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INVESTIGATE THE EFFECT OF CREDIT RISK MANAGEMENT ON THE FINANCIAL PERFORMANCE OF COMMERCIAL BANKS IN NIGERIA FROM 2011 TO 2017.

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Abstract:

The main objective of this paper was to investigate the effect of credit risk management on the financial performance of commercial banks in Nigeria from 2011 to 2017. Data was obtained from annual financial reports available on their official website from Osiris data base for all the selected ten quoted banks. The methodology employed in the course of this study was unbalanced panel regression analysis in estimating the relationship between capital adequacy ratios, non-performing loans, liquidity, bank size and gross domestic product growth and financial performance of commercial banks in Nigeria. The paper revealed that only capital adequacy ratios and non-performing loans are significantly affecting financial performance of commercial banks in Nigeria while liquidity, bank size and gross domestic product growth were not significantly affecting financial performance of commercial banks in Nigeria. Despite the fact that some of the variables of the model are found to be insignificant individually but jointly are found to be significant at 1% significant level as indicated by the probability value of F-statistic of 0.000. The study concluded that capital adequacy ratios, liquidity and bank size affect financial performance of commercial banks in Nigeria positively while non-performing loans and gross domestic product growth affect financial performance of commercial banks in Nigeria negatively. On the basis of the findings of this study; it is recommended that capital adequacy should be encouraged by making the price per shares of commercial banks attractive and less risky. The payback period of the investment in the shares of commercial banks should also be shortened in order to attract more buyers. The study further recommended that the size of non-performing loans should be reduced by imposing more and high collateral securities as well as high interest rate on loans.

Keywords: Banks, commercial banks, Nigeria, loans, liquidity, bank size and gross domestic product

1. INTRODUCTION

The essence of the existence of commercial banks is not only to accept deposits but also to extend it to customers in the form of credit facilities, which unavoidably exposes them to the credit risk. Broil *et al.* (2002) suggested that credit risk is one of the oldest and improtant forms of financial risk faced by commercial banks. According to Heffernan (2005) credit risk is a type of risk that a loan or an asset turns into irredeemable as a result of outright default. Credit risk is a serious impediment because the risk can reduce the total capital of a bank forcing it into liquidation. In commercials banks one of the important sources of income is granting credit to customers and this can be source of credit risk. Hence, the management of this may eventually affect banks performance (Sheng *et al.,* 2011). Basel committees (1999), states that adequate credit risk management is an important factor in managing risk and essential to the long-term existence of financial institutions, whereas weak credit risk management practices can drag financial intermediaries into financial crisis or insolvency.

Credit Risk Management (CRM) policies of a commercial bank relate to decision-making techniques to mitigate the exposures to the borrower and counter party credit risk and establish loan loss provisions (Hamisu, 2011). Basel Committee on Banking Supervision (BCBS) (2003), risk management of bank relates to curtail the possibility that a borrower or counter-party will be unsuccessful to meet its obligations in correspondence stated agreed terms. CRM policies are designed and implemented within the banking sector, top management official uses the internal operational instrument, and regulatory authorities are the external body to manage the health of the banking sector. Such policies center on ensuring proper depositors fund safety, diversification and maintain equilibrium balance between risk and return on asset quality of the banking sector (Hamisu, 2011). The inability of the supervisory

authorities and failure of technological innovations to stem rising toxic assets in some commercial banks create concern for stakeholders in developing nations' financial systems (BCBS, 2003 and Casu*et al.*, 2009).

Credit risk management plays a vital role to the financial institutions. Banks provide credit in the economy and grant loans to different sectors of the economy; however, it is important to ensure that this would not lead to financial instability. Lending operations are vital banking activities that also generate interest income for financial institutions. However, when credit is not effectively channelled, it can affect bank stability and profitability (Berger and Christa, 2009). Poor credit management poses a significant challenge to the liquidity positions of a bank (Deposit outflows), liability management and capital adequacy management (capital amount and acquisition). Effective implementation of credit management policies will drastically affect financial performance (Fapetu*et al.,* 2017).

Nigeria, the financial system deregulation embarked from 1986. The upsurge in the number of commercial banks led to many challenges, including financial crimes and poor asset quality and bad loans (Sanusi, 2002). This led to the increase in the number of banks that could not sustain the stress. At the same time, mis-management of the banking system and unethical internal practices together with political deliberations and court processes in respects to recovery of bad debts added to the problems in the financial system (Sanusi, 2002). Since 2004 the Central Bank of Nigeria introduced a crucial banking sector reform including the recapitalization of all commercial banks and a substantial reduction in the number of commercial banks by means of mergers and consolidations from 89 to 24 (Ugwu, 2016; CBN, 2000). However, despite the 2004 banking system consolidation exercise, the financial crisis has crumbled the general confidence in Nigerian banks and stock market, which have been affected by the crisis (Njiforti, 2015).

Government regulatory authorities and financial organisations have been focusing on management of Credit risk over a long period of time. Generally in Nigeria, commercial banks play a significant role in the economic growth and development. This became extensive, specifically in the mid-1980s when structural adjustment program began (Idehai, 1996). Banking industry is directly related to economic activities as a whole, it is vital for the government to put regulatory measures to combat unethical practice that would cause harm to the entire system. In Nigeria banking sector, Central Bank of Nigeria plays an important role. Osiegbu (2006) argued that the profitability of commercial banks is determined by the monetary policy, enacted by the CBN.

The paramount law that exercises control and regulates commercial banks in Nigeria is the "Banks and Other Financial Institutions Act (BOFIA) 1991 (As amended)" affiliated with the "Central Bank of Nigeria Act 2007" that gave the Central Bank of Nigeria capacity or ability to direct the regulation and supervision of commercial banks with some other financial organisations in Nigeria (CBN, 2007). However, CBN is the main top institution that is charged with responsibility of regulation and supervision of all banks in Nigeria. Though, in Nigeria there are some other regulation bodies that oversee and control commercial banks activities operations in Nigeria (CBN, 2007). Central Bank of Nigeria issued out a series of guidance notes on regulatory capital and liquidity in Nigeria, Regulatory Capital Measurement and Management for the Nigerian Banking industry of the 2013 Guidance Notes, the scope of the banking business of 2010 regulation and Ancillary Matters, and the Guidance Notes on the Calculation of Regulatory Capital **(**CBN, 2010). These documents state that for any regional commercial bank that operates within not more than (10) ten states of the federation should be mandatory to keep a minimum capital base of 15 billion Naira and a capital adequacy ratio of 10%. The requirement is higher for commercial banks that operate within the country that have branches in all parts of the country; they should keep a minimum capital base of 25 Billion Naira and 10% capital adequacy ratio. Finally, commercial banks that operate globally should maintain 100 Billion Naira and 15% capital adequacy ratio **(**CBN, 2010).

2. METHODOLOGY

The methodological framework of this study in relation to examination of the impact of credit risk management on the financial performance of commercial banks in Nigeria, research approach, sample size, Methods of Data Analysis, variables used in the study and model specification.

2.1Research Approach

Any paper research must begin with a detailed plan which acts as a roadmap and explains the number of variables used; the focus of this paper is to investigate the impact of credit risk management on the financial performance of commercial banks. Generally there are two patterns or paradigms, this research will relate to objectivist paradigm within a positivist philosophy because it differentiated between science viewpoint, fact and individual experience through rigorous process of inquiry (Pring, 2004). The positivist or natural science seeks to understand significant cause of social phenomena in an accurate and logically consistency and a clear divergence between facts and value judgements (Van Acker, 2018).

As noted above, this study adopts the deductive research philosophy approach. Furthermore, it involves the testing of a theory. According to Blaikie (2010) sequential stages, involved in deductive approach. First put a tentative idea, a hypothesis to test a theory. By using existing literature, deduce a testable proposition, and test it using the appropriate data; when the result is not consistent then the theory is not supported by evidence, but when the result of the analysis is consistent then the theory is corroborated. It is essential to explain the relationship between concept and variables

2.2Sample Selection

The samples for this paper consist of 10 commercial banks in Nigeria. The data for these banks was collected via Osiris database. All banks that were available on Osiris database were selected for this study: Unity Bank, First Bank PLC, United Bank of Africa (UBA), Guaranteed Trust Bank (GTB), Wema Bank, Fidelity Bank, Access Bank, Sterling Bank, Zenith Bank and Diamond Bank. The study chooses banks Listed on Nigeria Stock Exchange and that experienced the consolidation reform in Nigeria. Furthermore, the sample period was chosen so as to examine the extent of banking industry after the consolidation periods, and after the global financial meltdown.

2.3Method of Data Collection

There are two broad methods of sources of data which are the primary and secondary sources *(Saunders et al., 2016).* The data used for this study are secondary implying that data were obtained from annual financial reports available on their official website from Osiris data base for all the selected seven quoted banks out of twenty-two commercial banks in Nigeria for the span periods of seven years after consolidation programme of the Nigerian banking industry and GDP growth rate for Nigeria were accessed from world bank database. However, the secondary data in this research relies on the financial statements and therefore, the study can be replicated provided that other researchers have the same access to data.

2.4 Model specification and method of Data Analysis

Return on asset (ROA) is the dependent variable of this research, while capital adequacy ratio, non-performing loans, are the factors that can affect bank performance. Additionally, liquidity ratio, bank size and macroeconomic conditions are included in the model. . The following model estimated used in order to test the relationship credit risk management and bank performance.

$$ROA_{it} = \alpha_0 + \beta_1 CAR_{it} + \beta_2 NPLS_{it} + \beta_3 LIQ_{it} + \beta_4 BS_{it} + GDP_{it} + \epsilon it$$

α_0= Intercept; β = regression coefficient; ROA = Return on Assets; CAR= Capital adequacy ratio; NPLS= Non-Performing Loans to total loans; BS= Bank Size; LIQ= Liquid assets to total asset; GDP= Gross Domestic product growth; ϵ= error term; $_i$= banks and $_t$ = time period 2011 to 2017

3. RESULT AND DISCUSSION

3.1 RESULT

This paper focuses on data presentation and discussion of the result from the analysis and Presents a discussion of the results from the descriptive statistics.

Table 1: Descriptive statistics Results from 2011-2017

2011-2017	ROA	Capital	Capital (w/o outliers)	NPLR	NPLR (w/o outliers)	Liquidity	Bank Size	GDP Growth
Mean	1.35	11.36	13.95	3.20	2.30	13.41	15.69	3.26
Median	1.48	13.81	14.00	1.70	1.68	13.87	15.76	4.30
Maximum	5.98	23.75	23.75	37.24	12.36	22.69	16.91	6.30
Minimum	-10.21	-154.75	0.52	0.32	0.32	1.65	13.15	-1.60
Std. Dev.	2.92	21.36	4.35	5.60	2.21	4.87	0.85	2.63
Skewness	-2.06	-7.39	-0.25	4.61	2.80	-0.38	-0.75	-0.69
Kurtosis	8.94	58.00	3.91	25.86	11.69	2.60	2.84	2.19
Jarque-Bera	141.56	8782.78	2.88	1620.91	275.99	2.01	6.16	7.52
Probability	0.00	0.00	0.24	0.00	0.00	0.37	0.05	0.02
Obs.	65	65	64	64	62	65	65	70

3.2 Discussion of Descriptive Statistics Results

Table 3.2 shows the descriptive statistics of the impact of capital adequacy ratio (CAR), non-performing loan to total loans (NPLR), liquid asset to total asset (LIQ) bank size (BS) and gross domestic product growth (GDP) on bank profitability proxy by return on asset (ROA) in Nigeria. The number of observations for the full period was 70 but return on asset (ROA), capital adequacy ratio with outliers (CAR), liquidity (LIQ), and bank size (BS) all have 65 observations with 5 missing values. This is attributed to the unavailability of data for these variables for the period under study. Additionally, some observations were removed from the sample due to very large skewness and kurtosis

values. Therefore, capital adequacy ratio without outliers has 64 values and non-performing loans to total loans without outliers (NPLR) have 62 observations.

The mean value of return on asset (ROA) is 1.35%. This indicated that on the average the profitability of commercial banks in Nigeria is approximately 1.4% with a median value of approximately 1.5%. The skewness value of -2.06 and the kurtosis value of 8.94 shows negative skewness and leptokurtic curve because ROA has some relatively high values. The Jarque-Bera of the ROA of 141.55 and the corresponding probability value of 0.00 show that the data of ROA negatively skewed and not normally distributed.

The mean value of capital adequacy ratio (CAR) with outliers is 11.36%. This indicated that on average the capital adequacy ratio of commercial banks in Nigeria is approximately 11.4% with a median value of approximately 13.8%. The minimum and the maximum values of capital adequacy ratio (CAR) are -154.75% and 23.75% respectively. The skewness value of -7.39 and the kurtosis value of 58.00 shows negative skewness and leptokurtic curve because CAR has a very large minimum. The Jarque-Bera of CAR is very high (8783) and the corresponding probability value is very low (0.00), indicating that the data of CAR with outliers is negatively skewed and not normally distributed. Therefore, another variable was created equivalent to CAR but without this outlier (-154.75%). This large minimum value indicates the Unity bank plc in 2016 due to poor credit risk management performance as a result of high profile of poor performance of non-performing loans. However, the Nigeria stock exchange has suspended the banks because it failed to file it financial statement after the Central bank confirm that the financial statement of the bank has not been released, this significantly attributed to capital injection by some investors by signing memorandum of understanding to strengthen the banks performance (Punch,2018). The mean value of capital adequacy ratio (CAR) without outliers is 13.95%. The minimum and the maximum values of capital adequacy ratio (CAR) are now 0.52% and 23.75% respectively. The minimum value with outliers was negative but the minimum value of capital adequacy ratio without outliers is now positive; however, it is still very low. The standard deviation of 4.35% (less dispersed data), which is substantially lower than the previous standard deviation of 21.36% (more widely dispersed). The skewness value of -0.25 and the kurtosis value of 3.91 show that the data is approximately normal. The Jarque-Bera of the CAR of 2.88 and the corresponding probability value of 0.24 also show that the data of CAR without outliers is normally distributed. This distribution is close to normal unlike the distribution of CAR with a large negative value. This is an important consideration for further analysis as tests such as correlation and regression are sensitive to outliers.

The mean value of non-performing loan to total loans (NPLR) with outliers is 3.20%. This indicated that on the average the size of non-performing loan to total loans in Nigeria's commercial banks is approximately 3.2% with a median value of approximately 1.7%. The minimum and the maximum values of non-performing loans to total loans (NPLR) with outliers are 0.32% and 37.24% respectively. The skewness value of 4.51 and the kurtosis value of 25.86 indicate positive skewness and leptokurtic curve because NPLR has a very relatively high maximum compared to the mean. The Jarque-Bera of the NPLR of 1620.91 and the corresponding probability value of 0.00 show that the data of NPLR is not normally distributed and therefore, a further transformation was made to this variable, whereby the outlier max of 37% was removed.

The mean value of non-performing loans to total loans (NPLR) without outliers is 2.30% - which is lower than before. The new maximum value is lower (12.36%) because the outlier was removed. The standard deviation is also lower (2.21% vs 5.60%). The skewness value of 2.80 and the kurtosis value of 11.69 are now closer to normal; however, the values are still relatively high, indicating a positive skewness and leptokurtic curve because NPLR still have relatively high values. The Jarque-Bera of the NPLR of 276 and the p-value of 0.00 also show that the data of NPLR without outliers is not normally distributed despite improvement in the results.

The descriptive statistics results of the measure of liquidity revealed that the mean value of liquidity (LIQ) is 13.41%. This indicated that on the average the ratio of liquid asset to total assets of commercial banks in Nigeria is approximately 13.4% with a median value of approximately 13.87%. However, the minimum value of 1.65% is much lower than the average, while the maximum value is 22.69%. The skewness value of -0.38 and the kurtosis value of 2.60 indicate a rather normal (but slightly negatively skewed and slightly platykurtic). The Jarque-Bera of the LIQ of 2.01 and p-value of 0.37 show that the data is approximately normally distributed.

The descriptive statistics results show that the mean and median value of bank size (BS) are very close to each other indicating that this distribution is close to normal. The skewness value of -0.75 and the kurtosis value of 2.84 and theJarque-Bera of 6.16 and the p-value of 0.05 show that the data of BS is negatively skewed but it is not far from being normally distributed.

The descriptive statistics results show that the minimum and the maximum values of gross domestic product (GDP) are -1.60% and 6.30% respectively. On the 21th July, 2016 when the Nigeria minister of finance Kemi Adeosun briefed the country on the state of the economy, despite the fact that Nigeria is among the top rich country in African largest economy(Punch,2018). Central bank of Nigeria points out some factors that lead to the causes of the economy recession leading the GDP to become negative based on the result from the descriptive statistics. The decline in the demand of oil and low price of the crude oil price cause the balance of payment to be deficit and vandals of the pipeline by the militants groups of the Niger delta and the floatation of the foreign exchange regime. Also the members of the National Assembly has delay the signing of the budget of the 2016 these factors significantly cause the economic recession. The skewness value of -0.69 and the kurtosis value of 2.19 indicate that the

distribution is negatively skewed and platykurtic; b however, these values are not too far away from the normal distribution values.

4.CONCLUSION

This paper was conducted to investigate the effect of credit risk management on the financial performance of commercial banks in Nigeria from 2011 to 2017. The study found a positive relationship between capital ratio, liquidity, bank size and the financial performance of commercial banks in Nigeria but a negative relationship was found between non-performing loans, GDP growth and financial performance of commercial banks in Nigeria. However, according to the results from this study only capital ratio and non-performing loans significantly affect financial performance of commercial banks in Nigeria

5.ETHICAL APPROVAL

As per international standard or university standard written ethical permission has been collected and preserved by the authors**.**

6.COMPETING INTERETS

Author have declare that no competing interest exist

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