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RISK CONTROL AND FINANCIAL PERFORMANCE OF DEPOSIT MONEY BANKS IN NIGERIA

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Abstract

Optimal risk management strategy is vital for the reduction of threats that may hinder business performance. This investigation was conducted to study the influence of risk control on financial performance of deposit money banks quoted on the Nigeria Exchange. The study adopted the ex-post facto research design while the population of the study comprised of all quoted deposit money banks on the Nigerian Exchange from 1st Jan.2009 to 31st Dec.2020. The sample size of 8 banks was selected randomly by adopting the Yamane formula. Secondary data was extracted from the financial statements of the sampled banks covering the period of 10 years, 2009 to 2018. The study found that liquidity risks and credit positively significantly impact the financial performance of deposit money banks in Nigeria. Whereas, asset turnover ratio asserts an insignificant negative effect on the performance of banks in Nigeria. Additionally, Non-performing loan ratio significantly negatively impacted performance of deposit money banks in Nigeria. Based on these findings, the study recommends that, Nigerian deposit money banks should step up their liquidity and credit risks for optimum performance while trying to utilize the available resources for maximum revenue generation. More so, deposit money banks should monitor its non-performing loan ratio for optimum performance.

Keywords: *credit risk, financial performance, legal and regulatory risk, liquidity risks and non-performing loan.*

1. Introduction

The globe has witnessed one of the most dramatic financial disasters in the last decade (Badawi, 2017). The repercussions of which was widespread, affecting practically every area of global business; including the financial sector and specifically the banking sector. The impact of this crisis on the sector not only saw the sudden departure of well-known institutions such as Lehman Brothers and Bear Stearns, but also frequent stringent restrictions, general public outrage, and empirical criticism (Nocera, 2009; Valencia, 2010). The causes of the current financial crisis can be explained in a variety of ways. Risk management discourse is one aspect that has gotten a lot of attention throughout this crisis. Risk control appears to have become an important strategy for banks to gain credibility in the eyes of the public and authorities. Risk has a long history, with some claiming that it has existed since antiquity. Risk also tainted a universal definition because each author's attempt used a distinct approach. Gallati (2003) posits that, risk is a condition that exposes a person to adversity or situation, which has inherent chance of an outcome different from expectation or desire. It alludes to exposure to danger or uncertainty (Kannan & Thangavel, 2008).

The possibility of failure or loss linked with a specific cause of action is known as risk (French & Saward, 2000). It is the statistical expected value of unfavorable occurrences that may or may not occur. Hence, risks can be defined as the adverse influence of copious bases of uncertainty on profitability. Further, criteria such as size, complexity of business activities, and volume of operations determines the risk exposure of a business, banks are prone to peculiar risks, which includes; market, credit, liquidity, market, operational, compliance, legal, regulatory frameworks, and reputational risks among others. The threat or potential that an action or occurrence will have a positive impact on an organization's capacity to fulfill its goals is known as risk (Higher education funding council, 2001). Control of risks entails the process of anticipating probable risks, evaluating the risks and taking precautionary measures to mitigate the risk. Risk control (RC) is aimed at detection what of risks, assessment of risks and instating measures and control to identified risks.

RC is essentially relevant to the financial sector than other sectors. Banking and other financial institutions are open to and accept the risk of uncertainty, as well as provide guidance on how to deal with divergent viewpoints, which has become the bedrock of risk management Carey (2001). The key to effective risk management, according to Pandey (2004), is not to eliminate the various inherent risks. Bank lending operations, for example, carry the risk of likely loan losses (credit risk), which when taken results in premium and an increase in profits. Hence, risks are sources of profit to banks. Risk control, according to Ozturk and Aktan (2007), managers meet risks demands by classifying significant risks, acquiring reliable operational risk procedures, deciding what risks to reduce, enhance and how, and implementing methods of monitoring the risk.

Identification of risks prepares businesses to effectively deal with it. Banking, by its very nature, is a high-risk business. Banks keep money safe and lend it out, as well as provide credit and lending services through debit cards, debit notes, discounting bills among others. Insurance and investment products that may be offered by banks (Kamleitner, et al., 2011). Through the financial intermediary function and the spread, the breadth and coverage of banking activities were deemed appropriate for the proper implementation of monetary policy and the anticipated reform. The capability and ability of an organization to achieve its goals is reflected in its performance (Eccles, 1991).

Performance is the process of aligning individual employee goals with organizational goals in order to achieve a common goal that leads to increased productivity and growth. The overall goal of evaluating performance is hedged on enhancing high-performance culture that encourage individuals and teams to take responsibility for the unceasing upgrade of business processes and the abilities to contribute to meeting management's needs.

Financial performance (FP), on the other hand, is a monetary measure of the outcomes of a company's policies and operations. These outcomes mostly reflected on return on assets (ROA), return on investment (ROI), shareholders fund, profitability, and its components. The measure of how effective a firm utilizes assets bought for its principal method of operation to earn income is referred to as financial performance. FP is also a general yardstick for the evaluation of a firm's overall financial health and it is used in comparing similar companies within the same industry. Although the Nigerian banking sector has been undergoing ongoing reform since 1999, the first

major exercise was the assessment of risk asset quality of banks, which resulted in the resignation of eight CEOs and the infusion of N600 billion into the banking system (BGL 2010). However, while the monetary bailout provided banks with fresh capital and cash, it must strengthen its resolve in order to succeed in the future, and one way out is to establish a sound risk management framework. Due to the fact that many banks have not been able to build a clear risk management framework, notably for credit risk, liquidity risk, operational risk, legal and other regulatory risks, the financial system in Nigeria is still in its infancy and is undergoing a series of reforms.

Several empirical studies have been published that look at the influence of risk on financial performance around the world. However, only a few studies have looked at the impact of bank risk on financial performance, using liquidity risk, credit risk, operational risks, as well as legal and regulatory risk, to determine bank financial performance in general and in Nigeria in particular. Furthermore, the majority of investigations were completed prior to 2016 (Marshall & Onyekachi, 2014; Rajesh et al., 2015; Rajkumar & Hanitha, 2015; Ogboi&Unuafé, 2013; Yimka et al., 2014). Recent events are likely to have overshadowed the conclusions of these investigations. On the other hand, this research spans a ten-year period, from 2009 to 2018, in order to evaluate recent developments on the effect of risk on the financial performance of quoted Nigerian deposit money institutions.

Furthermore, previous studies that looked into the effect of risk management on banks' performance yielded inconsistent results. Credit risk management, for example, was found to negatively influence deposit money bank's profitability by researchers (Epure & Lafuente, 2015; Kithinji, 2010), Credit risk on the other hand has a favorable association with bank performance, according to Kuforiji (2008); Kolapo et al. (2012). Several other studies have also confirmed that credit risk management can help banks increase profits. Credit risk, liquidity risk, and capital risk are major elements that influence bank's performance (Kargi, 2011; Felix & Claudine, 2008; Al-Khouri, 2011). In light of these, this study aimed at examining the impact of risk control on the financial performance of listed Nigerian deposit money banks.

2. Literature Review

This section covers relevant concepts regarding the study, empirical studies relating to the study as well as theoretical underpinnings of the study. The theoretical definition of risk control in banks is the creation and execution of plan to mitigate against prospective losses (Felix & Claudine, 2008). The risk management function ensures that effective methods are instituted to recognize present and prospective risks, develop risk assessment and management systems and establish policies and practices, for risk control mechanisms while developing risk tolerance limits (Martin, 2014). Risk control in the banking business entails identifying, assessing, and prioritizing risks, as well as the coordinated and effective use of all means to check, reduce and control the effect of adverse events (Stephen et al., 2017). Risks faced by banks (liquidity risks, credit risks, operational risks, and legal and regulatory risks) were all examined in this study.

The inability of a corporation or bank being to honor its short-term financial obligations is known as liquidity risk. It is the possibility of a firm losing money due to its failure to meet obligations on time or fund asset growth without incurring unacceptable costs, it can also be seen as a bank's capacity to convert assets into cash in a timely and cost-effective manner in order to meet its obligations (Badawi, 2017). In this study, liquidity risk is proxy by the liquidity asset

ratio and calculated as; net income divided by total assets. While regulatory risk arises due to modifications in laws and regulations that can significantly affect security, business or market, it is the consequence of changes in laws and regulations that can materially influence a security, business, sector, or market (McCormick, 2004).

The risk of being sanctioned by regulatory authorities for a bank's failure to meet the required injunctions as defined in the prudential rules is seen as legal and regulatory risk in this work. Total deposit to non-performing loan ratio is a proxy for legal and regulatory risk, and assessed as the ratio of a bank's loan divided by total deposit. The potential for loss because of a failure of operational processes is known as operational risk. It arises as a result of noncompliance with policies, regulations and laws, as well as fraud or errors (Njogo, 2012). It may also comprise of direct and indirect laws emanating from insufficient or failed internal processes, people, and systems or external environmental events. Technical hazards, such as the risk of ineffective operating and information technology infrastructure supporting the bank's operations, natural disasters and bank-related mishaps involving key management personnel are other instances (Badawi, 2017). This risk is proxy by asset turnover ratio and it is calculated as revenue divided by total assets.

Also referred to as default risk, credit risk is one of the oldest forms of risks. It is the most vital risk faced by banks while performing the financial intermediary function (Broll et al., 2002). Default risk is the possibility of loss resulting from a borrower's failure to honor its obligations based on agreed terms. Credit risks arises as a result of customers' failure to repay a bank loan, as well as the interest paid thereon, cumulating into losses that can erode the bank's capital. Every time a bank extends a credit facility, the bank is exposed to credit risk (Sanusi, 2010). In this study, credit risk is proxy by the loan ratio, which is measured as the ratio of a bank's loan to total assets.

Financial performance is defined by the business dictionary (2013) as a monetary evaluation of firm's operations and policies, as expressed in the firm's return on capital employed, return on assets and return on investment, value created among others. It is a subjective measure of a company's capacity to earn revenue from its key operational activities. Financial performance measurements such as profitability and liquidity, among others, provided a significant tool for stakeholders to evaluate a firm's historical financial performance and status (Erasmus, 2008). The phrase is frequently expressed as a broad assessment of a company's total financial health over time. According to Neely (2011), financial performance measures are primarily used for three goals. It acts as a financial management tool, a gauge of company's objectives, and a system for motivation and control inside an organization, among other things. Return on assets (ROA), return on equity (ROE), return on investment (ROI) return on capital employed (ROCE), and other indices are used in assessing financial performance in finance and financial accounting practice (Bagh et al., 2017; Shoukat& Nadeem, 2017).

Abubakar et al. (2019) used secondary data generated from the annual reports of 10 deposit money banks quoted on the Nigerian Exchange between the periods of 2010 to 2016 with the aim of investigating the impact of risk management on the performance of listed deposit money banks in Nigeria. The paper used descriptive statistics to describe the data and regression analysis as a data analysis approach. The total regulatory capital retains by banks in relation to

risk weighted assets, as defined by the capital adequacy ratio (CAR), was judged to be sufficient, and it was suggested that the apex bank in Nigeria, enact policies that would enforce regulatory risk so as to boost shareholder value.

Okere et al. (2018) explored the impact of risk management (RM) on the performance of banks in Nigeria via data extracted from the annual reports of 10 sample firms from a population of 15 financial services banks quoted on the Nigerian exchange. The data was analyzed using panel data regression analysis. The work demonstrated a positive association amid RM and banks' performance.

Wadesango et al. (2018) assessed the effectiveness of RM systems on financial performance of public sector enterprises. The study adopted the quantitative research method with a population of 65 persons and a sample size of 50 persons taken from the ministry's departments in the Harare region. Percentages and mode were used in analyzing the data and the results presented in tables, graphs, and charts utilizing primary data gathered by questionnaire. The study found that major problems include; among others, a lack of educated employees, which led to knowledge gap in establishing a formal system, the absence of an audit committee, a lack of administrative commitment and coordination affected the efficacy of the ministry's RMs system.

Tanveer et al. (2017) evaluated the underlying effect of RM strategies on the FP of a sample of Pakistan's publicly trade banks. The sample size comprised of 18 best-performing banks from 2004 to 2016. The data employed for the analysis were mined from the published audited financial results of the sampled firms. Using a quantitative research design, inferential design, descriptive statistics, and E-Views software it was revealed that RM techniques have a considerable influence on the FP Pakistani banks.

Further, Stephen et al. (2017) probed the impact of financial RM on commercial banks' FP in Kenya through a self-administered survey, which covered a period of five years (2008 to 2012). Using multiple regression analysis to analyze the study, it was found that majority of Kenyan bank maintained good financial risk management.

Similarly, Harelimana (2017) analyzed the importance of RM in Rwandan institutions' FP adopting Unguka Bank Ltd as a case study from 2012 to 2016. The information was gathered through a questionnaire that was distributed to 30 Unguka Bank Ltd employees. The results demonstrated that interest rate, operational risk, liquidity risk and credit risk are factors of risk management using both quantitative and qualitative methodologies. The researcher also discovered a substantial link between risk management and Unguka Bank Ltd.'s financial success.

Additionally, Ayodele and Alabi (2014) considered management of risk in the banking sector in Nigeria with the selection of First Bank of Nigeria PLC as a case study, due to its status as the oldest and largest bank out of the twenty-three (23) banks operating in Nigeria as at that time. The study administered questionnaires to members of staff to obtain primary data. To test the hypothesis, the researcher employed percentages, chi-square, and Analysis of Variance (ANOVA) to evaluate the data. The findings indicated that credit risk and operational risk had a greater impact on Nigerian banking operations than market risk. Fraud and forgeries also have a

negative impact on banking operations. RM measures established by bank management, on the other hand, serve as a deterrent to the different dangers that Nigerian banks face.

On the other hand, Marshal and Onyekachi (2014) conducted an empirical examination on the impact of credit risk on bank performance in Nigeria over a period of 15 years, 1997 to 2011. Using a judgmental sampling procedure, five banking organizations chosen from Nigeria's twenty current deposit money banks. The study mined secondary data from the sampled companies' financial statements. The study discovered a favorable association between the ratio of non-performing loans to loans and advances and bank performance using panel data regression techniques.

Furthermore, Adeusi et al. (2014) found banking risk management difficulties to have a significant impact not just on bank performance but also on national economic growth and general company development. Secondary data were extracted from the annual reports of the sampled banks covering period of a four years to investigate the relationship between risk management techniques and bank financial performance in Nigeria. The results demonstrated a negative link between bank financial performance and question loans when panel data estimate was used, whereas capital asset ratio was shown to be favorably and significantly affecting performance.

Moreover, Funso et al (2012) empirically examined the quantitative influence of credit risk on the performance of commercial banks in Nigeria. Covering a period of 11 years, 2000 to 2010, the study selected five commercial banks on cross-sectional basis. In addition, the findings revealed that credit risk has an invariant effect on performance of banks, as measured by Return on Assets of banks.

The loanable funds theory underpinned this study, the financial intermediation function and the transaction cost theory. Loanable funds doctrine is an economics theory proposed by Swedish economist Knut Wicksell as a theory of market interest rate. According to him, the interest rate is determined by the demand and supply of loan funds, which is a precondition for the evaluation of credit requirements in an economy. In our current study, the interest rate is the risk premium that the borrower pays to obtain credit, which influences the demand for loanable funds (Gyntelberg, Johansson & Persson, 2007). Financial intermediation theory is a hybrid of information asymmetry theory and agency theory that focuses on fiscal policy rules such monetary policies, capital markets, and economic finance. The procedure of regulation, according to Gurley and Shaw (1960), might affect the liquidity and solvency of intermediaries. Rajan (2010) also stated that policies governing intermediary capital have an impact on the health, ability to refinance, and manner of debt collection used by businesses. The classic article *The Nature of the Firm* by Ronald Coase (1937) gave birth to transaction cost theory. Transaction costs, according to Coase (1960), include information acquisition and bargaining costs. Transaction costs, according to Furobotn, Richter, and Lozano (1997), include the expenses of drafting contracts, signing contracts, and monitoring and enforcing contracts. He noticed that market prices regulate connections between firms, but that decisions within a firm are determined based on profit maximization. Financial intermediaries and financial institutions face transaction costs in financial exchange as a result of credit risk, which manifests itself in the

form of collateral requirements, uncertainty, investments in specific issues, and high costs associated with monitoring authorized credit facilities.

3. Methods and Techniques

This design of this research is ex-post facto research design as it attempts to discover the causality of inferences among the variables of the study. The paper population comprised of the 14 deposit money banks quoted on the Nigerian exchange as at 31st December 2018 while a sample of 8 deposit money banks were chosen based on availability of data and the aid of the Yamane(1967) formula. In order to examine the association amid bank risks and financial performance, the study extracted data from the financial statements of 8 banks listed on the Nigerian exchange for the period of 10 years, 2009 to 2018.

Table 1: Variable Measurement

Variable	Variable name	Variable measurement	Source
Dependent	Return on Assets (ROA)	Net Income/total Assets	Olalekan and Adeyinka (2013)
Independent	Liquidity Asset Ratio (LAR)	Ratio of Total Liquidity/ Deposit Ratio	Dang (2011)
Independent	Asset Turnover Ratio (ATR)	Revenue/ Total Assets	Okwuosa (2005),
Independent	Loan Ratio (LR)	Ratio of banks' Loan/ Total Assets	Khemraj and Pasha (2009)
Independent	Non-performing Loans Ratio (NPL)	Ratio of Banks Loan/ Total Deposit	Olalekan and Adeyinka (2013)

Source: Authors' compilation, 2021

Model of the study

To analyze the study, linear regression techniques expressed as follows was adopted:

$$ROA = f(LAR, LR, ATR, NPL) \text{ ----- i}$$

$$ROA = \beta_0 + \beta_1LAR + \beta_2LR + \beta_3ATR + \beta_4NPL + e \text{ ----- ii}$$

Whereas:

ROA = Return on asset

LAR = Liquidity asset ratio

LR = Loan ratio

ATR = Asset turnover ratio

NPL = Non performing loan

β_0 = Constant (i.e. the intercept)

$\beta_0 - \beta_4$ = Regression model coefficient of the independent variables

e = Error term

4. Result and Discussion

Descriptive Statistics

Table 2 presents the descriptive statistics. It represents the calculated mean, the standard deviation, minimum and maximum of the data.

Table 2: Descriptive Statistics

	Minimum	Maximm	Mean	Std. Deviation
ROA	-0.095	0.411	0.018	0.050
LAR	0.022	1.000	0.337	0.235
LR	0.001	4.819	0.569	0.510
ATR	0.014	0.547	0.066	0.066
NPL	0.006	16.242	1.035	1.915

Source:STATA Output, 2021

The data set presents a total of 80 observations, on the average, deposit money banks' ROA which is the explanatory variable has a mean of 0.0184 with standard deviation of 0.0501 depicting 5.01% less variation in ROA of the sample Deposit money banks. The Liquidity asset ratio (LAR) has a mean of 0.3367, meaning that on the average, assets were not efficiently utilized in generating cash. On the other hand, loan ratio (LR) has a mean of 0.5693 with standard deviation of 0.5114. Indicating that deposit money banks were moderately geared within the period of study. Asset turnover ratio (ATR) has a mean of 0.0658 with standard deviation of 0.0655 meaning that banks during the period utilized their assets by 6.58% in generating turnover. Additionally, non-performing loan (NPL) with a mean value of 1.0353 with standard deviation of 1.9153 represent that deposit money banks on the average managed their non-performing loans effectively during the period.

Correlation Matrix

Table 3 presents the correlation matrix. It denotes the relationship between the dependent variable and the independent variables and the association among the variables themselves.

Table 3: Correlation Matrix

	ROA	LAR	LR	ATR	NPL
ROA	1				
LAR	0.069	1			
LR	0.834	-0.178	1		
ATR	0.638	-0.088	0.738	1	
NPL	-0.022	0.450	0.058	-0.052	1

Source:STATA Output, 2021

Table 3 presents the correlation result of the study. The table shows insignificant relationship between the dependent variable and the independent variables except for the loan ratio and asset turnover ratio, which depicts about 83% and 63%, which could be a signal to harmful multicollinearity. Additionally, the table revealed that an increase in loan asset ratio, loan ratio and asset turnover ratio would lead to an increase in the financial performance of deposit money banks in Nigeria.

4.2 Regression Result

The impact of independent variable on the dependent variable is succinctly presented by the regression result.

Table 4: Regression Results

Variable	Model (ROA)		
	Coefficient	T	P> t
ROA	-0.050	-8.140	0.001
LAR	0.071	5.300	0.001
LR	0.091	11.090	0.001
ATR	-0.230	-0.370	0.711
NPL	-0.006	-3.630	0.001
F	67.29		
Prob > F	0.001		
R ²	0.782		
Adj. R ²	0.771		

Source:STATA Output, 2021

Table 4 presents the OLS regression results of the model which consists of the explained variable (ROA) and explanatory variables (LAR, LR, ATR and NPL). The F-statistics, which gives a summary of the overall level of significance of the model, is 67.29 indicating that the model is fit and significant at with a p-value of 0.001. Further, the coefficient of determination by R² is 0.782 meaning that 78.2% of the change in dependent variable (ROA) was caused by changes in independent variables (LAR, LR, ATR and NPL). The impact of LAR on ROA is positively significant with coefficient value of 0.071 and p value (0.001), portraying that a unit increase in LAR while other variable remains constant lead to an increase in ROA by 7.1%. Also, the results revealed that the independent variable LR impacted significantly positively on dependent variable ROA with coefficient value of 0.091 (p-value 0.001), denoting that a unit rise in LR will lead to a rise in ROA by 9.1%. On the other hand, the effect of ATR on ROA is insignificantly negative with coefficient value of -0.230, p- value (0.711), implying that while ATR is increasing, ROA will decrease by 23%. More so, NPL has a negative significant impact on ROA with a coefficient value of 0.006, p- value (0.001), signifying that a rise in the NPL will lead to a decline in ROA by 6%.

4.3 Test of Hypotheses

The t- value of LAR (5.300), p value (0.001) is less than 0.05, therefore, the null hypothesis, which states that Liquidity risk does not have significant impact on financial performance of listed deposit money banks in Nigeria, is hereby rejected. Additionally, t- value of LR is 11.090 with p value of 0.001 which is less than 0.05, indicating that the null hypothesis which states that credit risk does not have significant impact on FP of listed deposit money banks in Nigeria must be rejected.

The t- value of ATR is -0.370 with p value of 0.711 which is greater than 0.05. Therefore, the null hypothesis, which states that operational risk does not have significant impact on financial performance of listed deposit money banks in Nigeria, is hereby accepted. The t- value of NPL is -3.630 with p value of 0.001, which is less than 0.05. Therefore, the null hypothesis that states that legal and regulatory risk does not have significant impact on financial performance of listed deposit money banks in Nigeria is rejected.

5. Conclusions and Recommendation

The goal of this paper is to determine the impact of banks' risk on financial performance of listed deposit money banks in Nigeria. From the regression results, it concluded that deposit money banks should prioritize liquidity risk and credit risk as its increase will improve performance. In addition, banks are advised to improve on its ability to utilize available assets in generating revenue to increase performance and reduce operational risk. Additionally, minimize non-performing loan ratio (NPL), a proxy for legal and regulatory risk, as its increase will lower the efficiency of listed deposit money banks in Nigeria. Based on these conclusions, the study recommends that deposit money banks in Nigeria should step up the liquidity and credit risks of the firm for increase performance while trying to utilize the available resources for maximum revenue generation. More so, deposit money banks should monitor its non-performing loan ratio for optimum performance.

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