EFFECT OF REGULATION ON THE PERFORMANCE OF DEPOSIT MONEY BANKS IN NIGERIA

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ABSTRACT
The study examined the effect of regulation on the performance of deposit money banks in Nigeria. The study used secondary data derived from Central Bank of Nigeria Statistical Bulletin and Annual Reports of deposit money Banks in Nigeria. Multi-regression was employed in the Analysis of the data collected. E-view 7.0 econometric results shows that inflation, maximum lending rate and real interest rate have negative and significant effects on the profitability of Nigerian deposit money banks as measured by return on assets at 5% level of significant effect on bank's performance. Also, the study found that real interest rate, treasury bill rate and minimum rediscount rate do not have significant effect on return on equity of money deposit banks in Nigeria. Therefore, the study recommended that the regulatory authorities should tackle inflation seriously as it is militating against the efficiency of the Nigeria banking system. Also, the lending rate of banks should not be too high as this will adversely affect their performance in the long-run.
Keywords*: Bank Regulation, Interest Rate, Treasury Bill Rate, Minimum Rediscount Rate.*

INTRODUCTION
Worldwide the banking business is highly regulated and this is because of the pivotal position the financial industry occupies in most economies. An efficient system is widely accepted as a sine qua non for efficient functioning of a nation's economy. Thus for the industry to be efficient, it must be regulated in view of the failure of the market system to recognize social rationality and the tendency for market participants to take undue risks which could impair the stability and solvency of their institutions (Sanusi, 2012). In Nigeria, the rising cases of bank distress have also become a major source of

concern to policy makers. It is not surprising to find banks to have nonperforming loans and advances that exceed 50 per cent of the bank's total loan portfolio. For instance, the Nigeria Deposit Insurance Corporation (NDIC) in its 1996 annual report put the number of distressed banks at 50 with N65.13 billion assets trapped. These banks had offered N50.55 billion loans, N40 billion or 79 per cent of which were classified as nonperforming credits. The liquidation of 26 banks put N16 billion or 32 per cent at risk since only N5 billion is insured by NDIC. More so that the N20 billion per 40 percent worth of loans disbursed by these banks were hardly recoverable. Between 1994 and 2002, a total of 33 banks were closed (NDIC, 2004).

Regulation of banks has been defined by Llewellyn (1999), as a body of specific rules or agreed behaviour either imposed by' government or other external, agency or self-imposed by explicit or implicit agreement within the industry that limits the activities and business operations of banks. But what is peculiar about the Nigerian banking environment is that these controls are main direct and administration and as we all know, such regulations result in less efficiency in the management and allocation of resources (Olisambu, 1991, Adedipe, 2016). The main objective of the study is to examine the effect of regulation on the performance of deposit money banks in Nigeria. The specific objectives are as follows: (i) to ascertain the effect of inflation, interest rate, maximum lending rate and prime lending rate on return on assets; (ii) to find out the effect of real interest rate, treasury bills rate and maximum rediscount rate on return on equity.

The following questions will be answered in the course of this research: (i) To what extent is the effect of inflation, interest rate, maximum lending rate and prime lending rate on return on assets? (ii) To what extent is the effect of real interest rate, treasury bills rate and minimum rediscount rate on return on equity?

The following hypotheses stated in their null form will be tested: **H$_{01}$:** Inflation, interest rate, maximum lending rate and prime lending rate have no significant effect on return on asset. **H$_{02}$:** Real

interest rate, treasury bills rate and minimum rediscount rate have no significant effect on return on equity.

REVIEW OF RELATED LITERATURE
Concept of Regulation
The necessity for public intervention in the economy has traditionally been justified by the need to correct market imperfections and unfair distribution of resources. Hence, the main objectives of such intervention are pursuit of stability, equity of resource allocation and efficient use of resources. From this perspective, financial regulatory mechanisms and regulation of the banking industry in particular can be considered extremely important. Capital accumulation and allocation of financial resources are crucial to economic development of each country (Adam, 2015). Regulation of the business activities pertaining to the banking industry units is essential for its effective functioning. Generally, the concept of banking regulation is defined as control over the creation, operation and liquidation of banks. Such control is very diverse, carried out by specialized banking supervisory authorities. Supervision over the bank's operational activities is aims to protect the interests of depositors and to ensure effective functioning of the banking industry units. This supervision is the most important and essential part of the functions of banking supervisory authorities, which is carried out in the name of a sound banking system (Austin, 2016)

Types of Regulation
1. External Regulation: This is a situation where governments establish some bodies to regulate the activities of financial institution to avoid distress. The bodies are as follows: Central Bank of Nigeria (CBN), Nigerian Deposit Insurance commission (NDIC), Security and Exchange Commission (SEC), Nigerian Stock Exchange (NSH), Federal Ministry of Finance (FMF), Chartered Institute of Bankers of Nigeria (CIBN), Bankers Committee, Insurance Company and Clearing House Committee.
2. Internal Regulation: This is a situation where banks are regulated at the branch level. These can be done as follows:

Head office regulation, Means of returns, regular spot check, call over of Vouchers, use of password, regular balancing of account, regular training of bank staff

Public Interest Theory

The economic theory of regulation postulates that regulation result from the desire of government to eliminate or correct market failures. The public interest theory views that regulations come from pressures brought to bear on the government by multifarious interest groups. Pressure groups in the economy such as business, consumers, workers, environmental groups among others lobby government to pass legislation to protect such group. The economic theory of regulation seems to have gain more acceptance among economists (Llewellyn, 1999). Specifically, in the case of banks, regulation 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.

Empirical Review

Oloyede (2014) acknowledges that, by its nature, the banking industry is highly prone to volatility and fragility either arising from exogenous or endogenous shocks, and is therefore amenable to regulations and supervision. Nwankwo (2016) argues that the historical evolution of banking in any country provides the rationale for the regulation of banks in that country. The regulatory authorities supervise the banks to ensure that they are conducting their business either in accordance with regulation or more generally in prudent manner in the public interest. Ogunleye (2002) summarized the rationale for bank regulation as: efficiency, diversity of choice, competition, and stability of financial system, macroeconomic stability and developmental and social objective. World Bank (2015), notes that good regulation and supervision will minimize the negative impact of moral hazard and price shocks on the financial system thereby leading to a reduction in bank distress and failure. Mishkin (2015), provides reasons why the regulator process may not work as expected. First, the regulators and bank managers may not have sufficient resources or knowledge to do

their job properly. Second, the regulators may not do their job properly because of the moral hazard problem or the principal agent problem. The principal agent problem stems from asymmetric information because the principal does not have sufficient information about what the agent is doing to make sure that the agent is operating in the principal's interest. Mishkin (2015)concludes that forging a strong bank regulation system will be one way out of financial crisis.

Llewellyn (1999), defines prudential regulation as a body of specific rules or agreed behaviour, either imposed by the government or external agency or self-imposed by explicit or implied agreement within the industry that constrains the activities in the industry to achieve a defined goal and/or act prudently. In a nutshell, it is the codification of public policy towards banks (Ogunleye, 2002). The prudential guidelines draw theoretical backing from the anticipated income theory, which form the basis of what is referred to as the cash flow approach to bank lending (Llewellyn, 1999). It views that the borrowers' repayment ability should be in line with his/her income generating ability, and not on sales of asset of the borrower liquidation). Banks are expected to generate lending policies that do not emphasis reliance on securities or its realization. Llewellyn(1999) classifies prudential regulation into three by as preventive, protective and supportive. Preventive regulations are design to limit the risk incurred, while the protective regulations offer protection in the event of failure. The supportive regulation is in the form of lender of last resort. Banking supervision, on the other hand, is the process of monitoring banks to ensure that they are carrying out their activities in accordance with laws, rules and in a safe and sound manner. It is a means of- ensuring compliance with laid down rules and regulations and to determine their financial condition at any given time(Llewellyn, 1999).

Fama (1989) states that if the asset portfolio of bank is deemed too risky or its capital inadequate, the relevant supervisory agency will attempt to compel a change in the banks' balance sheet. Regulators however, give more attention to regulating banks' capital than the detail of assets portfolio because capital adequacy is seen as the

most important single indicator of banking distress. According to Mm, the regulators often over rely on Capital Adequacy Asset Quality Management Earnings Liquidity (CAMEL) parameters as a measure of identifying bank distress. However, CAMEL only concerns itself with the internal environment of a bank, the external factor contributing to bank distress are often neglected when using CAMEL indicators.

Donli (2016), deposit insurance system is one of several supervisory tools employed by the authorities for effective control of risks associated with failure of deposit taking financial institutions. In this respect, deposit insurance system is an insurance system supported by insured banks and administered by a regulatory agency for the purpose of protecting the banking system and offering some financial guarantee to depositors. The presence of adverse selection and moral hazard problems makes the need for deposit insurance indispensable (Mishkin, 2015), argues that a crucial Impediment to the efficient functioning of the financial system is asymmetric information. This is a situation in which one party to a financial contract has less accurate information than the other party. Asymmetric information leads to those two main problems in the financial system.

METHODOLOGY
Research Design
The research used *expo-facto* research design. Data were obtained from secondary sources which constituted the bulk research material utilized. The data for this study were obtained mainly Bank of Nigeria (CBN) Statistical Bulletins and Annual Reports of deposit money banks in Nigeria

Techniques for Data Analysis and Model Specification
The analytical technique that was used in the study comprises of Multi-Regression Analysis under econometric framework. Other statistical tools such as E-view 7.0 to compute Augmented Dicky and Filler unit test result and series correlation test were used.
Two models are used in the study. They are as follows:

Model 1:

ROA = f (INF, RIR, MLR, PLR)--(i)

ROA = a_0 + a_1INF + a_2RIR + a_3MLR + a_4 PLR + e ----------------(ii)

Where:

ROA = Return on Asset

INF = Inflation

RIR = Real Inflation Rate

MLR = Maximum Lending Rate

PLR = Prime Lending Rate

a_1 - a_4= Coefficient attached to independent variables

e = Error Term

Model 2:

ROE = f (RIR, TBR, MRR) ------------------------------------(iii)

ROE = a_0 + a_1RIR a_2TBR a_3MRR + e ------------------------- (iv)

Where:

ROE = Return on Equity

RIR = Real Interest Rate

TBR = Treasury Bill Rate

MRR = Minimum Rediscount Rate

a_1 –a_3 = Coefficient attached to independent variables

e = Error term

DATA PRESENTATION AND ANALYSIS

The empirical result using multivariate regression analysis employing E-views 7.0 econometric software is presented below:

Table 1: Unit Root Tests and Econometric Issues

Variables	Stationarity I(d)	ADF statistic	McKinnon critical values
ROA	I(0)	-3.279967	5% level -3.144920 10% level 2.713751
ROE	I(1)	-5.124912	5% level -3.175353 10% level 2.728985
RIR	I(1)	-11.52845	5% level -3.175352 10% level 2.728985
TBR	I(1)	-3.222374	5% level -3.175352 10% level 2.728985
MRR	I(1)	-4.004891	5% level -3.175352 10% level 2.728985
PLR	I(1)	-4.221121	5% level -3.175352 10% level 2.728985
MLR	I(1)	-4.237761	5% level -3.175352 10% level 2.728985
INF	I(1)	-4.002989	5% level -3.175352 10% level 2.728985

Source: *Authors computation using E-view 7.0*

The table 1 above shows that only Return on Asset is stationary at level while Return on Equity, Real Interest Rate, Treasury Bill Rate, Minimum Rediscount rate, Prime Lending Rate, Maximum Lending Rate and Inflation are stationary at first difference.

Table 2: Regression Result for model 1

Dependent Variable: Return on Asset

Variable	Coefficient	Std. Error	T-statistics	Prob.
INF 1	-0.369261	0.105460	3.501450	0.0394
MLR 1	-4.425816	0.903108	-4.900649	0.0163
PLR 1	5.660621	1.187740	4.765875	0.0175
RIR 1	-0.074046	0.028177	-2.627876	0.0485
C	0.136317	0.061899	2.202248	0.1149

Source: *Data output via E-view 7.0*

R-squared 0.976116, Adjusted R-squared 0.912425, F-statistic 15.32577, prob(F-statistic) 0.023200, Akaike info criterion -5.504642, Durbin-Waston stat 1.487538.

The results of the analysis show that only prime lending rate has a positive and significant effect on return on assets at 5% level.

Whereas, inflation, maximum rate lending rate and real interest have significant negative effect on ROA. The model has an overall fit or explanatory power R2 of 97.6% and adjusted R2 of 91.2% and is significant with F-statistic probability of 0.023200. Durbin-Waston statistic of 1.98753 indicates that there is no auto-correlation problem.

Table 3: Regression Result for model 2
Dependent Variable: Return on Equity

Variable	Coefficient	Std. Error	T-statistics	Prob.
RIR	-0.272373	0.132130	-2.061408	0.0849
TBR	1.455192	0.938163	1.551108	0.1719
MRR	-2.915590	1.691195	-1.723982	0.1355
C	-0.040494	0.025063	-1.615707	0.1573

Source: *Data output via E-view 7.0*
R-squared 0.740163 Adjusted R-squared 0.523633 prob(F-statistic) 0.083290 Durbin-Watson stat 1.8537878 Akaike info criterion -2.126097.

The results of the analysis show that there is no significant relationship between ROE and all the variables that entered into the equation. The model has an overall fit or explanatory power R-squared of 74% and adjusted R-squared of 52.3% with an insignificant F-statistic probability of 0.08329 and Durbin-Waston Statistic of 1.853787 indicating that there is no serious auto-correlation.

Test of Hypotheses
To properly test the stated hypotheses, we restate them in both null and alternative forms:
Hypothesis 1
H$_0$: Inflation, interest, maximum lending rate and prime lending rate have no significant effect on Return on Asset.
H$_1$: Inflation, interest rate, maximum lending rate, prime lending rate have significant effect on Return on Asset.
From the analysis, the independent variables have significant effect on the dependent variable (Return on Asset). As such, we reject the

null hypothesis and accept the alternative hypothesis which states that inflation, interest rate, maximum lending rate and prime lending rate have significant effect on Return on Asset.

Hypothesis 2

H_0: Real interest rate, treasury bills rate and minimum rediscount rate have no significant effect on Return on Equity.

H_1: Real interest rate, treasury bills rate and minimum rediscount rate have significant effect on return on equity.

The results of the analysis show that there is no significant relationship between ROE and the independent variables. Thus, the null hypothesis which states that real interest rate, treasury bills rate and minimum rediscount rate have no significant effect on return on equity is accepted while the alternative hypothesis is rejected.

SUMMARY OF FINDINGS

From the study it was observed that some regulatory issues have significant effects on bank's performance. The results show prime lending rate has a positive and significant effect on return on assets whereas, inflation, maximum lending rate and real interest rate have negative and significant effects on the profitability of Nigerian deposit money banks as measured by return on assets at the 5% level of significance.

On the other hand, the study found no significant effect of interest rate, treasury bill rate and minimum rediscount rate on the performance of banks in Nigeria as measured with return on equity.

CONCLUSION

Based on the findings, we conclude that inflation, interest rate, maximum lending rate and prime lending rate are very important in promoting the efficiency of the banking sector. Their individual effect on the efficiency of the banking sector may be positive or negative.

RECOMMENDATIONS OF THE STUDY

The regulatory authorities should tackle seriously as it is standing against the efficiency of the Nigerian banking system. The lending

rate of banks should not be too high as this will affect their performance in the long-run. Similarly, interest rate should be moderate.

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