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Financial Risk and Performance of Deposit Money Bank in Selected Commercial Banks in Nigeria

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ABSTRACT

This study investigated credit risk management and performance of deposit money banks in selected banks in Nigeria. In the history of development of the Nigerian banking industry, it is evident that most of the failures experienced within the industry prior to the consolidation era were as a result of financial dampening that finally led to bad loans and some other unethical factors and financial stability has generated the ever-increasing attention and interest in academic and banking sector in Nigeria. This study examined the effect of credit risk management on financial stability of deposit money banks in Nigeria; specifically assessing the relationship between credit risk management and financial stability and establishing the level of credit risk measures to be put in place to ensure financial stability of deposit money banks in Nigeria. The study adopted ex-post facto research design. The target population comprised of 22 deposit money banks in Nigeria licensed by the Central Bank of Nigeria as at November 30th, 2018 from which 10 deposit money banks were purposively selected. Data were sourced from the audited and published financial statements of the selected deposit money banks. The data were validated by the statutory auditors. Descriptive and inferential statistics (multiple regression) were used to analyze the result. The findings revealed that asset quality represented by non-performing loan to gross loan ratio (NLPR), Total risk Asset to total asset ratio (TRAR), Loan Loss Provision to total loan ratio (LLPR) and Total Loan to total deposit ratio (TLDR), all had a significant effect on the variables of Financial Stability which are; Debt-to- Shareholders Fund F (99)=11.17, Adj. R2= 0.2419, p < 0.10, Capital Adequacy Ratio F(99) = 20.77, Adj. R2= 0.0490, p < 0.10, Fixed Deposit Cover F(99) = 8.95, Adj. R2= 0.165, p < 0.10 and had joint insignificant effect on Liquidity Ratio F(99)=1.31, Adj. R2= 0.486, p> 0.10 of deposit money banks in Nigeria. The study concluded that credit risk management influenced financial stability of quoted deposit money banks in Nigeria. The study recommended that operators of banks, should pay more attention to those variables of credit risk management in order to improve financial stability by managing credit risk that deposit money banks are facing to improve financial stability and to put in place proper credit management policy to mitigate credit risk and to also improve the knowledge of credit management policy in financial institutions.

KEYWORDS: credit management policy, credit risk management, deposit money banks, financial stability, non-performing loans

INTRODUCTION

The financial services provided by banks are essential to economic and financial development. Their role as financial intermediaries facilitates rapid economic growth. Financial stability is vital for any nation so therefore the financial institutions need to be properly managed. The velocity of loan creation in an economy significantly influences the productive activities in a nation [1]. The main motive of a bank is to redirect funds from the surplus sector to the deficit sector in a profitable and sustainable manner. Interest on loans and advances are the main sources of income for a commercial bank, by given out loans, banks are exposed to different forms of risks e.g. liquidity risk, credit risk, etc. (Kargi, 2011). Our main focus is the credit risk a bank incurs by virtue of loan creation. The Basel Committee on Banking Supervision (BCBS) defined credit risk as the probability that a bank borrower will fail to meet its obligations in accordance with agreed terms or the possibility of losing the outstanding loan partially or totally due to credit events (Iwedi, & Onuegbu, (2014). Poor credit administration reduces bank profitability and leads to bank distress and/or failure (Osuka, & Amako, (2015). The aim of credit risk management is to maximize a bank's risk-adjusted rate of return. This can be achieved by maintaining credit risk exposure within acceptable parameters. Efficient loan portfolio diversification can ensure that credit risk is minimized but it is imperative for banks to be wary of credit risk in administering each individual loan. In order to tackle the issues of credit risk management in the country, the Central Bank of Nigeria (CBN) entered into an agreement in 1987 known as Basel I and Basel II accords. Both accords emphasized the importance of capital adequacy for mitigating credit risks, which cushions the effects of sudden financial losses on banks (Iwedi, & Onuegbu, (2014). Nawaz et al [2], postulated that the magnitude of nonperforming loans in the banking system eroded investors' confidence and alarmed stakeholders in the banking industry. Osuka, & Amako, (2015) posits that between 1999 and 2009, non-performing loans was critically high at and peaked at 35% in 2009 in deposit money banks in Nigeria. This excessively high level of NPL in the banks was caused by poor corporate governance practices, lax credit administration processes and the absence or non- adherence to credit risk management practices. High levels of NPL have a tendency to reduce the lending ability of deposit money banks and possibly put them out of business. Iwedi, & Onuegbu, (2014) reported that the banking industry had been hit by low quality loan assets as a result of poor economic and financial conditions in the country following the Great financial recession of 2008 and the negative oil price shock. Low debt recovery hindered banks from extending further credit into the economy which adversely affected productivity. Asset Management Corporation of Nigeria (AMCON) was then established in 2010 as a monetary policy response to solve the aching problem of non-performing loans troubling the commercial banks. Now in 2016, Nigeria faces another economic crisis in the form of falling oil prices, poorly performing financial market and worrisome exchange rate volatility, issues of credit defaults and non-performing loans have once again come to the forefront of economic discourse. It is against this background that this study seeks to examine the relationship between credit risk management on deposit money bank performance and lending growth. The study covers the period between 1998 – 2014 which encompasses the periods of financial liberation in the economy, adoption of the Basel accords, rapid growth in the Nigerian economy and several bank recapitalizations. The objective of the study is to investigate the impact of non-performing loans on bank performance and lending growth.

Non-performing loan profile in the DMBs in Nigeria is rising, and this has been identified as a disturbing trend. According to Etale, Ayunku and Etale (2016), the increasing portfolio of non- performing loans led to the introduction of the prudential guideline by the Central Bank of Nigeria (CBN) in 2010. These guidelines by the apex bank in Nigeria mandated DMBs to continually review their loan portfolios from time to time. This should be done at least once every three months, to enable DMBS to spot any adverse risk in the loan portfolio. This regulatory guideline further directed the banks to classify a loan as non-performing where interest charge on the loan or the facility itself is mature for payment and unpaid for a period of 90 days and more; and where there is a capitalization of interest which results to a new loan status through rearrangement and rolled over. The prudential guidelines subdivide non- performing credit facilities into three categories which are, substandard, doubtful or lost (Central Bank of Nigeria, 2010). Despite the CBN's prudential guidelines, the level of non-performing loans continues to rise. For instance, in the year 2012, the Nigeria Deposit Insurance Corporation (NDIC) reported that non-performing loans totaled 286.09 billion naira, while in the year 2013, it increased to 321.66 billion naira representing an increase of 12.43% (Nigeria Deposit Insurance Corporation, 2013). Recently, the International Monetary Fund Report (International Monetary Fund, 2018) for Nigeria also reported an increase from 5% to 15.6% of non-performing loans in relation to total loans between June 2015 and October 2017. This development, apart from its negative impact on credit intermediation and the ability of the banking sector to support growth, also impairs banking performance since interest from loans which is the mainstay of banking income is lost. Popularity of this doctrine among Deposit-Money Banks (DMBs) in Nigeria is evident. Nigerian bankers believe that since their resources were repayable at short notice, such depositors' monies should be employed accordingly in short-term loans. Kargi, (2011) posited that the strong tie to this conception is rather orthodox if consideration is given to the fact that at the time of the supremacy of the theory, there were little or no secondary reserve assets, which could have served as a liquidity buffer for the bank. More so, this theory fails to consider the credit needs of Nigeria's developing economy. It has not encouraged banks to fund the purchases of plants, equipment, land, and home-ownership. For a theory to maintain that all loans should be liquidated in the normal course of business shows its failure to recognize the relative stability of bank deposits. Whereas, demand deposits are on demand, all depositors are not likely to demand payment at the same time. Thus, stability of deposits enables a bank to extend funds for a reasonable long period without danger of illiquidity. Though, with its flaws, the commercial loan theory, or real bills doctrine has been a persistent theory of banking. Vestiges of it still remain in the structure of bank regulatory agencies, bank examination procedures and the thinking of many bankers. One cannot understand contemporary banking without an understanding of our banking history, and cannot understand banking history without an understanding of the commercial loan theory

Statement of the Problem

Over the last ten years the deposit money banks in Nigeria have experienced problems as far as credit risk is concerned, this resulted in closure of several Banks including Intercontinental Bank, Oceanic Bank, Equatorial Trust Bank, Bond Bank and recently Skye Bank. CBN (2018) pointed out that loan defaults and toxic lending practices led to the failure of the said banks. To survive in a dynamic banking environment, Credit Risk Management is indispensable if financial stability has to be achieved in deposit money banks. The failure of deposit money banks to manage credit risks embedded in their activities had led to huge non-performing loans leading to traction of banks in Nigeria. According to the Financial Stability report of the Central Bank of Nigeria (CBN), banks recorded N1.02 trillion bad loans in the first half of 2016. Non-performing loans (bad loans) in the period grew by 158% from N649.63 billion at end-December 2015 to N1.68 billion at end-June 2016. Credit risk is expected to trend higher into the second half of 2016 owing to increased loan impairments resulting from depreciation of the Naira and inability of obligors to service foreign loans. Sanusi (2012) opined that in Nigeria, the economy faltered and was hit by the second round effect of the crisis as the stock market collapsed by 70 per cent in 2008–2009 and many Nigerian banks sustained huge losses, particularly as result of their credit exposure to the capital market and downstream oil and gas sector. Therefore, the CBN had to rescue 8 of the banks through capital and liquidity injections, as well as removal of their top executives and consequent prosecution of those who committed some infractions. These actions became necessary to restore confidence and sanity in the banking system. As a result, banks were consolidated through mergers and acquisitions, raising the capital base from N2 billion to a minimum of N25 billion, which reduced the number of banks from 89 to 25 in 2005, and later to 24 (Sanusi, 2012) Adeusi, Akeke and Obawale (2014) posited that credit failure in banks is not new or a rare occurrence, they affect their liquidity position as well as cash flows and profits and maintained that credit risk is the biggest threat to any banks financial stability and the principal cause of bank failures. Owojori, Akintoye and Adidu (2011) posited that available statistics from liquidated banks clearly showed that inability to collect loans and advances extended to customers and creditors or companies related to directors or managers was a major contributor to the distress of liquidated banks in Nigeria. With the collapse of deposit money banks in Nigeria, one would wonder just what the best strategy is or strategies for a deposit money banks to adopt in order to completely eliminate credit risk or loan defaults. Credit risk management strategies is an issue of concern in deposit money banks today and there is need to come up with improved strategies to deliver better results for future performance. Effective credit risk management strategies minimize the credit risk, therefore the level of loan losses. Financial stability is a priority for all managers in the banking sector. For deposit money banks managers, strategic management of credit risk is equally very important. Managers need to reduce the risk of loan default because the banks financial stability is weakened by the loss of principal and interest.

A number of research studies in Nigeria have attempted to address the impact of credit risk management and financial performance of banks in Nigeria but these studied have not addressed comprehensively the impact of credit risk management on the financial stability in Nigeria quoted deposit money

banks. Olawale, Tomola, James and Femi (2015), investigated the effect of credit risk management on bank performance in Nigeria and used return on assets to measured performance. Also, Idowu and Awoyemi, (2014) carried out a study on the impact of credit risk management on the performance of commercial banks in Nigeria and used return on Equity and Return on Asset as performance indicators. From the foregoing, existing research works so far used one or two variables as indicators to measure the effect of credit risk management on the performance of banks. Also, the studies focused mainly on banks' performance but the current study will expand the scope of the previous studies to capture financial stability. This study therefore will introduce more variables to capture the concept of financial stability, that is, Capital Adequacy ratio, Liquidity coverage ratio, Fixed Dividend Cover, Total Debt to Shareholders fund ratio. Therefore, it is on the basis of this gap that the present study will wish to establish the effect of Credit Risk Management and Financial Stability in quoted deposit money banks in Nigeria.

The study investigated credit risk management and performance of money deposit banks in selected banks in Nigeria.

Objectives of the Study

1. The effect of credit risk management on the debt-to-shareholders fund of Nigeria quoted deposit money banks.

2. The effect of credit risk management on the capital adequacy ratio of Nigeria quoted deposit money banks.

3. To determine the effect of credit risk management on the fixed dividend cover of Nigeria quoted deposit money banks and

4. To investigate the impact of inadequate liquidity management on dividend payment with a view to ensuring adequate liquidity management of quoted deposit money banks in Nigeria.

Research Hypotheses

The following hypotheses were tested for the research work.

H01: Credit risk management does not have significant effect on debt-to-shareholders fund ratio of quoted deposit money banks in Nigeria

H02: Credit risk management does not have significant effect on capital adequacy ratio of quoted deposit money banks in Nigeria

H03: Credit risk management has no significant impact on the fixed dividend cover of quoted deposit money banks in Nigeria.

H04: Credit risk management has no significant impact on the liquidity management on dividend payment of quoted deposit money banks in Nigeria.

CONCEPTUAL FRAMEWORK

Credit Risk Management

Credit risk management in financial institutions has become crucial for the survival and growth of these institutions. It is a structured approach of uncertainty management through risk assessment, development of strategies to manage it and mitigation of risk using managerial resources (Afriyie & Akotey, 2011).

Deposit money banks have faced difficulties over the years for a multitude of reasons, the major cause of serious banking problems continues to be directly related to lax credit standards for borrowers and counterparties, poor portfolio risk management, or a lack of attention to changes in economic or other circumstances that can lead to a deterioration in the credit standing of a bank's counterparties (BCBS, 1999).

CBN (2018) defined credit risk as the risk arising from the type and nature of credit activities undertaken by the institution. Credit risk arises from a counterparty's inability or unwillingness to fully meet its on and/or off-balance sheet contractual obligations. Exposure to this risk results from financial transactions with a counterparty including issuer, debtor, borrower, broker, policyholder or guarantor.

Saeed and Zahid (2016) postulated that Banks like other financial institutions face a number of risks and hazards including credit risks, liquidity risks, operational risks, exchange rate risks, interest rate risks, political risks, and all other internal and external risks. However, credit risk is considered as the most common and dangerous risk especially for the banks that can put them into deep trouble and even, they may face bankruptcy. Risk is the possibility that the actual return of an investment will differ from the expected return. Risk can also be defined as the realistic possibility of losing the principal invested and the amount of interests accrued on it either partially or completely or risk of not achieving your set objective (Saeed & Zahid, 2016). Credit risk is most simply defined as the potential that a bank borrower or counterparty will fail to meet its obligations in accordance with agreed terms. The goal of credit risk management is to maximize a bank's risk-adjusted rate of return by maintaining credit risk exposure within acceptable parameters. Credit risk is the risk that a borrower defaults and does not honor its obligation to service debt. It occurs when the borrower is unable to pay his debts as agreed or fails to make timely payment on his debt servicing. Credit risk is one of significant risks of banks by the nature of their activities. Through effective management of credit risk exposure, banks not only support the viability and profitability of their own business but also contribute to systemic stability and to an efficient allocation of capital in the economy (Iwedi & Onuegbu, 2014). Banks need to manage the credit risk and other risks. The effective management of credit risk is a critical component of a comprehensive approach to risk management and essential to the long-term success of any banking organization.

Deposit Money Bank

Deposit Money Banks are licensed by the regulatory authority to mobilize deposits from the surplus unit and channel the funds through loans to the deficit unit and performs other financial services activities. The financial services provided by quoted deposit money banks are essential to economic and financial development in an economy. The role of deposit money banks as financial intermediaries enhances rapid economic growth and financial stability in a nation (CBN, 2018). Ali , Jatau and Ashami (2016) posited that the functions of deposit money banks are numerous, all aimed at satisfying the financial needs of the various sectors of the economy such as agriculture, industry, trade, communication, oil and gas accordingly they play very momentous role in process of economic growth. The prompt and sustained output growth of the domestic economy of Nigeria since the political independence in 1960 has been of principal importance to successive governments in the country. Thus, various governments have executed several national development plans and programs designed at enhancing productivity, as well as, diversifying the domestic economic base. However, the infrastructural and capital resources necessary for the realization of these objectives have however been limited. This has obliged the intervention of deposit money banks credit in the economy via the provision of the required huge capital outlay in form of risk assets needed for large-scale production in industries and for the provision of other credit facilities for economic growth. The impact of Deposit money banks' credit on the various economic agents which is regarded as bank loans and advances aid in financial intermediation between deficit unit and surplus units enhances productivity, impacting positively on economic growth. The banking sector is generally considered as a key channel for financial intermediation in every economy. Ali, Jatau and Ashami, (2016) posits that the banking sector help in the provision of credit by organizing surplus fund from depositors who have no instant needs of such money and consequently channel it in form of credit to investors who have wonderful ideas on how to create additional wealth in the economy but lack the required capital to implement the ideas.

This further revealed that the role of deposit money banks credit is recognized as suitable source to the economic agents to enable them meet both new investment opportunities and operating expenses. To strengthen the banking sector to meet up with this herculean task of providing credit in the economy, various banking reformed has been established by the monetary authority in Nigeria in enhancing credit accessibility. The overall objectives of these reforms have been to guarantee financial stability so as to influence the growth of the economy and also enhance bank to play their role of financial intermediation in provision and accessibility of credit in the Nigerian economy. These various reforms no doubt have led to the improvement of banking services to the economic units. Ali, Jatau and Ashami, (2016) opined that despite series of efforts through bank reforms and other policies aimed at strengthening the bank's ability to ensure efficient services delivery and funding the real sectors so that it will enable the Nigerian economy to become more vibrant and very dynamic. The problem of inefficient allocation of funds to the real sectors and mismatch of liquidity in the Nigeria economy still lingers. Deposit money banks play effective roles in the economic growth and development of both emerging and developed economies of the world. This role they perform excellently by helping to mobilize idle savings of the Surplus Unit for onward lending to the Deficit Units, thus helping in the capital formation of a nation. It is in realization of the importance of bank's role in financial intermediation that successive governments in Nigeria have been allocating deliberate roles to them in various National Development Plans.

THEORETICAL FRAMEWORK

This study anchored on Credit Risk Theory and Credit risk according to Anderson and Salas, & Saurina, (2002) refers to the risk that a borrower will default on any type of debt by failing to make required payments. The risk is primarily that of the lender and includes lost principal and interest, disrupt loss may be complete or partial and can arise in a number of circumstances, such as an insolvent bank unable to return funds to a depositor. To reduce the lenders risk, the lender may perform a credit check on the prospective borrower, may require the borrower to take appropriate insurance, such as mortgage insurance or seek security or guarantees of third parties. In general, the higher the risk, the higher will be the interest rate that the debtors will be asked to pay on the debt. (Owojori, Akintoye & Adidu, (2011).Rather, the theory continues to recognize that the asset structure of the bank has a prominent role to play in providing the bank with liquidity. But the theory takes a one dimensional approach to liquidity and argues that the bank can also use its liabilities for liquidity purposes. A bank wants liquidity for deposit withdrawal purposes and also to meet the reasonable loan requests of its customers. Not only are bank loans profitable but a bank that won't or can't make loans to its depositors when they need funds is not likely to keep those depositors for very long.

Empirical Review

The issue of credit risk management and performance of financial institutions in ensuring that banks are able to achieve their set objectives has been well researched upon by numerous academics. There is an overwhelming belief that credit risk management has a strong influence on bank profitability. Shafiq & Nasr, (2010) examined the key determinants of credit risk of commercial banks on emerging economies banking systems compared with the developed economies. They found that regulation is important for banking systems that offer multi- products and services, management quality is critical in the cases of loan-dominant banks in emerging economies. Boland (2012) studied the influence of bank regulations, concentration, financial and institutional development on commercial banks' margin and profitability in Middle East and North Africa (MENA) countries from 1989-2005 and found that bank capitalization and credit risk have positive and significant impact on banks' net interest margin, cost efficiency and profitability. Kargi, (2011) using Return on Equity as a measure of bank's performance and a ratio of non-performing loans to total asset as proxy for credit risk management. They found that Non-performing loans (NPL) had a larger effect on profitability as measured by (ROE) than capital adequacy ratio (CAR) and the effect of credit risk management on profitability varied among Ghanaian banks included in their study. Kithinji [3] examined the impact of credit risk management on the profitability of commercial banks in Kenya between 2004 and 2008. Using regression analysis, he found that the larger part of the banks' profits was influenced by other variables other than credit and nonperforming loans. Das, & Ghosh, (2007) revealed that credit risk management has a strong bearing

2008. Using regression analysis, he observed that bad debts or credit risks, liquidity risk and capital risk are the major factors that affect bank performance when profitability is measured by return on assets while the only risk that affects profitability when measured by return on equity is liquidity risk. Hosna & Manzura, (2009) investigated the effects of credit risk and other risk components on the banks' financial performance. They found a strong relationship between risk components and the banks' financial performance. Harvey & Merkowsky (2008) examined the relationship between credit risk and banks' profitability. They found a linear relationship between credit risk and bank profitability. Afriyie & Akotey, (2011) investigated the effect of credit risk management techniques on the banks' performance of unsecured loans. They concluded that financial risk in a banking organization might result in imposition of constraints on bank's ability to meet its business objectives. Kolapo, Ayeni and Oke [1] showed that the effect of credit risk on bank performance measured by ROA was cross-sectional invariant, though the degree to which individual banks were affected was not captured by the method of analysis employed in the study. Osuka & Amako, (2015) using time series data from 2001 - 2011 appraised the impact of the credit risk management in bank's financial performance in Nepal. The result of the study indicates that credit risk management is an important predictor of banks' profitability and financial performance. Harvey & Merkowsky (2008) used descriptive, correlation and regression techniques to study whether credit risk affects banks' performance in Nigeria from 2004 - 2008. They also found out that credit risk management has a significant impact on profitability of Nigerian banks. Boland (2012) in their work examined bank performance in the presence of risk for Costa-Rican banking industry during 1998-2007 using regression analysis. The result of their study showed that performance improvements follow regulatory changes and that risk explains differences in banks and non-performing loans negatively affect efficiency and return on assets (ROA) while the capital adequacy ratio has a positive impact on the net interest margin. Furthermore, Chen and Pan (2012) in their work examined the credit risk efficiency of 34 Taiwanese Commercial banks over the period 2005-2008. Their study used financial ratios to assess the credit risk and was analyzed using Data Envelopment Analysis (DEA). The result of their study indicated that only one bank is efficient in all types of efficiencies over the evaluated periods. Kargi, (2011) concluded that liquidity and bank size affected strongly on effectiveness of credit risk management. Boland (2012) discovered that effective risk management was critical to any bank for achieving financial soundness. Shafiq & Nasr, (2010) concluded that bank's financial performance had been affected by sound credit risk management and capital adequacy. Iwedi, & Onuegbu, (2014) examined the role of capital requirement on bank competition and stability in Kenya using data estimation on time series data between 2000 and 2011. The result of study indicates that regulatory efficiency improves competition in the banking sector. Osuka & Amako, (2015) found that the indicator of Nonperforming loans had positive impact on banks profitability as measured by return on equity (ROE) and return on assets (ROA). Alshatti, (2015) revealed that the variables of credit risk management influenced banks' profitability. This research improves on some of the existing studies, in that it investigates the sub-total and overall effect of credit risk management and its indicators on the lending ability of Nigerian deposit money banks by combining certain credit risk management indicators and other financial indicators to determine which variables influence bank profitability and loan creation in broader scope.

METHODOLOGY

Ex post facto research design was adopted to obtain secondary data from the population to effectively evaluate the impact of credit risk management on the financial stability in Nigeria quoted deposit money banks. The population for this study consisted of the 22 deposit money banks in Nigeria as at November 30, 2018. This study used a non-probability method in the form of convenient sampling method in selecting its sample. The sample size consisted of ten (10) deposit money banks selected from twenty-two [22] deposit money banks from international and national authorization categories licensed by the Central Bank of Nigeria. These include; Access Bank, United Bank for Africa, Diamond Bank, First City Monument Bank, First Bank, Fidelity Bank, Guaranty Trust Bank, Stanbic IBTC, Sterling Bank, and Zenith Bank. These Deposit money banks were chosen as samples because they have the required information and their financial statements are readily assessable. The study covered a ten-year period from 2008 to 2017

Operationalization of Variables and Model Specification

Y=f(X)

Y=Financial Stability (FS) X=Credit Risk Management (CRM)

- a) Credit Risk Management (CRM) was measured using Total risk assets to total assets ratio (TRAR), asset quality represented by nonperforming loan to gross loan ratio (NPLR), Loan loss provision to total loan ratio (LLPR) and Total loans to total deposits ratio (TLDR).
- b) Financial Stability (FS) was measured using fixed dividend cover (FDC), capital adequacy ratio (CAR), debt-to-shareholders fund ratio (DS) and Liquidity ratio (LR). Where Y =

FS X=CR M

FS = f(CRM) and

y1 = Debt-to-shareholders fund ratio (DS) y2 = Capital adequacy ratio (CAR)

y3 = Fixed dividend cover (FDC) y4 = Liquidity ratio (LR)

x1=Non-performing loan to gross loan ratio (NPLR) x2 = Total risk assets to total asset ratio (TRAR) x3 =Loan loss provision to total loan ratio (LLPR) x4= Total loan to total deposits ratio (TLDR).

Functional Relationship

DS = f (NPLR, TRAR, LLPR, TLDR) Equation 1

CAR = f(NPLR, TRAR, LLPR, TLDR) Equation 2

Geometric Mean (FS) = 4 DS*CAR*FDC*LR

FDC = f(NPLR, TRAR, LLPR, TLDR) Equation 3

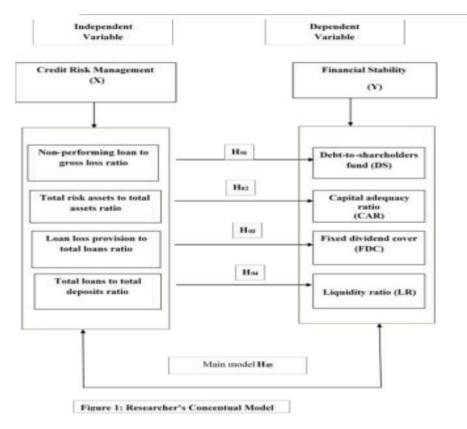
LR = f (NPLR, TRAR, LLPR, TLDR) Equation 4

FS = f(NPLR, TRAR, LLPR, TLDR) Equation

5eometric

Mean (FS) = 4 DS*CAR*FDC*LR

F1 - F5 are relationship that measures the effect of credit risk management on financial stability.



RESULTS AND DISCUSSION OF FINDINGS

Model 1:

 $DSit = \beta 0 + \beta 1NPLRit + \beta 2TRARit + \beta 3LLPRit + \beta 4TLDRit + \mu 1$

DSit= 19.504 + 0.843NPLRit + 2.630TRARit - 4.960LLPRit - 1.370TLDRit

H01: Credit risk management does not have significant effect on debt-to-shareholders fund ratio of quoted deposit money banks in Nigeria.

Regression Analysis Table 4.1

Variable	Coefficient	Std Error	t-Stat.	Prob.
Constant	19.50384	3.773557	5.17	0.000

NPLR	0.8427294	0.4377041	1.93	0.057
TRAR	2.630	5.150	5.11	0.000
LLPR	-4.960	5.920	-0.84	0.405
TLDR	-1.370	4.750	-2.89	0.005
F-Statistic	11.17			
Prob.(F-Stat)	0.0000			
Adjusted R-squared	0.2419			
Diagnostic Tests				
Hausman test	2.82	2.82		
Breusch Pagan Lagrangian test	1.98			0.0794
Heteroskedasticity test	11.84			0.0006
Wooldridge test for autocorrelation	15.298			0.0036
Pesaran'stestofcross-sectional Independence	2.406			0.0161

Findings:

The regression analysis estimates on Table 4.1 showed that some Credit risk Management measures i.e. Total risk assets to total asset ratio (TRAR) and non-performing loan to gross loan ratio (NPLR) have positive effects on debt-to-shareholders fund ratio (DS), while others i.e. Loan loss provision to total loan ratio (LLPR) and Total loans to total deposits ratio (TLDR) have negative effects on debt-to-shareholders fund ratio (DS). This is indicated by the sign of the coefficients, that is $\beta 1= 0.843>0$, $\beta 2=2.630>0$, $\beta 3= -4.960<0$ and $\beta 4= -1.370<0$ respectively. This result is mixed with respect to the a priori expectation as it was expected that all the measurements of Credit Risk Management (CRM) will have positive effect on Financial Stability (FS) of Nigeria quoted deposit money banks. Also, the size of the coefficient of the independent variable show that a 1 unit increase in Total risk assets to total asset ratio (TLDR), non-performing loan to gross loan ratio (NPLR), Loan loss provision to total loan ratio (LLPR) and Total loans to total deposits (TLDR), will lead to a 0.843 and 2.630 unit increase and 4.960 and 1.370 unit decrease in on debt-to-shareholders fund ratio (DS) respectively.

Furthermore, the F-statistic value of 11.17 at 0.000 is significant at 5% level of significance and this indicates the overall significance of the model. This confirms that there is high predictability and usefulness of the model. Decision: From the result of the regression analysis, Credit Risk Management (CRM) measurements Total European Journal of Accounting, Auditing and Finance Research risk assets to total asset ratio (TRAR), asset quality represented by non-performing loan to gross loan ratio (NPLR), Loan loss provision to total loan ratio (LLPR) and Total loans to total deposits ratio (TLDR) have a joint significant effect on Debt-to-Shareholders Fund ratio (DS) of Nigeria quoted deposit money banks, Therefore, the null hypothesis (H01) which says Credit risk Management do not have significant effect on debt-to-shareholders fund ratio of Nigeria quoted deposit money banks Nigeria is hereby rejected.

Model 2:

$CARit = \beta 0 + \beta 1NPLRit + \beta 2TRARit + \beta 3LLPRit + \beta 4TLDRit + \mu 1$

CARit= 32.189 - 0.192NPLRit - 4.340TRARit + 5.190LLPPit - 5.730TLDRit

H02: Credit risk Management does not have significant effect on capital adequacy ratio of quoted deposit money banks in Nigeria

Regression Analysis Table 4.2

Variable	Coefficient	Std Error	t-Stat.	Prob.
Constant	32.18889	2.980621	10.80	0.000
NPLR	1923247	.1292112	-1.49	0.137
TRAR	-4.340	3.440	-1.26	0.208
LLPR	5.190	2.960	1.75	0.079
TLDR	-5.730	3.310	-1.73	0.083
F-Statistic	20.77			

Prob.(F-Stat)	0.0004		
Adjusted R-squared	0.04901		
Diagnostic Tests			
Hausman test	2.67	0.1023	
Breusch Pagan Lagrangian test	17.48	0.000	
Heteroskedasticity test	1.98	0.1019	
Wooldridge test for autocorrelation	7.120	0.0257	
Pesaran'stestofcross-sectional	2.40	0.016	
Independence			

Findings:

The regression analysis estimates on Table 4.2 showed that some Credit risk Management measures i.e. Total risk assets to total asset ratio (TRAR), nonperforming loan to gross loan ratio (NPLR) and Total loans to total deposits (TLDR) have negative effects on capital adequacy ratio (CAR), while Loan loss provision to total loan ratio (LLPR) has a positive effect on debt-to-shareholders fund ratio (DS). This is indicated by the sign of the coefficients, that is $\beta 1$ = -0.192<0, $\beta 2$ = -4.340<0, and $\beta 4$ = -5.730<0 and $\beta 3$ =5.190>0 respectively. This result is mixed with respect to the a priori expectation as it was expected that all the measurements of Credit Risk Management (CRM) will have positive effect on Financial Stability (FS) of Nigeria quoted deposit money banks. Also, the size of the coefficient of the independent variable show that a 1 unit increase in Total risk assets to total asset ratio (TLDR), will lead to a 0.192, 4.340 and 5.730 unit decrease and 5.190 unit increase in on capital adequacy ratio (CAR) respectively. Furthermore, the F-statistic value of 20.77 at 0.004 is significant at 5% level of significance and this indicates the overall significance of the model. This confirms that there is high predictability and usefulness of the model. Decision: From the result of the regression analysis, Credit Risk Management (CRM) measurements Total risk assets to total asset ratio (TRAR), asset quality represented by non- performing loan to gross loan ratio (NPLR) have a joint significant effect on capital adequacy ratio (CAR) of Nigeria quoted deposit money banks, Therefore, the null hypothesis (H02) which says Credit risk Management do not have significant effect on capital adequacy ratio of Nigeria quoted deposit money banks Nigeria is hereby rejected.

Model 3:

FDC it = $\beta 0 + \beta 1$ NPLRit + $\beta 2$ TRARit + $\beta 3$ LLPRit + $\beta 4$ TLDRit + $\mu 1$

FDC it= 21.209 - 0.0882NPLRit - 9.330TRARit + 7.990LLPRit + 1.100TLDRit

H03: Credit risk Management has no significant impact on the fixed dividend cover of Nigeria quoted deposit money banks.

Regression Analysis Table 4.3

Variable	Coefficient	Std Error	t-Stat.	Prob.	
Constant	21.20901	4.938476	4.29	0.000	
NPLR	-0.0881771	0.148099	-0.60	0.552	
TRAR	-9.330	3.930	-2.37	0.018	
LLPR	7.990	3.400	0.24	0.814	
TLDR	1.100	3.940	2.78	0.005	
F-Statistic	8.95	•			
Prob.(F-Stat)	0.0623	0.0623			
Adjusted R-squared	0.1645	0.1645			
Diagnostic Tests					
Hausman test	0.01	0.01			
Breusch Pagan Lagrangian test	103.32			0.000	
Heteroskedasticity test	4.13			0.0421	
Wooldridge test for autocorrelation	5.279			0.0472	

Findings:

The regression analysis estimates on Table 4.3 showed that some Credit risk Management measures i.e. Total risk assets to total assets ratio (TRAR) and non-performing loan to gross loan ratio (NPLR) have negative effects on fixed dividend cover (FDC), while others i.e. Loan loss provision to total loan ratio (LLPR) and Total loans to total deposits (TLDR) have positive effects on debt-to- shareholders fund ratio (DS). This is indicated by the sign of the coefficients, that is $\beta 1$ = -0.0882<0, $\beta 2$ = - 9.330<0, $\beta 3$ =7.990>0 and $\beta 4$ =1.100>0 respectively. This result is mixed with respect to the a priori expectation as it was expected that all the measurements of Credit Risk Management (CRM) will have positive effect on Financial Stability (FS) of Nigeria quoted deposit money banks. Also, the size of the coefficient of the independent variable show that a 1 unit increase in Total risk assets to total deposits (TLDR), will lead to a 9.330 and 0.0882 unit decrease and 7.990 and 1.100 unit increase in on fixed dividend cover (FDC) respectively.

Furthermore, the F-statistic value of 8.95 at 0.0623 is significant at 10% level of significance and this indicates the overall significance of the model. This confirms that there is high predictability and usefulness of the model. Decision: From the result of the regression analysis, Credit Risk Management (CRM) measurements Total risk assets to total assets ratio (TRAR), asset quality represented by non-performing loan to gross loan ratio (NPLR), Loan loss provision to total loan ratio (LLPR) and Total loans to total deposits ratio (TLDR) have a joint significant effect on fixed dividend cover (FDC) of Nigeria quoted deposit money banks, Therefore, the null hypothesis (H03) which says Credit risk Management do not have significant effect on fixed dividend cover of Nigeria quoted deposit money banks Nigeria is hereby rejected.

Model 4:

 $LR \; it = \beta 0 + \beta 1 NPLRit + \beta 2 TRARit + \beta 3 LLPRit + \beta 4 TLDRit + \mu 1$

LR it= 13.360 + 0.005NPLRit - 5.760TRARit - 1.620LLPRit + 5.340TLDRit

H04: Credit risk Management has no significant impact on the liquidity of quoted deposit money banks in Nigeria.

Regression Analysis Table 4.4

Variable	Coefficient	Std Error	t-Stat.	Prob.	
Constant	13.36027	2.012467	4.64	0.000	
NPLR	0.005384	0.1247009	0.04	0.966	
TRAR	-5.760	2.760	-2.09	0.039	
LLPR	-1.620	2.390	-0.68	0.499	
TLDR	5.340	2.670	2.00	0.048	
F-Statistic	1.31				
Prob.(F-Stat)	0.2727	0.2727			
Adjusted R-squared	0.486	0.486			
Diagnostic Tests					
Hausman test	0.28	0.28			
Breusch Pagan Lagrangian test	103.32	103.32			
Heteroskedasticity test	.8.08	.8.08			
Wooldridge test for autocorrelation	0.481	0.481			

Findings:

The regression analysis estimates on Table 4.4 showed that some Credit risk Management measures i.e. Total risk assets to total assets ratio (TRAR) and non-performing loan to gross loan ratio (NPLR) have negative effects on liquidity (LR), while others i.e. Loan loss provision to total loan ratio (LLPR) and Total loans to total deposits ratio (TLDR) have positive effects on debt-to-shareholders fund ratio (DS). This is indicated by the sign of the coefficients, that is $\beta 1= 0.005>0$, $\beta 2= -5.760<0$, $\beta 3= -1.620<0$ and $\beta 4=5.340>0$ respectively. This result is mixed with respect to the a priori expectation as it was expected that all the measurements of Credit Risk Management (CRM) will have positive effect on Financial Stability (FS) of Nigeria quoted deposit money banks. Also, the size of the coefficient of the independent variable show that a 1 unit increase in non-performing loan to gross loan ratio (NPLR), Total loans to total deposits ratio (TLDR), loan loss provision to total loan ratio (LLPR) and Total risk assets to total assets ratio (TRAR), will lead to a 0.005 and 5.340 unit increase and 5.790 and 1.620 unit decrease in on liquidity (LR) respectively. Furthermore, the F-statistic value of 1.31 at 0.2727 is significant at 10% level of significance and this indicates the overall significance of the model. This confirms that there is high predictability and usefulness of the model. Decision: From the result of the regression analysis, Credit Risk Management (CRM) measurements Total risk assets to total assets ratio (TRAR), asset quality represented by non-performing loan to gross loan ratio (NPLR), Loan loss provision to total loan ratio (LLPR) and Total loans to total deposits (TLDR) have a joint significant effect on Liquidity (LR) of Nigeria quoted deposit money banks. Therefore, the null hypothesis

(H04) which says Credit risk Management do not have significant effect on liquidity of Nigeria quoted deposit money banks is not rejected. The decision to accept the null hypothesis (H04) was substantiated by the strict regulations by regulators (CBN, NDIC) on liquidity restrictions such as strict adherence to minimum liquidity ratio, maintaining of cash reserve ratio and investment of part of depositors' funds in government securities in order to shield depositors' funds from credit risk.

The Main Model

 $FSit = \alpha 1 + \beta 1CRMit + \mu it$

 $FSit = 10.789 + 0.0178 CRMit + \mu1$

Regression Analysis Table 4.5

Variable	Coefficient	Std Error	t-Stat.	Prob.
С	10.789	1.686089	6.40	0.00
CRM	.0178	.0100096	1.78	0.75
Adjusted R-squared	0.0224			
F-Statistic	3.17			
Prob.(F-Stat)	0.0748			
Breusch and Pagan Lagrangian multiplier	0.0001			
Test				
Heteroskedasticity Test	0.0764			
Autocorrelation	0.9787			

Findings:

The regression analysis estimates on Table 4.5 showed that there is a positive relationship between credit risk management and financial stability. The probability of f- statistics shows 0.0748 which shows the significance of the model at 10% level of significance. The result of this study therefore indicates that there is a significant positive relationship between credit risk management and financial stability of the sampled banks for the sampled period.

Implications of findings

The findings of this study have implications for the diverse users of accounting information, Management/Board of Directors, Bank managers, Customers/Creditors, regulators, policy makers, professionals, scholars and the general public. These implications are outlined as follows:

Management/Board of Directors would be able to make timely and appropriate decisions on how credit risk will be properly mitigated in order to maintain efficient financial stability to ensure going concern of the financial institution.

Managers can use findings from this research work to aid them in planning, controlling and directing the affairs of the banking institution in relation to its numerous customers and be able to safely adjudge the needs of these customers within the banking environment. Also, they should be able to put in place proper strategies so as to be able to manage well the risks which are associated with credit in order to maintain and achieve a good financial stability structure for deposit money banks.

Depositors are usually interested in the bank's financial stability, this would help them to know if they should continue to finance their operations and also to know if the business would be faced with liquidity problem in the near future due to their inability to properly handle those risk that are associated with granting of credit to customers.

Bank Regulators such as CBN, NDIC have primary responsibilities for sound financial system of the nation and financial institution. The study is a step in the right direction to put in place effective policies and guidelines for managing credit risks to restrict bank exposures through strengthening of regulations in the area of financial stability to prevent credit crunch.

Investors will use the findings from the study to have access to more holistic information on how the return on their investment will be affected by poor credit arising from non-performing loans.

To researchers, this study is a step in the right direction for financial accounting and management research in Nigeria. Consequently, the study helps to provide the impact of poor credit risk management on the financial stability of the nation and measures to prevent future banks collapse.

CONCLUSION

This study examined effect of Credit Risk Management and Financial Stability of Deposit Money banks in Nigeria. Numerical description of all variables under study was captured to depict the movement of values and determine the fluctuations of each of the independent variables with the dependent variables.

Findings of this study therefore provide insight into the effect of Credit Risk Management measured by Total Risk Asset to total assets ratio (TRAR), asset quality represented by non- performing loan to gross loan ratio, loan Loss provision to total loan ratio (LLPR) and also examined the moderating effect of adoption of credit risk management on financial stability of quoted deposit money banks in Nigeria for the period between 2008 and 2017. It also provides an affirmation of the extent to which the variations in the dependent variable are caused by the independent variables covered in the models as depicted by the R-squared and adjusted R- squared. The study concluded that credit risk management significantly impact on financial stability of deposit money banks in Nigeria

Recommendations

Based on the findings and conclusions of this study, the following recommendations are made to bank regulators, operators of banks, investors, depositors, researchers and academia:

Bank regulators; to provide them with information to enforce banks to have an effective system to identify measure and control credit risk as part of an overall approach to risk management. Also, policy on insider/related parties' credit should be enforced to prevent credit losses.

Operators of banks; to help them pay attention to improve financial stability by managing credit risk that deposit money banks are facing. Investors need to have more holistic information on how the return on their investment will be affected by poor credit arising from non-performing loans. Depositors need to assist them to determine the riskiness in order to ensure safety of their funds. Researchers; it will give them the opportunity to contribute to body of knowledge in the area of credit risk management as it affects financial stability of quoted deposit money banks in Nigeria.

Contribution to Knowledge

This study has made the following firm characteristics on value relevance of financial performance contributions to knowledge:

The study would help Regulators (CBN, NDIC) as an input policy formulation in the areas of credit risk management to prevent instability in the financial system. Also, the study will assist regulators to strengthen and enforce existing policy in order to enhance financial stability of financial system.

This study would be a major contribution to literature on credit risk management that will help to prevent credit risk exposure in order to maintain efficient financial stability to ensure going concern of the financial institution. This study contributed to the existing literature by the findings that have been examined; implications of the findings, the recommendations that have been made and future research should focus extensively on ways that can improve financial stability of quoted deposit money banks in Nigeria. The study discovered that Credit Risk Theory is a good indicator for operators of banks to ensure financial stability of the business. The study provides empirical evidence of the effect of financial stability measured by Fixed Deposit Cover (FDC), Capital Adequacy Ratio (CAR), Debt to Shareholders Fund Ratio (DS) and Liquidity Ratio (LR) by creating a nexus from the empirical analysis on the effect of credit risk management and financial stability of quoted deposit money banks in Nigeria.

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