what Sinkey (1992) called "moral hazard" and "adverse selection" respectively to set strategies in order to circumvent the problems and ensure safety and confidence of savers in the system. The problem of moral hazard leads to cost for the firm associated with administering the contract, hereunder contracting, transaction, moral hazard and information costs-namely agency costs (Gomez-Mejiaetal.2005, Shapiro 2005).

METHODOLOGY

The research design used for this study is ex-post-facto. This is "an after-the event" research. It involves carrying out research on something that has occurred. It is a systematic empirical study in which the researcher does not have direct control over independent variable because they have already occurred or they cannot be manipulated. Secondary data was collected from Annual Reports of sampled banks and from Central Bank of Nigeria Statistical Bulletin covering the study period of 2004-2018. The dependent variable used in this study is profitability proxies by Return on Assets (ROA) and Net Profit margin (NPM). While the independent variables used are Liquidity Ratio (LIQ), Bank Capitalization (B-Cap), Bank Lending Rate (BLR) and Monetary Policy Rate (MPR). Population of the study is made up of the 22 deposit banks operating in Nigeria as at December 31, 2018 (CBN, Annually Report, 2018). A Sample of five (5) banks was selected for this study using purposive/judgmental sampling techniques. The five banks include: United Bank for Africa (UBA), First Bank of Nigeria (FBN), Zenith Bank, Guarantee Trust Bank (GTB) and Union Bank of Nigeria (UBN).

Model specification

Model 1: Return on Asset (ROA)

ROA= β_{02}+ $\beta_2 Liq$ + $\beta_{22} BCap$ + $\beta_{23} BLR$+$\beta_{24} MPR$ + ε_2

Where: $\beta_{02}$is the intercept of the regression model of CBN Regulation variables and ROA.

β_{21}, β_{22}, $\beta_{23} and \beta_{24}$are rates of change of the CBN variables with respect to ROA

ε_2Is the error term associated with CBN regulation Variables and ROA.

Model 2: Net Profit Margin (NPM)

NPM=β_{03}+ $\beta_{31}Liq$ + $\beta_{32}BCap$ + $\beta_{33}BLR$+$\beta_{34}MPR$ + ε_3
Where: $\beta_{03}$is the intercept of the regression model CBN Regulation and LnNPM.
β_{31}, β_{32}, $\beta_{33}and\beta_{34}$are rates of change of the CBN regulation variables with respect to LnNPM
ε_3Is the error term associated with CBN Variables and LnNPM

Model Specification

The models of CBN regulation indices and the selected banks profitability indicators are presented below. Each of the Bank's average profitability measure was used as the dependent variables while the CBN's indicators are jointly used as the independent variables.

Model 1: CBN Regulation and Return on Asset (ROA)

ROA= β_{02}+ β_2Liq + $\beta_{22}BCap$ + $\beta_{23}BLR$+$\beta_{24}MPR$ + ε_2
Where: $\beta_{02}$is the intercept of the regression model of CBN Regulation variables and ROA.
β_{21}, β_{22}, $\beta_{23}and\beta_{24}$are rates of change of the CBN variables with respect to ROA
ε_2Is the error term associated with CBN regulation Variables and ROA.

Model 2: CBN Regulation and Net Profit Margin (NPM)

NPM=β_{03}+ $\beta_{31}Liq$ + $\beta_{32}BCap$ + $\beta_{33}BLR$+$\beta_{34}MPR$ + ε_3
Where: $\beta_{03}$is the intercept of the regression model CBN Regulation and LnNPM.
β_{31}, β_{32}, $\beta_{33}and\beta_{34}$are rates of change of the CBN regulation variables with respect to LnNPM
ε_3Is the error term associated with CBN Variables and LnNPM

Description of Variables

The meanings of the variables used in this study are as follows:
Return on Assets (ROA) = Net income divide by average total assets.

Net Profit Margin (NPM) = Net income divide by net sales.

Data Analysis Technique

The method of data analysis used in this study is multiple regressions.
Also, in the analysis of this study, E-view Version 9.00 was utilized.

Evaluation of Estimates Assessing Significance of Variables

This aims at the evaluation of the statistical reliability of the estimated parameters of the model. In this case, T-statistic, Co- efficient of Determination (R2) and Correlation(R) was used.

Decision Rule

This work will use the P-value to assess the significance of the variable because it's automatically generated by E-view Version 9.00.
Reject the null hypothesis if P-value is less than 0.05 level of significance otherwise accept the null hypothesis and conclude that there is no significant relationship between the independent variable and the dependent variable.

RESULTS AND DISCUSSION

Test of Hypothesis

The results of various text of hypothesis are presented in this section:

Hypothesis 1:

Ho: CBN regulation does not have a significant effect on deposit money bank's return on assets

H1: CBN regulation has a significant effect on the deposit money bank's return on assets

Dependent Variable: ROA

Method: Least Squares

Date: 10/28/19 Time: 23:05

Sample: 2004 2018

Included observations: 15

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	7.907913	15.99014	0.494549	0.6316
LIQ	0.374075	0.174212	2.147240	0.0573
BCAP	-0.143361	0.084319	-1.700212	0.1199
BLR	-0.883177	0.757829	-1.165405	0.2709
MPR	1.332019	0.386594	3.445519	0.0063
R-squared	0.728165	Mean dependent var		14.92667
Adjusted R-squared	0.619430	S.D. dependent var		3.691465

S.E. of regression	2.277277	Akaike info criterion	4.745039
Sum squared resid	51.85989	Schwarz criterion	4.981056
Log likelihood	-30.58779	Hannan-Quinn criter.	4.742525
F-statistic	6.696740	Durbin-Watson stat	1.994592
Prob (F-statistic)	0.006889		

Source: E-view output version 9.00, 2019

The overall fitness of the model as shown in the F-statistics of 6.69 with a Prob (F-statistic) of 0.006889 is statistically significant as it is less than the standard critical p-value of 0.05 therefore, the functional specification of the model is appropriate. The result shows that liquidity ratio has a positive and significant effect on return on asset of deposit money banks in Nigeria. The study also found that bank capitalization has a negative and insignificant effect on return on asset of deposit money banks in Nigeria. The study found that bank lending rate has a negative and insignificant effect on return on asset of deposit money banks in Nigeria. Also, monetary policy rate has a positive and significant effect on return on asset of deposit money banks in Nigeria.

These effects are significant since the P-values are less than 5% while insignificant effect are because the p-values are more than 5%. Thus, the study rejects the null hypotheses and accepts the alternative. We then concluded that liquidity ratio has a positive and significant effect on return on asset of deposit money banks in Nigeria. The study also found that bank capitalization has a negative and insignificant effect on return on asset of deposit money banks in Nigeria. The study found that bank lending rate has a negative and insignificant effect on return on asset of deposit money banks in Nigeria. Also, monetary policy rate has a positive and significant effect on return on asset of deposit money banks in Nigeria.

The $R^2 = 0.72$ which states that only 72% of variation on CBN regulations can be used to explain performance in terms of return on asset of the selected banks but 28% can be explained by other factors not noted in the regression model which is referred to as error term.

Hypothesis 2

Ho: CBN regulation does not have a significant effect on deposit money bank's net profit margins
H1: CBN regulation has a significant effect on the deposit money bank's net profit margins

Dependent Variable: NPM

Method: Least Squares

Date: 10/28/19 Time: 23:08

Sample: 2004 2018

Included observations: 15

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-70.75610	170.7398	-0.414409	0.6873
LIQ	-0.506598	1.860203	-0.272335	0.7909
BCAP	-0.977137	0.900346	-1.085290	0.3033
BLR	-0.551710	8.091957	-0.068180	0.9470
MPR	30.40845	4.127984	7.366418	0.0000

R-squared	0.909943	Mean dependent var	200.0530
Adjusted R-squared	0.873920	S.D. dependent var	68.48184
S.E. of regression	24.31634	Akaike info criterion	9.481375
Sum squared resid	5912.842	Schwarz criterion	9.717392
Log likelihood	-66.11032	Hannan-Quinn criter.	9.478861
F-statistic	25.26020	Durbin-Watson stat	3.137863
Prob(F-statistic)	0.000033		

Source: E-view output version 9.00

The regression result shows that the model is fit for the study since the f-statistics is significant at 5% level of significance. The result also shows that liquidity ratio has a negative and insignificant effect on net profit margin of selected banks in Nigeria. The study found that bank capitalization has a negative and insignificant effect on net profit margin of the selected banks.

The study also found that bank lending rate has a negative and insignificant effect on net profit margin of the selected Banks. However, monetary policy rate was found to have a positive and significant effect on net profit margin of the selected banks. Thus, the study rejects the null hypotheses and accepts the alternative. We then concluded that liquidity ratio, capitalization and bank lending rate have a negative and insignificant effect on net profit margin of the selected banks.

The $R^2 = 0.90$ which states that only 90% of variation on CBN regulations can be used to explain profitability in terms of net profit margin of the selected banks, while 10% can be explained by other factors not noted in the regression model which is referred to as error term.

DISCUSSION ON FINDINGS

The result shows that regulation (liquidity ratio & monetary policy rate) have a positive and significant effect on return on asset of the selected banks while bank capitalization and lending rates have a negative and insignificant effect on return on asset of the selected deposit money banks.

However, the findings also indicate that liquidity ratio, bank capitalization and bank lending rate have a negative and insignificant effect on net profit margin of the selected deposit money banks (United Bank for Africa (UBA), First Bank of Nigeria (FBN), Zenith Bank, Guarantee Trust Bank (GTB) and Union Bank of Nigeria (UBN) in Nigeria). However, monetary policy rate has a positive and significant effect on net profit margin of the selected deposit banks.

The study aimed at determining the relationships between Central Bank of Nigeria regulation and the profitability of selected deposit money banks in Nigeria. The specific objectives include: to determine the relationship between CBN regulation and deposit money banks' return on assets and also to examine the relationship between CBN regulation and deposit money banks' Net Profit Margin.
The following were the summary of findings on this study:

1. Banking Regulation (Liquidity Ratio, Monetary policy rate) has significant positive relationship with Return on assets (ROA) while capitalization and lending rate have negative correlation with Return on asset of the selected deposit money banks.
2. Banking Regulation (liquidity ratio, capitalization & lending rate) was found to have negative and insignificant relationship with Net Profit Margin while monetary policy has positive relationship with Net Profit Margin of the selected deposit money banks.

CONCLUSION AND RECOMMENDATIONS

Banks and financial institutions are so critical to the growth and development of the economy in terms of profitability and stability that they must not be let loose by the Central Bank to experience crises situations. The primary aim of regulation is not to reduce the profit making strength of deposit money banks but to stabilize the financial system.
The Central Bank of Nigeria (CBN) Regulation (liquidity rate & monetary policy rate) indicated a positive and significant relationship with return on assets and negative association with capitalization and lending rate of the selected deposit banks. Similarly, CBN Regulation (Liquidity rate, capitalization and lending rate) showed a negative and insignificant relationship with net profit margin while monetary policy portrayed a positive and significant relationship with Net Profit Margin of selected deposit money banks. Higher Return on Asset indicates improvement in managerial efficiency while low net profit indicates inefficiency. This finding is in agreement with the findings of Okoye & Eze (2013).

RECOMMENDATIONS

Based on the findings of the study, the following recommendations were made:

The regulatory institution (CBN) should continuously review its monetary policy guidelines in such a way that it should not be too stiffened to enable deposit money banks record reasonable level of profitability. Deposit money banks should improve their total assets turnover and broaden their investment potentials to boost profitability.

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