Financial Risk Management & Performance of Deposit Money Banks in Nigeria

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DOI: 10.56201/jafm.v10.no6.2024.pg186.198

Abstract

The study was conducted to investigate the influence of financial risk management on performance of Deposit money banks in Nigeria. Ex-post facto research design was adopted involving use of secondary data sourced from sixteen (16) deposit money banks financials, CBN & NDIC reports for the period 2015 to 2022 on credit risk, liquidity Risk, Capital adequacy risk banks non-performing loan risk and Return on Assets (ROA). Data were analyzing panel regression model analysis. Result shows that all the parameters of financial risk management had positive influence on ROA except for credit risk that had negative effect. Conclusively, it was discovered that financial risk management has influence on driving the performance of deposit money banks. A review of banks operating environmental risk evaluation, assessment and application of best global practices for managing risk for optional result is recommended.

Keywords: *Financial risk, Performance, and Deposit Money Banks in Nigeria*

1.0 INTRODUCTION/BACKGROUND OF THE STUDY

The operational environment in which businesses are carry out including deposit money bank is volatile and characterized with risk; a situation where it is not certain, when where and how the future event's may turn out to be.

Risk refers to a situation where the future outcome of an event or a transaction is not known or what the result will be but the possibilities of alternative outcome can be estimated or project through careful study of past result in similar field. Risk may be categorized into various classes such as: Operational Risks.

Compliance risks and

Financial risks

Operational risk arises in the operation of a business or the risk associated with failure of internal business and control processes. Operation risks also arise as a result of change in value caused by the fact that actual losses incurred for inadequate or failed internal processes, people and systems or from external events different from expected losses. This class of risk may include fraud, security, legal or environmental risks affecting clients satisfaction, reputation and shareholders value while increasing business volatility.

Compliance risk: arises from non-compliance with law and regulation that surrounds the businesses.

Financial risks: are results of financed or financial consequences of an operation thereby hampering the business activities as it ought to.

The aggregation of these risks results to business risk as a result of inherent factors that may be internal and/or external to the entity obstructing financial operations and performance.

Deposit money banks are financial institutions that occupy prominent position in the financial services sector (financial system) serving as a bridge between the deficit and surplus economic units as the performance of intermediary roles. Operating in this sector, deposit money banks are exposed to myriad of risks such as credit risk, currency risk, interest rate risk, gearing risk, political risk (if a change in government and policies) take place, regulatory risk and among others.

Financial risks management is therefore a conscious effect by banks management to put in place necessary policy framework meant to mitigate the effects of the aforementioned risk on cash flows and returns from operations; minimize negativities and ensuring sustainability of the banks even in the face of uncertainties. This study is therefore conceived to examine the implications of financial risk management on performance of deposit money banks in Nigeria using data from 2015 to 2022 for sixteen deposit money banks.

1.2 Statement of the Problem

The Nigeria financial sector is bedeviled by risk exposures brought about as a result of the harsh business environment which is complex, dynamic, hydra-headed with far-reaching effects on operational activities on the sectorial indices undermining performance targets and overall financial performance. The nature of the sector makes it prone to high risks which may impact negatively on financial performance. The sector is prone to diver's crises culminating to various risks that must of necessity be properly planned coordinated and managed for optimal results (Etim et al. 2023). How does the management of deposit money banks fare in financial risk management in the sector?

This study is aimed at examining the nexus between financial risk management and financial performance in the sector.

1.3 Objective of the study & Hypothesis Development

The main objective of the research is to examine the nexus between financial risk management strategy and performance of deposit money bank in Nigeria. In line with the objective, the null hypothesis is stated as follows:

Ho: There is no significant influence of financial risk management strategy on performance of deposit money banks in Nigeria.

1.4 Significance of the study

Researches are conducted to proffer solutions to problems of socio-economic implications. This study shall be relevant to various stakeholders such as bank management, regulatory authorities (CBN, NDIC, SEC etc) consultants, shareholders (existing & potential as well as those in the academic (Students, Lecturers and other researchers) for the purposes of policy formulation & implementation advisory functions and the likes and further researches and teaching.

2.0 REVIEW OF RELATED LITERATURE

The literature review shall encompass conceptual theoretical and empirical literature.

2.1 Conceptual Review

The fundamental concepts relating to this study are explained in a summarized from in this section for clear picture focused on the research.

2.1.1 Overview of Financial Risk Management

Financial risk is a component of general risk referred to as the probability of loss; exposure to the possibility of loss; the likelihood result would fall short of expectations.

Risks are viewed from two major perspectives`:-

Pure risk and speculative risk (Babatunde 2015)

The two impacting deposit money bank giving rise to literate risk, product risk, market risks, currency risk, credit risks, litigation illegal risks compliance risk and amongst others. These various variables pull and pooling influences, gives rise to financial risks with the three (3) main sources to include:

i. Financial risks resulting from an organization's exposure to the market place dynamics: (operational environment) such as interest rate, exchange rate and commodity prices.
ii. Financial risks arising from the actions of and transacting with other organization such as vendors, customers and counter parties in derivatives transactions.
iii. Financial risks proceeding from internal actions or failures of the organization, particularly people, process and systems (methods) giving rise to fraudulent practices and the likes.

Financial risk management therefore is a process to deal with the uncertainties stemming from financial markets. It involves assessing the financial risks facing an organization and the development management strategies consistent with internal priorities and policies. Hence, addressing financial risk proactively may provide an organization with competitive advantage. It also ensures that management operational staff, stakeholders and the board of directors are in agreement on key issues of risk.

Entities, particularly banks manage financial risk using a variety of strategies and products. This is to reduce risk within the context of the organization's risk tolerance and objectives. However, strategies for risks management often involve derivatives. Derivatives are traded widely among financial institutions and on structured exchanges. The value of derivative contents such as futures, forwards, options and swaps is derived from the process of the underlying assets.

Derivatives trade on interest rates, exchange rates, commodities equity and fixed income securities, credit and even weather (Etim et.al 2023[b]). the above listed items forms the core of banking operations and thus require purposeful deployment of strategies to ensure such transactions do not have excessively negative consequences on their activities and overall performance.

2.1.2 Strategies of Financial Risk Management

The main objective of financial risk management to ensure the financial security and stability of the enterprise in the process of it development and to prevent a possible reduction in it's Market value (Cerchiello and Givdici, 2016). The management of the bank financial risks, ensuring the realization of the main goal is carried out in the following stages:-

i. Developing an information base for financial risk management
ii. Identifying financial risks
iii. Assessing the level of financial risks
iv. Assessing the potential for reducing the initial level of financial risk
v. Establishing a system of risk-determination criteria
vi. Making risk decision
vii. Choosing and implementation methods to neutralize the possible negative effects of financial risks
viii. Monitoring and control of financial risks (Vetlana et.al., 2017)

The breakdown of the various stages clearly explains the link between financial risk, financial risk management and performance. In the financial service sector where deposit money banks play. Significant role in financial intermediation. The main constructs of financial risk management revolves around capital adequacy, cost income-issues, credit risk components, liquidity risk components devalues assets and liabilities as well as operational profit as they affects return on Equity (ROE).

2.1.3 Corporate Performance.

Corporate performance checks the effectiveness and efficiency of management in the deployment of resources at their disposal as entrusted by the shareholders or owners of the organization in generating wealth within a given time frame usually on annual basis. It portrays how well the resources owned by an entity are being utilized by directors in generating the shareholders wealth. The key focus of checking financial performance of an entity is to establish how well the organization has fared, enable compares across industries, same entity overtime or with other firms in other industries.

Corporate performance might be assessed by sales volume and value, size, investment growth, profitability and amongst others. Most commonly used measures for evaluation of

corporate performance is the computation of relevant ratio ranging from profitability ratios etc. (Bartram *et. al*, 2009; Joe *et.al* 2021).

For the purpose of this study, the return on Assets (ROA) which is a measure of the efficiency of management interims of generating earnings as a result of engaged assets is used to proxy performance correspondingly, ROA is derived by dividing the annual earnings generated by the total owned Assets of the entity. It measures the earnings that are received per each kobo/Naira contributed or invested by shareholders.

2.1.4 The Relationship between financial risk management and financial performance of deposit money banks

Fluctuations in business cycle affect the operations and performance of firm including deposit money bank. Also, movement in interest rates, exchange, rates, inflation and other macroeconomic variables affects the reporting of financial performance. However, in order to initiate the effect of risks on operations, firms often adopt cushioning components – financial risk management strategies.

These policies/strategies are geared at minimizing the exposure, thus improving the overall financial returns on investment portfolio and in particular Return on Assets (ROA).

2.2 Theoretical Review

This research is anchored on two major theories: Purchasing power parity (PPP) for risk management and Agency Theory.

Purchasing Power Parity (PPP) based in part on “the law of one price it’s an analytic metric measure in macroeconomics used to compare productivity and it suggests that the exchange rates are in equilibrium when the price of goods and services (excluding mobility and other issues). In different countries are the same. Should local prices increase more than prices in another country for the same product, the local currency would be expected to decline in value *vis-à-vis* it’s foreign counterpart, presuming no change in the structural relationship between the different economics.

This theory is relevant to the study because foreign exchange and interest rates movement from critical components of financial risk management in banks.

Agency theory explains the principal agent relationship. The agent represents the principal in a specific business transaction and is presumed to serve the best interest of the principal without regards to his interest. According to scott (2015) Agency theory is a field of game theory that examines contract design to inspire responsible managers to function on behalf of principals. This theory is relevant to this study because risk management is the responsibility of the board of directors, expected to run the organization for profits and sustainability as agents to the owners (Shareholders) as principal.

2.3 Empirical Review

Some, selected empirical review is earned out in this section to examine what other researchers had done and their discoveries with a view to finding the research gap.

Ecclesia (2005) evaluated financial modeling and risk management Framework to assess banks risk exposure, regulatory framework and banks performance using multivariate modeling findings revealed a strong association between risk management framework and banks performance during the period of the research.

Adeusi *et.al* (2014) earned out a research on risk management and financial performance of banks in Nigeria using secondary data sourced from 10 banks which were analyzed using panel data estimation techniques. Results revealed an adverse relationship between financial performance of banks and doubt loans and capital asset ratio was found to be positive and statistically significant indicating that the higher the managed funds by banks, the higher the performance.

Suettana *et al* (2017) studied financial risk management. The study was devoted to the most innovative and relevant areas of business management, taking into account risks. The goal of risk management should not be reducing risk but ensuring that a decision is made taking into account risks. It was discovered that reducing financial risks involves the implementation of organizational measures that contributes to the prevention of losses and proposed enterprise risk management process for cohesive framework and performance enhancement.

Financial risk and performance of deposit money banks evidenced from West African countries was conducted by Onyefulu *et al* (2019) using data from (20) Twenty deposit money banks covering Ten (10) years period (2009 to 2018). Ex-post facto research design was deployed. Data collected were analyzed using multiple regression and correlation analysis. The result revealed that liquidity risk had significant negative effect on performance of banks in both Nigeria and Ghana.

Credit risk had negative effect on ROE, while operational risk was found to have positive & statistically significant effect on ROE for both countries. They concluded financial risk indices has mixe3d effect on ROE, hence management should be a braised with an in depth understanding of each risk component in formulate polices on risk management.

Omorokunwa and Ogbeide (2021) investigated the correlation between credit risk management and deposit money banks performance in Nigeria using Panel data from 2006 to 2018 for twelve (12) banks listed in the Nigerian Exchange Group (NAX). The data collected on the relevant variables were analyzed using panel regression system. Results showed a significant relationship between credit management an aspect of risk management and barriers performance for the period of their research.

Jegede *et. al* (2021) researched on financial risk management and financial performance of international authorization quoted deposit money Banks (MBS) in Nigeria. They used data spanning from 2012 to 2019 ex-post facto which were analyzed using panel regression method. The result revealed that financial risks components influences financial performance measures (POA) of banks. They recommend improvement on capital adequacy framework.

PERFORMANCE INDICES OF DEPOSIT MONEY BANKS:

A post consideration trend analysis was carried out by Abudlraheem (2022) using ex-post facto design with data collected from NDIC and CBN annual reporting various issues. With Auto regressive Distributed lag model the findings brought to bear that all the explanatory variables had impacted the GDP per capita significantly and positively and proceeded in recommending constant monitoring and supervision of banks to ensure compliance and enhance performance.

Joe *et al.* (2021) studied lodge accounting and financial performance of listed commercial banks in Nigeria which is a sect of risk management strategies in banks. Data for the study were collected from Ten (10) banks from the annual published reports (secondary data). Data collected were analyzed using panel regression analysis. The findings revealed that derivatives assets and liabilities have no significant effect. On the ROA of the banks from the findings, they recommended that banks management should improve on accounting for hedging through derivations by the adoption of the provision IFRS 7 and 9.

Olalade *et al* (2023) conducted a research on risks management and performance of deposit money banks in Nigeria a re-examination. Data from Eight (8) banks with international authorization were purposively collected. Panel data analysis technique was adopted to analyze the secondary data that were obtained from annual published financials of the selected banks. Findings on the disaggregated model results reveals that both liquidity and capital risk variable exerts a negative but significant effect on performance they concluded that credit and management quality significantly and positively drive performance among the financial entities.

Ortsegbulbemi K.N and Esther (2023) examined the effect of credit management on return on Equity (ROE) of deposit money banks (DMBs) in Nigeria for the period of Twelve (12) years, that is 2010 to 2021 of the post adoption of the common accounting year end mandated by the CBN in the year 2001, Eight (8) banks were selected from the population of the study. Ex-post facto research design and panel data regression analysis were used for data analysis. The result brought to light that capital adequacy ratio, liquidity ratio; loan – to – deposit ratio, risk – asset ratio, non-performing loan, loan loss provision ratio and size were significant determinant of Return on equity (POE), a measure of financial performance. It further indicates that financial risk components should be well managed for optional performance by deposit money bank management.

3.0 METHODOLOGY

Export facto research design was adopted for the purpose of this study. It involves the use of secondary data sourced from the annual financial statement of sixteen (16) listed money banks on the floor of the Nigerian Exchange Group for the period 2010 to 2022. Panel multiple regression analysis and connection analysis for descriptive statistics were employed for data analysis. Also, data from CBN and NDIC were sourced to compliment the published financial of the selected banks. The data were collected on the following variables:

Return on Assets (ROA)

Credit Risk (CR)

Liquidity Risk (LR)

Capital Adequacy Risk (CAR)

3.1 Model specification

To ensure the incorporation of financial risk management strategies in the deposit money bank in Nigeria the model of the study is developed as follows:-

Perf = Performance proxy by ROA

F = Functional notation

CR = Credit Risk

LR = Liquidity Risk

CAR = Capital Adequacy Risk

BNPLR Banks Non-performing Loan Risk

The econometric form of the model is stated as:-

$ROA_{it} = P_o + \beta_1 CR_{it} + \beta_2 LR_{it} + \beta_3 CAR_{it} + \beta_4 BNPLR_{it} + U_{it}$

Where: i = the bank

t = time

β_0 = intercept and

U_{it} = stochastic error term

4.0 DATA PRESENTATION, ANALYSIS AND DISCUSSION OF FINDINGS

This section is devoted to presenting the results of analysis of data collected for the objective of testing the model developed for this study. The analysis follows descriptive analysis, correlational analysis panel data analysis and regression analysis.

4.1 Descriptive Statistics

The descriptive statistics of the variables in presented in Table 1.

Table 1: Descriptive statistics of the variables.

	ROA	CR	LR	CAR	BNPLR

Mean	4.944	70.8991	72.6172	85.6882	4.0852
Median	5.550	76.5791	73.763	87.0403	2.1865
Maximum	7.710	89.1767	77.658	91.6341	21.0831
Minimum	1.260	48.9464	64.379	75.9672	0.000
Std. Dev.	1.938	15.4622	3.5785	4.2223	5.4072
Skewness	-1.356	-0.2307	-0.8432	-0.9949	2.3691
Kurtosis	6.768	1.3982	2.8186	3.3259	7.7442
Jarque-Bera	0.0267	18.1924	22.2794	26.2896	290.7356
Probability	0.012	0.0000	0.0000	0.0000	0.0000
Observations	128	128	128	128	128

Source: Researchers compilation (2024)

The pattern of the data series shows positive mean values for all the variables studied. This also applies to the median maximum and minimum values as well as the standard deviation. There is a visible positive fluctuation of the data set throughout the study period. The data skewed to the left with negative signs except for banks non-performing loans Risk (BNPLR). The kurtosis also showed positive peak values. The probability values (P. value) are all less than 0.05 and thus statistically significant.

4.2 Correlation Analysis

The correlation analysis of the data set is presented in Table 2.

Table 2: Correlation Analysis

	ROA	CR	LR	CAR	BNPLR
ROA	1.0000	0.5372	0.0668	0.4978	0.4219
CR	0.5372	1.0000	0.4566	0.4993	0.4232
LR	0.0668	0.4566	1.0000	0.4580	-0.8307
CAR	0.4978	0.4993	0.4580	1.0000	-0.3926
BNPLR	0.4319	0.4232	-0.8307	-0.3926	-1.0000

SOURCE: Researchers Compilation (2024)

The pattern of the correlation coefficient shows values less than 100%, meaning no auto-correlation of variables and the data suitable for analysis. Also, it's important to note that liquidity ratio (LR) and Bank non-performing loan risk are negatively correlated as well as capital Adequacy Risk (CAR).

4.3 Panel Data Analysis Results

Given the nature of the data, Hausman test was conducted on the data to determine the nature of the effects whether random or fixed effect would be appropriate. The result is shown on table 3.

Table 3: Hausman Test for Effects

Test summary		Chi-sq statistics	Probability	
Cross-section random		0.0000	3	1.0000
Variable	Fixed	Random	Var (Diff)	Prob.
CR	-0.0613	-0.0613	0.0000	1.0000
LR	0.0154	0.01535	0.0000	0.0000
CAR	0.0330	0.03009	0.0000	0.0000
BNPLR	0.1340	0.02558	0.0000	1.000

SOURCE: Researchers compilation (2024)

The result of the Hausman test revealed that the fixed effect is suitable and appropriate for the analysis, given the chi, square value were statistically significant.

4.4 Fixed Effect Results for Hypothesis Test

The effect of financial risk management on performance of deposit money banks in Nigeria is presented on Table 4.

Table 4: Influence of financial risk management on performance of deposit money Banks in Nigeria.

Variables	Coefficient	t-stat.	Probability
C	-2.0189	-1.2531	0.2143
CR	-0.0615	-4.3106	0.0000
LR	0.0154	5.1100	0.0000
CAR	0.0331	1.8400	0.672
BNPLR	0.0281	1.8949	0.0011
R-Squared	0.405	r-statistic	32.55(0.0000)
Adjusted R^2	0.394	Durbin-Watson stat.	2.01
Dependent variable: ROA[b]			

Source: Researchers' Compilation (2024)

The Hypothesis of this study stated in Null form was:-

There is no significant influence of financial risk management on performance of money deposit banks in Nigeria".

The econometric model was stated as:-

ROA_{it}

This implies:-

ROA = - 2.0189 + - 0.0615CR + 0.015LR + 0.0331CAR + 0.0281BNPLR +U

tstd = - 1.2531 – 4.3100 5.1100 1.8400 1.8949

R^2 = 0.405 (40.5%)

Adj R^2 = 0.394 (39.4%)

F-Ratio = 32.550. (0.000)

DW stat = 2.01

The above result indicates an adjusted R^2 value of 39.4% which is the coefficient of determination of the independent variable influence on the dependent variable with the complementary of 61.6% accounted for by other variables not included in the model but represented by the stochastic error term. The f-ratio of 32.550 ($P<0.05$) shows that the model was robust and suitable for policy analysis given the D-W statistics value of 2.01 the Null hypothesis is rejected and the alternative accepted that implies financial risk management has significant influence on ROA of deposit money banks in Nigeria.

4.5 DISCUSSION OF FINDINGS

The evaluation of the financial risk management influence on performance of deposit money banks in Nigeria involved the various risk management model often adopted by bank management to mitigate the relative effects of the occurrence of risk. The selected strategies used here were Credit Risk management (CR) which had a negative influence on performance of deposit money bank.

This was in line with the findings of Omorokunwa and Ogbeide (2021) liquidity risk management had positive influence on performance of deposit money bank. This was in-law with Jegede *et.al* (2021).

Capital Adequacy and Non-performing Loan Risk management disclosed positive influence on performance of deposit money banks this findings collaborates these of Joe et al. (2021) and Etim *et al* (2023) who investigated hedging strategies and value of deposit money bank in Nigeria.

5.0 SUMMARY, CONCLUSION AND RECOMMENDATIONS

This section concluded the research and covers summary of major findings, conclusion recommendation with suggestions for further studies.

5.1 Summary of Major Findings

The major findings from this study include:

1. Credit risk has a negative influence on performance of deposit money banks in Nigeria.
2. Liquidity risk has a positive influence on performance of deposit money bank in Nigeria
3. Capital Adequacy Risk has a positive influence on performance of deposit money banks.
4. Non-performing loan has a positive influence on performance of deposit money banks.

5.2 Conclusion

From the analysis of data obtained from the annual financials of the selected banks and the CBN and NDIC financial risk management has assisted the reduction of the effect of risks on the performance of deposit money banks in Nigeria. The result showed a positive correlation between financial risk management and performance of deposit money banks in Nigeria.

5.3 Recommendations

From the findings of the data analyses, the following recommendation is made that banks management should regularly review the operating environment for risk evaluation and assessment and ensuring application of global best practices in financial risk management strategies this would ensure banks are not taken unawares in the materialization of risk exposure.

5.4 Suggestions for further studies

The research can be replicated in the real sector of the Nigeria economy as well as non-bank financial institutions.

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