

Credit and Market Risk Disclosure: Correlated Effect On Deposit Money Banks Performance in Nigeria

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Abstract: *The study examined credit and market risk disclosure on the performance of deposit money banks. The purpose of the study is to investigate whether credit and market risk disclosure affect return on capital employed of deposit money banks in Nigeria. The study employed expo facto research design and data were retrieved from reports of the companies from 2018-2022 financial years. The analytical technique used for this study was the panel regression method, ordinary least square and correlation. The research results indicated that non-performing loans and advances as a measure of credit risk exerted a negative relationship with performance of deposit money banks. The study further showed that market risk has a negative and significant relationship with performance of deposit money banks. It was recommended that deposit money banks should continue to implement risk management strategies to enhance their resilience to credit and market risk, and to constantly monitor borrowing and lending rates to ensure that cost of borrowing do not rise to the detriment of lending rate.*

Keywords: Credit, market, risk, disclosure, deposit money banks, performance, Nigeria

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INTRODUCTION

The banking sector plays a critical role in the economic development of any nation. They serve other sectors through making available financial resources in expanding their scope and contribute significantly to growth in terms of real gross domestic product (GDP). In this light, any unfavourable event that may affect its performance and functionality will directly result in down ward growth of the entire economy of such country if not timely addressed. Crises in the financial institution is not only peculiar to developed economies but has also at many occasions affected most developing countries, as it was experienced in Nigeria in the early 90^s and most recently the 2004 crises which resulted in bank consolidation in 2005. This reform has help in strengthening the supervisory role of the apex bank (CBN) thereby encourage market discipline as a complement to supervisory and regulatory tools for monitoring risk at individual banks.

The Central bank of Nigeria (CBN) governor in 2009 maintained that some banks were faced with liquidity constraints. Thus, their activities were reduced because of their response to the perceived risk of lending to each other making profits and returns to suffer (Olajide, 2013). This led not only to liquidity and credit shortages but also resulted in loss of public confidence as the financial system and entire

economy were in a sour stage. The fact is that banks have a dominant position in developing economic financial systems and are engines of economic growth (Levine, 1997), they cannot operate without risk. Risk implies exposure to uncertainty or threat (Kannan and Thangavel, 2008). Traditionally, risk has been viewed as negative consequences and unfavourable events. The consideration of risk from the negative perspective is obstructive and deceptive for two main reasons. First, uncertainty may manifest in either negative (threat) or positive (opportunity) form, or both; and second, the way a risk is perceived influences the manner in which it is handled (Hillson, 2006). Risk sometimes entails some economic benefits, as firms may derive considerable gains by taking risk. Colquitt (2007) maintained that, it is quite difficult for the banking system generally to monitor and review its risk management. Risk is a probability of deviation of reported return from expected return that is derived from business objectives.

Effective risk disclosure by management should be a critical component of a bank's overall risk management strategy and is essential to the long-term success of any banking organization. It becomes more and more significant in order to ensure sustainable profits in banks (Singh, 2013). Risk management and its disclosure is regarded as one of the most important concerns of bank executive directors and the risk management activities are expected to be collaborative in nature because its expansion will dampen the variability in periodic earnings thereby reduce the average cost of funding the bank. Risk disclosure is expected to improve the effectiveness of communication between companies and their stakeholders, and could inform investment choice to prospective investors. This implies that information disclosed should be correct and timely with respect to business strategy, financial performance and corporate governance of a firm. The disclosure of relevant information in connection to market position and credit management of bank is very significant. In practice, risk disclosure often fails to meet expectations, as demonstrated by repeated bank failures. The recent tumult relating to credits and markets risk in Nigerian banks has drawn attention to the risk disclosure function since the number and extent of banks exposures to risk have increased significantly.

Objectives of the study.

The broad objective of this study is to examine the effect of credit and market risk disclosure on the performance of deposit money banks in Nigeria.

The specific objectives of the study are:

1. To examine whether credit risk management affect return on capital employed of deposit money banks in Nigeria.
2. To examine whether market risk management affect return of capital employed of deposit money banks in Nigeria.

THEORETICAL FRAMEWORK AND LITERATURE REVIEW.

Theoretical framework.

Contingency planning theory, (Joan Woodward, 1956).

The theory was propounded by Joan Woodward in 1956. The theory of contingency planning is a crucial element of risk management. It is most time refers to business continuity planning approach. The theory

is based on the ground that since all risks cannot be totally eliminated in practice, residual risks always remain therefore they should be provision in case of exigency to salvage unexpected event. However, in most cases, combinations of adverse events and vulnerabilities may conspire to bypass or overwhelm even the best information security controls designed to ensure confidentiality, integrity and availability of information assets (Hisnson and Kowalski, 2008). In this study contingency planning theory is seen as the summation of events, controls, processes, plans etc. connecting to major occurrences and adversities. In all sense, contingency planning theory involves preparing for the unexpected and planning for the unknown. It involves the act of preparing for major incidents and disasters, formulating flexible plans and arranging suitable resources that will come into play in the event, whatever actually eventuates.

Stakeholder's theory, Freeman (1984).

According to the proponent, stakeholder involve group or individual who can affect or is affected by the achievement of the organization's objectives. From this perspective, the stakeholders of a bank in this study are investors, regulators, the general public and other stakeholders that are in any way, effected by a bank's operations. A stakeholder-based perspective of value is important because manager focus attention on things that lead to higher performance based on what actually measured (Sachs & Riihli, 2011). They exist social contract that bank and the environment have to fulfil so as to ensure compliance with the value systems of the society. While the stakeholders' theory offers an explanation of obligation to stakeholders and presents the duties and the responsibilities that the company has toward the stakeholders. Deegan (2010) maintained that the important of stakeholder theory is the mechanism to control the managers through disclosure of information. The bank must disclose all the information about its economic, environmental and social issues to enable those affected by the activity evaluate their performance. Risk disclosure also enables stakeholders to manage their risk positions (Linsley & Shrivess, 2005). Since bank risk disclosure practices could savage economy misfortune of a nation, this imply that stakeholder group could also be directly affected by the outcome of non-disclosure.

Conceptual framework.



Risk disclosure

Disclosure of financial activities of banks is an important aspect of the regulatory control to strengthen the industry, this has disregarded the assumption that banks are owned by certain individuals not the public. Disclosure per se, provide an opportunity for investors and parties in business to evaluate the risks and return of their investment and also to appreciate the height at which the business has reach in spite several challenges. However, to avoid future argument and doubt on its future existences, banking sectors

have been encouraged to expose their information. Given this assumption, Berthelot et al. (2003) argue that environmental disclosure is the set of information items that relate to a firm's past, current and future environmental management activities and performances and information about the past, current and future financial implications resulting from a firm's environmental management decisions or actions. Ibrahim, Ismail and Zabara (2011) noted that the Malaysian financial reporting standard lay down basis for the presentation and disclosure of financial statements of Islamic financial institutions in order to ensure comparability of financial statements with those in previous periods and with those of other Islamic financial institutions. Several studies have identified relationship between risk disclosure and performance such as Nier and Baumann (2003). This disclosure is often connected with risk and performance, as increase in disclosure increase trading and enhance overall risk return trade off. Healy and Palepu (1993) observed that mandatory disclosure play an important role in influencing the manager's tendency to disclose risk-related information and also restrict the communication link with outside investors. Solomon, Solomon, Norton and Joseph (2000), maintain that company should decide on the type of risk information for disclosure purposes regardless of whether the information is mandatory or voluntary.

Credit Risk

Credit risk plays an important role on banks' profitability since a large chunk of banks' revenue accrues from loans from which interest is derived. It arises from transaction where a bank borrower fails to meet its obligation with respect to the agreed terms and conditions specified in the loan. The Basel Committee on Banking Supervision (2001) defined credit risk as the possibility of losing the outstanding loan partially or totally, due to credit events (default risk). Chen and Pan (2012) see credit risk as the fluctuations in the value of debt instruments due to changes in the fundamental credit worth of borrowers and counterparties. Coyle (2000) also define credit risk as losses that occurs when credit customers is not financially capable or refuse deliberately to pay what is owed as specify by the terms of engagement. Credit risk is the exposure faced by banks when a borrower (customer) defaults in honouring debt obligations on due date or at maturity (Kolapo, Ayemi and Oke, 2012). Kaaya and Pastory (2013) further stressed that credit risk can be a function of other factors such as insufficient knowledge on financial risks and especially credit risk at institution level; lack of appropriate and effectively implantable credit policies, inadequate capital level and unstable liquidity status, laxity in credit assessment, and poor lending practices and procedures. Furthermore, Kithinji (2010), points out that government interference and inadequate supervision by the central bank and direct lending as other sources of credit risk. Credit Risk Management (CRM) has a systematic analysis of various forms of risks that could influence the repayment of loan given by the bank (Asha, 2015). The issue of effective credit risk management in banks has brought in focus due to global financial crisis, persisting credit risk gradually impacts liquidity and solvency of banks and may consequently lead to a total failure as default on loan repayment together with interest rate increase correspondingly. The objective of credit risk management is to reduce bank's risk-adjusted rate of return by keeping credit risk exposure within acceptable limitations. Banks need to manage the credit risk inherent in the entire portfolio as well as the risk in individual credits or transactions. 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 organisation. Ravi (2012) maintained that credit risk management processes enforce the banks to establish a clear process in for approving new credit as well as for the extension to existing credit. In their study, Kolapo, Ayeni and Oko (2012) measured credit risk

as function of the ratio of non-performing loan to loan & Advances (NPLA) and ratio of Total loan & Advances to Total deposit (LA/TD) used as indicators of credit risk. The study shall therefore adopt this formula given that significant items used in determining credit worthiness of bank were used.

Credit Risk = NPLA
NPLA = Non performing loan and advances
TLA = Total loan and Advances

Market Risk

Banks and financial institutions are undergoing a sea change and today face an environment marked by growing consolidation, rising customer expectations with respect to its commodities, increasing regulatory requirements, proliferating financial engineering, credit spread and equity deficiency. Generally, market risks are external factors that affect the banks and these factors also have some negative effect on the overall economy of a country (Aruwa & Musa, 2014). Market risk is complex and could cause very simple losses within a short time among unpredictable market situations hence support to fall among institutions in strict situations. The Basel Committee on bank supervision (2006) define market risk as risk of loss resulting from movements in market prices. Aykut (2016) sees market risk as the risk of damages in liquid asset resulting from the changes in market prices of commodities which include interest rate, currency, equity risks. This risk has contributed recently in the growing number of banks failures and has resulted to regulators and banks demanding greater insight to control, measure, evaluate and manage it processes adequately. Jane, Willy and Kennedy (2016) summarised that market risks could result to substantial losses very rapidly in unpredictable market situations and complete collapse of several institutions. Worzala (1995) observed that market risk could also be where banks accept financial instruments open to market price unpredictability as collateral for loans. Koch and MacDonald (2014) in their study maintained that market risk can be commonly classified into three lesser risks of stock price risk, interest rate risk and foreign exchange risk. However, given the need to address critical market risk facing banks in Nigeria, the study adopts Jane, Willy and Kennedy (2016) approach of measuring market risk. These authors measure market risk using net interest margin (NIM) as proxied of interest rate risk exposure.

Market risk = NIM

Where NIM = Net interest margin

Relationship between disclosure and risk management

Banks as a corporate institution highly regulated for the achievement of economic sustainability has a duty to completely manage activities of its operations so as to guarantee adequate investment opportunity. This is because disclosure provide more assurance to investors and could also increase their confidence on firm performance especially when related to financial. As legislating requirement, disclosure tend to retain existing investors and attract potential ones through the disclosure of their financial statements that will attract the attention of the general public and enhance their performance at the stock market. Disclosure and transparency principles demand that companies report their financial facts which can affect the judgment of the users (Kieso, Weygandt & Warfield, 2004). Asymmetric of information between investors and lenders will decrease simultaneously if relevant information is disclosed by manager (Verrecchia,

1999). Asymmetric information occurs because management has more information and more authority to choose accounting procedures (Milne, 2002). Disclosure is expected to improve the effectiveness of communication between companies and their stakeholders (Archambault & Archambault, 2003). Leuz and Wysocki (2008) maintained that disclosure can have first-order effects on agency problems and investment efficiency. The impression here is centred on the fact that disclosure of information accelerates monitoring of managerial decision making and reduces the livelihood of tracking pet projects. In his study, Jorion (2002) opines that banks' future level of volatility in portfolio trading can be managed through appropriate disclosure of Value-at-Risk is measured.

Akomeah, Kong, Hu and Afriyie (2017) see risk management to “include several related actions involving risk: planning, assessment (identification and analysis), handling, and monitoring”. They suggest that “risk planning is a process of developing and documenting the strategy and methods for identifying and tracking risk issues, developing risk handling plans, performing continuous risk analysis to know how risks have changed, and assigning adequate resources. Risk management is not often very easy in practice, as repeatedly demonstrated by business enterprise. Risk management talks about risk across a different level of an organisation, including strategy and tactics, covering both opportunities and threats (Hillson, 2006). Landier, Sraer, and Thesmar (2009) maintain that the best risk management structure does not safeguard firms from consequences of risk. The growing concern in risk management is due largely to concurrent secular trend in the global economic. The recent clamour in exposure to credits and financial markets risk has drawn attention to the risk management function. Consequently, risk management has failed to play its roles in the period that led to the current crisis (Missal and Richman, 2008). Hillson and Murray-Webster (2011) argue that the most significant critical success factor for ERM is ‘an appropriate and mature risk culture. Risk management is not a new concept, they have been in existence for a long time. They often include; reduction technique through safety, insurance, quality control, hazard education and insurance (Doherty, 2000). However, changes in global economic and most importantly the recent bank crisis has given risk management a new attention. As part of business strategy, banks need to accept and be willing to effectively incorporate risk management at all stages of management process from strategy to success. Risk management is an important tool for managing uncertainty connected with business. Business enterprises have always practiced some forms of risk management, implicitly or explicitly (Meulbroek, 2002).

Empirical Review

The concept of risk is not new in business, it has been in existence as old as business transaction. Management negligent in handling risk has resulted too many business failures. The management approach has stock a strong argument among scholar in recent time. Ferguson, Lam and Lee (2002) examined the impact of international capital market pressures on voluntary disclosure of former state-owned enterprises in China listed at the stock exchange of Hong Kong. Their findings showed that overall disclosure scores are highly variable ranging from 0.03 to 0.44. Disclosure by type of information varies considerably. Fathyyah and Lee (2015) used content analysis method to investigate the relationship of between corporate risk disclosure and corporate sustainability of companies in Malaysia. The study covered 80 public listed companies using simple random sampling technique. The result indicates that there is a significant positive result to show the corporate risk management creates sustainability of a

companies. Mohammad (2015) examined the relationship between banking risk and banks' performance using a set of panel data concerning banks in a developing economy (Pakistan) and a developed economy (the USA). Performance was measured using return on assets while capital adequacy ratio, bank size, liquidity risk, leverage and management quality was used in place of risk management. The study used panel data obtained from banks in Pakistan (LDC) and USA for the period 2004 to 2014, were analysed using descriptive statistics and pooled linear regression models. The results showed that banking risk management had positive impact on banks' performance. Kolapo, Ayeni and Oke (2012) panel regression analysis to study credit risk and commercial banks performance in Nigeria between 2000-2010. The results showed that the effect of credit risk on bank performance measured by the Return on Assets of banks is cross-sectional invariant. That is the effect is similar across banks in Nigeria, though the degree to which individual banks are affected is not captured by the method of analysis employed in the study. Harcourt (2017) investigates the impact of credit risk management on the performance of deposit money banks in Nigeria using the over parameterised and parsimonious ECM and Granger causality. Findings demonstrate that the selected credit risk management. Performance of banks was measured as return on assets (ROA) and return on equity (ROE). The results found evidence of significant granger causality relationship between the various credit risk management indicators and the various measures of performance. Yimka, Abimbola and Olusegun (2015) employed multiple regression tools based on the E-views software to examine the impact of credit risk management on financial performance in Nigeria. The study used loan loss provisions, total loans and non-performing loans as measures of credit risk, while return on equity was used as indicator for financial performance. The results of the study discovered that the measures of credit risk management adopted had significant effect on financial performance. Muriith, Muturi and Waweru (2016) used panel data techniques of random effects, fixed effects estimation and generalized method of moments to assess the effect of market risk on financial performance of commercial banks in Kenya. Market risk was measured by degree of financial leverage, interest rate risk and foreign exchange exposure while financial performance was measured by return on equity. The results showed that financial leverage, interest rate and foreign exchange exposure have negative and significant effect on bank profitability. Wachiaya (2011) conducted a survey to categorize the market risk management techniques used by commercial banks in Kenya and their fitness in moderating financial loss. The study adopted census survey research design. The result found that the main techniques used were Scenario analysis and Stress Testing to a very large extent. The major finding was that limits ensured management of risk exposure within the bank's risk appetite. Diby, Dilesha, Pierre Ning (2019) employed pooled ordinary least square model to examines effect of market risk on the financial performance of 31 non-financial companies. The study used degree of financial leverage, the book-to-market ratio, and gearing ratio as the indicators of market risk. It was found that different measures of market risk have substantial negative effects on the companies' financial performance.

RESEARCH METHODOLOGY

The study adopts ex-post facto research design to examine the risk disclosure on performance of deposit money banks listed on the Nigeria stock exchange as well as impact subsisting between variables in the hypotheses. The choice of ex-post facto was informed by the fact that the dependent and independent variables of the study do not provide opportunity to be manipulated as such variables had already taken

place, therefore the research was conducted after the fact. Most risks are reported qualitatively (non-financial) in the annual reports of the respective banks so as to provide support to the financial report communicated to stakeholders. Hence, World Bank disclosure index was used in measuring the respective risk. To show the effect of risk management disclosure on performance of deposit money banks in Nigeria, the sample size consists of fourteen (14) banks quoted and trading consistently on the Nigerian stock exchange, covering 2017 to 2021 financial year. Examining a total of 14 banks listed over a five (5) year period, yielded a sample of 70 in total. These banks are considered for the study in that they maintained minimum cash reserve of ₦25billion with the Central bank of Nigeria (CBN) and are registered to operate in accordance with relevant Act of Banks and other Financial Institution Act. The banks disclosure items were considered to comply with the Basel committee on banking supervision (2011) and the World Bank disclosure index. The study covered five years consolidated financial statement of these banks, after the adoption of international financial reporting standard (IFRS) in 2012. This is to ensure that they are consistency and uniformity in financial reporting amongst the study banks. The study population is shown in the table below;

Table1 List of quoted deposit money banks in Nigeria.

S/N	Names of Bank	Year of incorporation	Year of listing
1	Access Bank Plc	1989	1998
2	Diamond Bank Plc	1990	2005
3	First City Monument Bank Plc	1982	2004
4	Guaranty trust Bank Plc	1990	1996
5	Union Bank of Nigeria Plc	1969	1971
6	Fidelity Bank Plc	1987	2005
7	Zenith Bank Plc	1990	2005
8	First Bank of Nigeria Plc	1894	1971
9	Stambic IBTC Bank Plc	1989	2005
10	Sterling Bank Plc	1960	1992
11	Unity Bank Plc	1988	2010
12	Wema Banl Plc	1987	1990
13	ECO Bank	1985	2005
14	Polaris Bank	1989	2006

Source: Nigeria stock Exchange (NSE) Fact book, 2021.

Model Specification

As shown in this study, banks performance generally is a reflection of efficiency in risk management. This is because the existence of risk such as credit risk and market risk are quite dangerous to banks existence and could restrict the achievement of its successes, but when measures are taken to manage this risk, they may provide reliance to investors and others institutions or stakeholders. The dependent variable in the regression equation is return on capital employed (ROCE) as measure of company performance. The independent variables constitute credit risk disclosure and market risk disclosure.

Thus, the model is specified as follows:

$$PERF = f[CRDR, MKTR] \dots\dots\dots (1)$$

$$PERF_{it} = \beta_0 + \beta_1 CRDR_{it} + \beta_2 MKTR_{it} + \mu_{it} \dots\dots\dots (2)$$

Where:

PER = performance (proxied by ROCE)

ROCE = Return on capital employed

MKTR= Market risk proxied with net interest margin (NIM)

CRDR = Credit risk proxied with non-performing loans (NPLA)

μ_t = error term

it = Firm i in year t

β_0 = Constant

β_1, β_2 & β_3 = regression coefficient.

Techniques of data analysis

The study data has both cross-sectional and time series attributes. To estimate the model therefore, the researcher employed the Panel Least Squares regression technique. Panel least square regression analysis entails estimating for both the fixed effects and random effects. When dealing with firms drawn from a population as is the case with this study, the assumption of random effect model has greater appeal. The Hausman test identifies whether the fixed effects estimation would be almost as good as random effects and enables a choice between a fixed or random effects specification. It involves two sets of estimates, one of which is consistent under both the null and alternative hypothesis, and another that is consistent only under the null are employed. The Hausman test is a test of H_0 : that random effects would be consistent and efficient, versus H_1 : that random effects would be inconsistent. Thus, the null hypothesis stipulates that the preferred model is the random effect if the Hausman test statistic exceeds the relevant critical value (p-value is greater than 0.05). Finally, the outcome of the Lagrange Multiplier Tests for Random Effects that is a test of no random effect determines the choice best model between pooled OLS and random effect. If the Breusch-Pagan Lagrange Multiplier test is less than 0.05, reject the null hypothesis of random effect is inefficient.

RESULT PRESENTATION, INTERPRETATION AND DISCUSSION OF FINDINGS

Summary statistics for the data set

Table 2

Correlation Between liquidity risk Dimensions and Return on capital employed

	ROCE	NPLA	NIM
Mean	4.04	12.19	0.06
Median	2.60	4.45	0.05
Maximum	93.3	236.36	0.59
Minimum	-337.24	0.000	0.03
SD	37.08	23.99	0.05
Skewness	-5.50	5.88	9.06
Kurtosis	48.45	49.15	93.49
Jarque-Bera Stat	14943.42	15502.65	58201.74
Prob. of J-B stat	0.000	0.000	0.000
Sum	662.45	1999.7	9.25
Sum Sq. Dev	224086.4	93828.48	0.29
Obs.	165	164	165

Researcher's compilation 2021 from E-view10

Summary statistics for the response variable presented in Table 4.2 shows that the mean of firm performance (ROCE) is 4.04, which is very far from both the maximum and minimum values of 93.3 and -337.24. This suggests a great disparity in the average performance of the firm under study. For the explanatory variables, the mean of NPLA is 12.19, which is very far from the maximum value of 236.36. The high standard deviation implies that magnitude of non-performance loans and advances varies widely among the firms in the study. The mean of net interest margin (NIM) is 0.06 and very similar to the median and minimum. The standard deviation is low indicating similarity in the effect of this variable. The plausible reason is that changes in interest rates have similar impact on the firms under study. The difference in impact is closely associated with the volume of loans as advances and deposits. The Jarque-Bera statistic reveals all the variables in the estimated model are not normally distributed.

Table 3 Correlation result

	ROCE	NPLA	NIM
ROCE	1		
NPLA	-0.285**	1	
	0.000		
NETINTM	-0.202**	0.051	1
	0.009	0.514	

Researcher's compilation 2021 from SPSS Statistic 24 **Significant at 0.01 (two-tailed)

Table 3 shows that profitability of firms has negative and significant correlation with non-performing loans and advances (NPLA) and net interest margin (NIM). This result implies that non-performing loans and advances, and NIM move in different direction. In fact, the higher the NPLA, the lower the profitability of the firms. Similarly, the higher the interest rate especially cost of funds (borrowing rate), the lower the profit deposit money banks (DMBs).

Results and Tests of Hypotheses

Table 4: Estimation Result for the model

Variable	Pooled OLS	Fixed Effects*	Random Effects**
C	8.70 (0.79) {0.432}	3.54 (0.31) {0.757}	6.30 (0.55) {0.581}
NPLA	-0.42 (-3.68)† {0.000}	-0.35 (-2.88) {0.005}	-0.391 (-3.36) † {0.001}
NIM	-146.80 (-2.60)‡ {0.010}	-93.92 (-1.53) {0.127}	-124.53 (-2.17) ‡ {0.030}
R ²	0.120	0.118	0.120
ADJ R ²	0.104	-	-

Source: Researcher's compilation, 2021 from Stata 14. *t-test, **z-test; t/z values in (), p-values in {}; †sig at 1%, ‡sig at 5%

Table 5: Post-Estimation Result for the model

Variable	Pooled OLS	Fixed Effects	Random Effects
F-Stat 1(2)	7.30	3.74 (2.01)	-
Prob. F-Stat 1(2)	0.0001†	0.013 (0.031) ‡	-
Wald Chi 1(3)			16.91
(Prob.)			(0.0007)
Hausman Test			2.59
(Prob.)			(0.459)
Bruesch-Pagan LM:			
-Cross-section			0.21(0.650)
-Time			3.33(0.07)
-Both			3.54(0.06)

Source: Researcher's compilation, 2021 from Stata 14, t/z values in (), p-values in {}; †sig at 1%, ‡sig at 5%

Table 4 depicts the Panel least square regression result for both the fixed effects and random effects. When working with data from firms drawn from a population, it is customary to assume the presence of fixed effects. However, it is important to test whether the fixed effects estimation would be almost as efficient as random effects. In Table 5, the Wald chi-square result ($\chi = 16.91$, $p = 0.0007$) show that the variables can be estimated using the random effects regression model while the Hausman tests results (2.59, $p = 0.459$) show that between the fixed effects and random effects results, the random effect result is more efficient and consistent with the assumptions of the null hypothesis. Furthermore, the researcher carried out the Lagrange Multipliers (LM) test to ascertain the choice of the preferred model between the random effects and the pooled ordinary least square results. The Bruesch-Pagan LM ratio shows that the random effect is still the preferred model for interpretation as the test statistic is not significant at 5 percent.

Test of hypotheses

The hypotheses of the study are tested using the random effects estimation result in Table 4.3a. The Wald chi-square, Hausman test and Bruesch-Pagan LM test all support the primacy of the random effects for the estimation of the study model.

Hypothesis 1

There is no significant relationship between Credit risk disclosure as measured by non-performing loans and advances, and performance of deposit money banks in Nigeria.

The basis of the test of this hypothesis is the coefficient of the non-performing loans and advances (NPLA) in Table 4.3a. The coefficient the variable is -0.391 and the z-statistic is -3.36 with probability of 0.001. This is less than the probability of 0.01, implying that the coefficient passed the significance test at the 1 percent level. Consequently, the study rejects the null hypothesis implying that credit risk has significant effect performance of deposit money banks in Nigeria as measured by return on capital employed.

Hypothesis 2

There is no significant relationship between market risk disclosure as measured by net interest margin and performance of deposit money banks in Nigeria

The study tested this hypothesis using the coefficient of net interest margin (NIM) that is -124.53 and z-stat is -2.17 with probability of 0.030. This is less than 5 percent critical value, and it implies that the

coefficient passed the significance test at 5 percent level. Thus, the study rejects the null hypothesis. The result indicates that market risk has significant but negative relationship with performance of deposit money banks in Nigeria as measured by return on capital employed.

DISCUSSION OF FINDINGS

Credit risk disclosure and performance of deposit money banks

From estimated result in table 4, the test of this hypothesis is positive and significant at less than 1 percent level. This result shows that credit risk disclosure has a significant and negative relationship with performance of deposit money banks in Nigeria in line with the study's theoretical expectations. Indeed, the higher the level of non-performing loans and advances, the higher the credit risk. Provisioning for loan losses reduce the level of profitability of DMBs and hence return on capital. The findings agree with the conclusions of Ramazan and Gulden (2019) whose study result reveals a negative relationship between credit risk and performance of banks in Turkey, but inconsistent with the findings of Kolapo et al (2012) who finds that credit risk is cross sectional invariant to performance.

Market risk disclosure and performance of deposit money banks

The result of the test of this hypothesis is negative and significant at 5 percent in line with the apriori expectation. In reality, if the rate of change in borrowing cost is higher than the rate of change in lending, it will have negative impact on profitability of DMBs. The result affirmed the findings of Jane et al (2016) whose findings showed that interest rate and foreign exchange exposure have negative and significant relationship with bank profitability. However, this study's finding is at variance with the conclusions of Aykut (2016) finds that interest rate does not significantly affect banking sector profitability.

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

The study was undertaken to assess the effect of risk disclosure on the performance of deposit money banks in Nigeria. Banking sector is a critical segment of the financial sector in the whole world; they facilitate and make resources available to expand the scope of other sectors in the economy, which have the direct potential to increasing efficient growth.

First, the results show that amongst the risk the banking sector exposed to, market risk and credit risk are most pervasive. The result of non-performing loans and advances as a measure of credit risk reveals that a negative relationship exist between NPLA and performance of deposit money banks. This indicate that when bank borrow much to its customers, the likelihood of default increases and the higher the propensity of default, the greater the amount of provisioning for non-performing loans. Higher provisions imply lower profits and hence return on capital employed.

The study also reveals that market risk has a negative and significant relationship with performance of deposit money banks. Market risk has significant effect on deposit money banks. If borrowing cost is high and DMBs are unable to transfer a commensurate proportion to customers, it will reduce the margin available to the DMBs.

CONCLUSION

The importance of the banking sector cannot be overemphasized given their roles and contributions in expanding the economy of any nation. The sector is critical because they drive credit creation that facilitate commercial transactions thus, ensuring consistent growth of the economic.

The study results show that credit risk and market risk have significant effect on return on capital employed (ROCE) of deposit money banks in Nigeria. Generally, risks can have grave consequences on all performance indicators if not properly managed. To guard against the probable risk of poor return and cash flow volatility, it is important for banks to put in place financial risk management strategies and qualitative approach that will minimize credit and market risk in the banking sector.

Recommendations

Following the discussions above, the study therefore makes the following recommendations,

1. Deposit Money Banks should continue to implement risk management strategies to enhance their resilience to credit risks.
2. Deposit Money Banks in Nigeria should constantly monitor borrowing and lending rates to ensure that cost of borrowing do not rise to the detriment of lending rate.

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