

Impact of Risk Management on the Financial Performance of Listed Deposit Money Banks (DMBS) in Nigeria



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ABSTRACT: This study looks at how risk management affects Nigeria's publicly listed deposit money institutions' financial performance (DMBs). The 10 commercial banks in Nigeria with licenses are being researched. The data used spans 12 years from 2009 to 2020 and is secondary data. The Hausman test was chosen because it suggests that a random effect model should be employed for the analysis of the panel data utilized in this study. It was determined that there is a statistically significant association between net interest margin (NIM), credit risk management (CRM), liquidity risk management (LRM), and interest rate risk management (INTRM) using the ordinary least square random effect regression model. More specifically, credit and interest rate risk management have a significant negative impact on the profitability of Nigeria's listed deposit money banks, suggesting that an increase in risk management variables will result in a decline in the financial performance of Nigeria's listed deposit money banks. Therefore, to boost their profitability, Nigeria's listed deposit money banks must enhance their credit risk management techniques.

KEYWORDS: Financial performance, Credit risk management, Liquidity risk management, Interest risk management, Hausman, Random effect regression.

1. INTRODUCTION

Financial risk management and financial performance have been the subject of unprecedented quantities of empirical research in recent years. Since then, a great deal of research has supported the crucial importance of a country's financial system as the cornerstone of a strong and efficient economic system. A strong banking sector is crucial for an economy's financial system since it serves as the primary participant in the financial intermediation role in emerging countries (Hawkins and Mihaljek, 2017). According to Mutukua (2016), a commercial bank that is unable to pay its debts may be put into liquidation. All banks, including those in Nigeria, operate in a volatile and hazardous environment and are vulnerable to several risks that could lead a commercial bank to fail because it is unable to, in one way or another, pay its debts. Shah (2014) goes on to assert that the financial system is vulnerable to at least three main types of risk: financial risk, business risk, and operational risk. Carey (2001) asserts that because of these risk exposures, the banking business is now dangerous, making risk management crucial for the long-term survival of commercial banks. Despite the widespread perception that risk management improves the financial performance of banks and financial organizations, inconsistent outcomes have been found in this field of research. Similar studies have been conducted in several countries, including Nigeria (Maritim, 2013; Mwangi, 2014), the United Kingdom (Saeed and Zahid, 2016), and Kenya. Other significant financial performance studies include those by Saeed and Zahid, Olamide, Uwalomwa, and Ranti (2015), Adeusi, Akeke, Adebisi, and Oladunjoye (2014). Risk management has an advantageous effect on the functioning of the bank when it comes to enhancing money management and reducing unnecessary expenses like shady advances (Mutukua, 2016). Shetty and Yadav (2019) created a structured hypothesis 2019. According to Muteti et al. (2014) and Juma et al. (2015), banks' profitability may suffer as a result of them using less leverage and taking on more risk as a result of stricter risk management regulations. Banks are crucial when it comes to transferring funds from families to profitable firms in developing nations with limited financial skills (Muteti, 2014). This work must be completed successfully and effectively if we are to support economic prosperity. Assessing and pricing risks associated with future economic projects and enterprises is a significant part of this profession to ensure that initiatives are funded and structured properly while remaining profitable for the funding bank (Juma and Atheru, 2018). A key responsibility of the bank in light of this is to balance long-term profitability, value creation for shareholders and clients, and risk assessment and management (Sinha, 2011). This particular balance has gained importance throughout the 10 years since the Financial Crisis. According to the Bank of International Settlements (2018), the decade before 2008 saw an unprecedented

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expansion of the global economy and financial services, which was in part fueled by risk-taking bankers seeking big profits and incentive payments. Due to a lack of incentives, banks are unable to fully assess the risks involved with projects, which contributed to the 2008 financial crisis, which in turn ignited the global financial crisis, resulting in stagnant economies and fragmented global financial markets (world bank, 2021). As many had anticipated, the regulation's consequences have been substantial and widespread. The financial system has undergone multiple significant changes since the Financial Crisis, according to the Committee on the Global Financial System's 2009 Report on the Financial System. Trading and intricate structuring have been replaced by less capital-intensive activities like commercial banking in business models. Due to decreasing leverage and risk-taking as well as a downturn in the majority of economies during that time, banking profitability has also declined globally (Bank of International Settlements, 2018). For all banks globally, risk management aims to avert future financial crises while preserving profitability and maximizing capital allocation (world bank,2021).

The economist asserts that any financial system's stability depends on banking (Munangi and Sibindi, 2020). Banks, the cornerstone of the global financial system, are necessary for a country to prosper in the world economy. Banks, according to Federal Reserve President Ben Bernanke, are the primary financial intermediaries in our economy (Mishkin, 2013). To complete the long-term intermediation role of moving money from depositors to investors, they must continue to make a profit (Ongore and Kusa, 2013). Individual bank depositors and loan clients, bank employees, government authorities, and the entire economy are all interested in how banks perform. Banks are necessary for the economy's health (Qamruzzaman, 2014). Since it has been researched for decades, the importance of bank financial performance can be assessed using a combination of diverse methods and comparative financial ratio analysis (Aymen, 2013). Financial performance is also important in a competitive financial market since it educates depositors (investors) about whether to invest or withdraw their money from the bank, affecting their choices (Aymen, 2013). This is one of the reasons scholarly research on the role of banks and their financial performance has exploded in the years following the 2008 global financial crisis and the 1929 Great Depression. Nigerian banks have continued to be crucial to the expansion and prosperity of the country's economy (Gabaraane, 2018). The effectiveness of a bank determines its ability to generate long-term profits (El Mehdi, 2018). Financial institutions could fail as a result of poor performance, which would be negative for the economy as a whole. A stable and financially sound banking system is necessary because banks are crucial to economic growth and the efficient utilization of a country's resources. The financial health of banks must also be properly watched. The goal of this study, however, is to investigate how risk management impacts the financial performance of listed deposit money banks in Nigeria.

1.1 Hypothesis

Based on the problems and objectives of the study, the following null hypotheses are postulated:

- H0₁:** Liquidity risk has no significant impact on financial performance of listed DMBs in Nigeria
- H0₂:** Credit risk has no significant impact on financial performance of listed DMBs in Nigeria
- H0₃:** Interest rate risk has no significant impact on financial performance of listed DMBs in Nigeria

2.LITERATURE REVIEW

This section will present both the theoretical and empirical review.

2.1 Theoretical review

The effect of financial risk management on financial performance is supported by several ideas. The management of a business will be able to use the best financial risk management strategies for the firm if they have a solid understanding of these theories. These next two hypotheses are covered

2.1.1 Finance Distress Theory

"A business is said to be in financial difficulty when its operations degrade to the point of inability to satisfy its financial obligations," according to Baldwin and Scott (1983). Financial covenant violations are frequently the first sign of trouble, followed by mission or dividend reductions. It is a predicament in which a person or business is unable to generate revenue as a result of their inability to fulfil timely debt payments. When this occurs, the business's financial performance suffers, which makes it difficult to gain customers' trust and obtain capital. A commercial bank's inability to honour withdrawals of deposits and loan payments is referred to as liquidity risk. A credit risk issue arises when banks have non-performing loans as a result of late payments from borrowers. Therefore, to manage liquidity and credit risks and prevent financial instability, banks must exercise unusual caution. According to Whitaker (1999), a financial crisis motivates management to make adjustments to improve the firm's financial performance. The financial distress hypothesis highlights liquidity and credit risks as predictors of financial distress, making it

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relevant to the research on the relationship between financial risk management and financial performance (Wamalwa and Mukanzi, 2018).

2.1.2 Shiftability Theory of Liquidity

Harold G. Moulton developed the shift ability hypothesis in 1915 (El-Chaarani, 2019). The idea is that banks should allocate a portion of their available capital to investments in securities and credit instruments that can be converted to cash as and when they are required to address declining liquidity. The theory contends that highly marketable securities held by banks are an excellent source of liquidity and that a bank's assets must be able to move, market, or transfer to provide liquidity (Ibe, 2013). The notion further contends that a bank's holdings of highly marketable securities serve as an excellent source of liquidity. The theory explains how liquidity risk affects financial performance when liquidity coverage and net stable financing ratios are utilized by the Basel III framework, making it suitable to research the impact of financial risk on financial performance (Olalekan, Mustapha, Irom & Emily, 2018).

2.2 Empirical review

The word "financial performance" refers to how well an organization's policies help it to reach its planned financial goal in terms of money. Aguayo (2020) asserts that a company's ability to maximize the utilization of its resources, overall operational effectiveness, as well as the performance of its management, are all indicators of its financial success. The performance of one DMB can be used as a benchmark to compare the performance of other DMBs in the same category that operates in the same industry when it comes to size, capitalization, and staff size (Aguayo & Slusarczyk, 2020). The financial performance of a DMB largely reflects trends in the bank's return on assets, profitability, economic value added, return on equity, liquidity, solvency, riskiness, and several other factors, such as how quickly the bank can close a loan facility request and how it manages the loan facilities, as well as the low level of non-performing loans (Arroyave, 2018; El-Ansary, 2019; Fan & Yijun, 2014). According to Makokha, Mukanzi, and Manage (2016) and Shrivastava, Kumar, and Kumar (2018), a company's ability to make money from the usage of its assets may be substituted by looking at its financial performance. To assess a company's overall financial soundness over a certain period, this concept is used to compare similar enterprises within the same industry or across all industries. Financial performance measurements are used to evaluate how effectively a firm uses its resources to maximize the organization's returns as stated in its financial reports. Kariuki and Peddy (2017) assert that managers and decision-makers can evaluate the financial outcomes of company plans and activities impartially and objectively based on a corporation's financial performance. The ability to assess a company's overall financial health over time and evaluate it against other businesses in the same industry is made available as a result.

Financial risk is any peril connected with borrowing money or making investments. It often has debilitating effects on banks and exposes them to reputational danger in addition to financial losses. Sometimes, it's understood to just refer to risk moving downward. The risk involved in DMBs' regular operations would be referred to as financial risk in an ideal society. One of the most traditional and difficult kinds of dangers a DMB could encounter when carrying out its authorized operating responsibilities (Mostafa, Mahmoud, Jalal & Elahe, 2016). Financial risk events can be brought on by a variety of factors, including loan defaults that result in nonperforming loans (NPLs) or credit risk, liquidity risk, insolvency risk, and market risk (MKTR). A financial transaction may also be at risk from interest rate risk, currency risk, and business risk.

Numerous empirical investigations carried out by numerous scholars in this field established the relationship between risk management parameters and deposit money bank financial performance, illuminating the variability of these conclusions across conditions and perspectives. Tanveer, Muhammad, and Sadaf (2017) employed panel data regression analysis to examine the impact of risk management practices on the financial performance of Pakistani banks from 2004 to 2016. They discovered that risk management practices had a considerable impact on the financial performance of Pakistani banks classified as major, medium, and small banks.

Al-Khouri (2011) examined 43 deposit money banks' performance from 1998 to 2008 in six Gulf Cooperation Council (GCC) nations to determine the effects of a bank's unique risk characteristics and the broader banking environment. The analysis of fixed-effect regression was used. Credit risk, liquidity risk, and capital risk were found to be the key determinants impacting bank performance as assessed by return on assets; however, liquidity risk did not affect the return on equity. He advised banks to make their risk management more effective. Ara, Bakaeva, and Sun (2009) concluded that credit risk management has an impact on financial institutions' performance. A regression model was created using information from the yearly reports of the sample banks from 2000 to 2008. The study discovered that credit risk management had a distinct impact on financial performance across the four deposit money institutions evaluated. They encouraged banks to enhance their credit risk management procedures to increase profits.

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However, several studies have demonstrated that credit risk has a negative influence on financial performance, including those by Mardiana and Diana (2018), Lego and Obwogi (2018), Juma and Atheru (2018), Yousfi (2015), Muteti (2014), and Adeusi, Akeke, Adebisi, and Oladunjoye (2014). While Fredrick (2012) discovered a non-significant link, Olamide, Uwalomwa, and Ranti (2015) discovered a small correlation between credit risk and financial performance. It was also shown that the market risk component of financial risk management had contradictory effects on financial performance. Muteti (2014) demonstrated that liquidity risk management has a statistically significant negative influence on financial performance, despite Fredrick (2012) only finding a minor association. Both Wamalwa and Mukanzi (2018) and Haque and Wani (2015) show that the influence on financial performance is negligible. The current study focused on identifying the most typical hazards associated with financial risk management and evaluating their impact on the financial performance of Nigeria's commercial banks in light of the aforementioned information. Furthermore, virtually little study on this subject has been conducted in Nigeria. As a result, this study is specifically designed to close the knowledge gap that exists in Nigeria today and to provide guidance on how to handle the numerous facets of financial risk management so that the banking sector and risk management policymakers can profit to the fullest.

3. RESEARCH METHODOLOGY

The study uses secondary data over twelve years spanning from 2009 to 2020. The secondary data were gathered from the sampled banks published annual reports and accounts. The annual reports can be found in the CBN annual bulletin and the Fact Book of the Nigerian Stock Exchange. This is from 2009 through 2020, which is a twelve-year timeframe. The study's goal, which is to investigate the relationship between risk management and financial performance as well as the impact of risk management, serves as the basis for the argument for choosing a causal design. To truly discover a relationship between the relevant factors and the impact that the independent variables had on the dependent variable, the study used a quantitative research design. Additionally, the population of the study includes every licensed Deposit Money Bank (DMB) registered in Nigeria as of December 31, 2020. Only 10 of Nigeria's 12 listed banks that are licensed will be the subject of this investigation. Access Bank PLC, Eco Bank PLC, Fidelity Bank PLC, First Bank PLC, First City Monument Bank PLC, Guaranty Trust Bank PLC, Stanbic IBTC Bank PLC, Sterling Bank PLC, United Bank for Africa PLC, Wema Bank PLC, Zenith Bank PLC are a few of these.

Out of the 12 DMBs, the top 10 banks make up 83% of the total. The work environments and operating environments of the chosen banks are very similar. Customers and investors who want high-quality financial reports to make wise economic decisions are served by the financial services they provide.

Table 1. Variables measurement table

VARIABLES	VARIABLE ACRONYMS	VARIABLE MEASUREMENT
Net Interest Margin	NIM	Net Interest
Liquidity Risk Management	LRM	Cash and Short-term Funds divided by Deposits Liability
Credit Risk Management	CRM	Loan loss provision divided by Total Loans and Advances
Interest Rate Risk Management	INTR	% Change in Interest Rate

Source: Author's computation

3.1 Techniques for Data Analysis and Model Specifications

The study tested panel data on risk management and financial performance of quoted DMBs in Nigeria using the Ordinary Least Squares (OLS) estimate method with assistance from a multiple regression approach. Since SPSS does not include a Hausman test capability, Stata software was used to estimate the Hausman test. SPSS version 26.0 was utilized as a tool for data analysis. This is because the application was regarded as being user-friendly and offering sophisticated data analysis. The data was put through several tests. The dependability of the study results was ensured using these robustness and diagnostic tests, which also included the heteroscedasticity, tolerance, and Variance Inflation Factor (VIF) tests.

3.2 Model specification

The formulated hypothesis will be tested using the functional description of the model, which is:

$$NIM = f(LRM, CRM, INTRM)$$

Econometrically, the panel regression models can be expressed as:

In panel data analysis, there is often a challenge which estimator is best suited to the model. Is that a fixed effect or a random effect? The generalized model for panel data is $Y_{it} = a_i + BX_{it} + U_{it}$. It is assumed that a_i does not correlate with the explanatory variables that form the null hypothesis. So, the Hausman test postulate that when the null hypothesis is rejected, you run the analysis with fixed effect, otherwise run a random effect model.

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Decision rule: Reject the null hypothesis if $P < \alpha$ and do not reject if otherwise. Where α is the significant level (1%, 5%, 10% respectively)?

$$NIM_{it} = \beta_0 + \beta_1 LRM_{it-1} + \beta_2 CRM_{it} + \beta_3 INTRM_{it} + \epsilon_{it}$$

Where,

α =Intercept or Constant

NIM= Net Interest Margin

LRM = Liquidity Risk Management (Cash and Short-term Funds divided by Deposits Liability)

CRM = Credit Risk Management (Loan loss provision divided by Total Loans and Advances)

INTRM = Interest Rate Risk Management (% Change in Interest Rate)

β_1, β_2 and β_3 = Slopes or coefficient estimate

μ_{it} = Residual or error term of bank

i= banks

t=time.

4.RESULTS AND DISCUSSION

4.1 Results

This section will present results of data analysis and notable findings.

Table 2. Descriptive statistics

	N	Minimum	Maximum	Mean	Std. Error	Std. Deviation
	Statistic	Statistic	Statistic	Statistic		Statistic
InNIM	120	6.11	8.41	7.5428	.04545	.49783
LRM	120	.02	1.59	.2340	.01860	.20372
CRM	120	.01	.41	.0689	.00606	.06639
INTRM	120	-.25	.11	.0067	.00818	.08966
Valid N (listwise)	120					

Source: Author's computation using SPSS

Table 2 show that LRM (M=0.234, SD =0.204) which means that on the average liquidity risk management is about 0.23 with variability of about 0.20 from the mean and the corresponding standard error is less than 10%. CRM (M=0.069, SD=0.066) means on average, credit risk represented about 0.07 while the variability is about 0.07. INTRM (M=0.007, SD=0.089) implies that interest rate on the average represent about 0.007 while the variability is about 0.09. In the same vein, InNIM (M=7.543, SD=0.498) tells us that NIM on the average represent about 7.54 with variability of about 0.5 from the mean.

4.1.1 Hausman

Hausman test was carried out using Stata 16.0 and $P > 0.05$ (See Appendix) meaning that we run the analysis with Random effect model which follow the usual OLS regression analysis.

Table 3. Model summary

Model Summary					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.484 ^a	.235	.215	.44112	.981
a. Predictors: (Constant), INTRM, CRM, LRM					
b. Dependent Variable: InNIM					

Source: Author's computation using SPSS

The value of the value of Durbin Watson Statistic in table 3, $d=0.981$ which fall below critical point 2.5, hence there is no autocorrelation of order zero level. the R-Squared of the model is 0.235 showing that the risk management variables explained 23.5percent of the changes in Net Interest Margins (NIM). Invariable, this implies that 74% of the changes in NIM are explained by factors other than three independent variables applied in this study.

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Table 4. ANOVA

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6.921	3	2.307	11.855	.000 ^b
	Residual	22.572	116	.195		
	Total	29.493	119			

a. Dependent Variable: TrNIM
 b. Predictors: (Constant), INTRM, CRM, LRM

Source: Author’s computation using SPSS

Table 4 show that the overall regression p-value=0.000 is less than 0.05 significant level and that means there is a significant relationship between InNIM, CRM, LRM and INTRM. This simply tell us that the regression model is a good fit for the data and that it is a very suitable for future prediction.

Table 5. The coefficient estimates of the regression table

Coefficients										
Model		Unstandardized Coefficients		Standardize	Sig.	95.0% Confidence Interval for B		Collinearity Statistics		
		B	Std. Error	Beta		t	Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	7.826	.076		103.125	.000	7.676	7.976		
	LRM	-.210	.201	-.086	-1.043	.299	-.609	.189	.970	1.030
	CRM	-3.264	.613	-.435	-5.323	.000	-4.479	-2.050	.986	1.014
	INTRM	-1.338	.460	-.241	-2.909	.004	-2.250	-.427	.961	1.040

a. Dependent Variable: InNIM

Source: Author’s computation using SPSS

From the above table we can express our regression model as:

$$\text{InNim}_t = 7.83 - 0.210\text{LRM}_t - 3.264\text{CRM}_t - 1.338\text{INTRM}_t$$

The above multiple regression can be interpreted as:

for every 1unit increase in Liquidity Risk (LRM), Net Interest Margin (InNim) will decrease by about 0.2; for every 1 unit increase in Credit Risk (CRM), Net Interest Margin (InNIM) will decrease by 3.3 and for every 1 unit increase in Interest Risk (INTRM), Net Interest Margin (InNIM) will decrease by 1.3. Meanwhile, the table also reveal the test of **multicollinearity** using the variance inflation factor(VIF) for LRM, CRM and INTRM as seen from the table above are less than 5 and since all the independent variables VIF are less than 5, we can conclude that there is no **multicollinearity** between all the three independent variables which means the model does not suffer from the problem of multicollinearity and that shows a good precision and justification for the choice of multiple regression model.

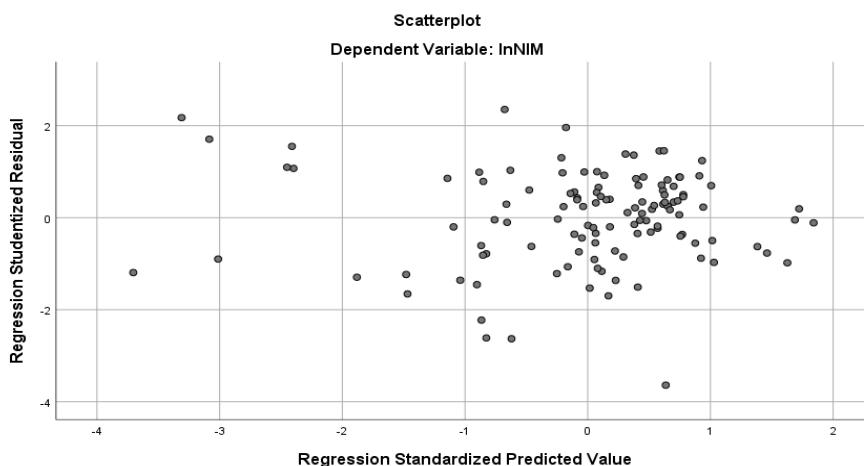


Figure 1. Check of Heteroscedasticity

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Besides, from figure 1, we can see a scatterplot output, it appears that the spots are diffused and do not form a clear specific pattern (see figure 1). So, it can be concluded that the regression model doesn't have heteroscedasticity problem.

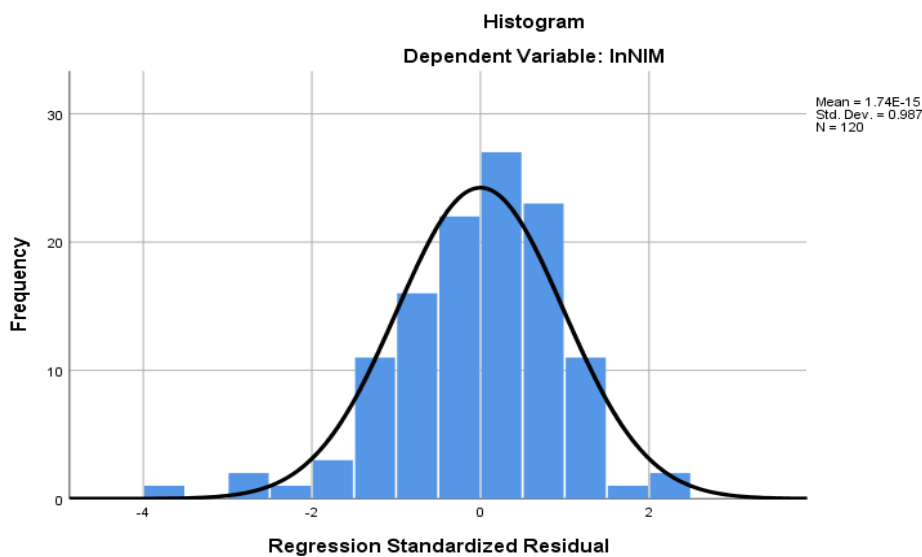


Figure 2. Check of Normality

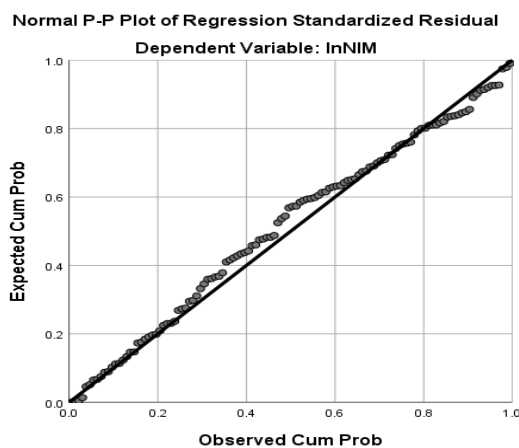


Figure 3. P-P Plot

Furthermore, the normality test using P-P plot in figure 3 and as we can see from the Histogram in figure 2 that the data is approximately normally distributed which satisfies the assumption of normality of regression model.

4.1.2 Liquidity Risk Management and Bank's Financial Performance

The regression result revealed that liquidity risk, which is measured as the ratio of Cash and Short-term Funds to Deposits Liability of quoted DMBs in Nigeria, has a p-value of **0.299**; this is greater than **0.05** significant level, so we cannot reject the null hypothesis and this implies that liquidity risk is not statistically significant to the model and that Liquidity risk has no significant impact to the financial performance of banks. In the model, liquidity risk has a coefficient of **-0.210** and implies a negative relationship with Net Interest Margin (NIM). Comparatively, liquidity risk appears to have insignificant effect in the model when compared to Credit risk and Interest Rate Risk.

This result provides a basis to accept first null hypothesis which states that Liquidity risk management has no significant impact on profitability of quoted DMBs in Nigeria.

4.1.3 Credit Risk Management and Bank's Financial Performance

H0₂: Credit Risk management has no significant impact on profitability of Listed Banks in Nigeria.

From the **Coefficient Table**, it is seen that the **p-value** for Credit Risk management (CRM) is **0.000**, which is less than 0.05 significant level, with a coefficient value of **-3.264**. This signifies that credit risk management has a negatively significant effect on profitability of listed deposit money banks in Nigeria. This implies that an increase in the credit risk variable will lead to an associated decrease in the Net Interest Margin (NIM) of listed deposit money banks in Nigeria since it is significant at 5% level. The results as reported

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provides evidence to reject the null hypothesis two, H02. This invariably states that Credit Risk has significant impact on the profitability of listed banks in Nigeria.

4.1.4 Interest Risk Management and Bank's Financial Performance

H03: Interest Rate risk has no significant impact on profitability of quoted DMBS in Nigeria.

Going by the scenario under this hypothesis, the result exhibits evidence of negative significant relationship between interest rate and financial performance of quoted DMBS in Nigeria. The result shows a beta coefficient of **-1.338** with **p-value of 0.004** indicating a statistically significant relationship at 5% significant level. This implies that 1unit increase in interest rate will reduce Net Interest Margin (NIM) by 1.338. With the INTRM P-value of **0.004** which is also less than 5% significant level; we reject the null hypothesis which states that interest rate risk has no significant impact on profitability of quoted DMBS in Nigeria.

4.2. Discussion of Findings

In this study, the three explanatory variables that stood in for risk management were liquidity risk, credit risk, and interest rate risk. The only dependent variable in Nigeria was the profitability of quoted DMBS. It used the Net Interest Margin (NIM) as a proxy for profitability. Because the Hausman test specifies a random effect, the impact of risk management on profitability in the aforementioned banks was investigated using Random Effect Regression. The results revealed a negative relationship between the three risk indicators of interest rate, credit, and liquidity and the profitability of quoted DMBS in Nigeria. The findings of this study contribute to our understanding of risk management, which affects the financial performance of well-quoted DMBS in Nigeria. This study's main emphasis was on the independent variables of interest rate risk, credit risk, and liquidity risk. The ratio of cash and short-term funds to deposit liabilities served as a proxy for liquidity risk, the ratio of loan loss provisions to total advances served as a proxy for credit risk, and the magnitude of interest rate movements served as a proxy for interest rate risk. The dependent variable is the Net Interest Margin (NIM), which stands for profitability. Each of these variables was tested individually to determine the optimal combination that might both explain and have an impact on the profitability of DMBS listed on the Nigerian stock exchange. It was discovered that liquidity risk had an unfavourable and little impact on financial performance, which affected and explained profitability.

Credit risk, however, had a considerable and unfavourable impact on the profitability of DMBS listed on the Nigerian stock exchange. Given the result's statistical significance, it follows that elements related to credit risk management have an impact on the interest margin. The conclusions of Mardiana and Dianata (2018), Ielgo and Obwogi (2018), Juma and Atheru (2018). The management of interest rate risk is also discovered to have a negative and significant impact on the profitability of quoted DMBS in Nigeria. This finding suggests that an increase in interest rates may adversely affect borrowers' capacity to pay back debt and their capacity to generate income, which will increase the number of non-performing loans. This is corroborated by the study's findings, which indicate that profitability is decreased by interest rates.

5. CONCLUSION AND POLICY IMPLICATION

5.1 Conclusions

The following conclusions can be drawn from the analysis and findings shown in chapter four:

The profitability of Nigeria's quoted DMBS showed a negligible negative connection with liquidity risk. The study concludes that liquidity risk management concerns do not influence the net interest margin (NIM) of quoted DMBS in Nigeria.

Additionally, the profitability of DMBS in Nigeria shows a significant negative link with credit risk management. The study concludes that factors related to credit risk management have a major impact on profitability. This indicates that the existence of a Loan Loss Provision serves as a shield to guard against any unforeseen credit default and preserve bank profit. The profitability of quoted DMBS in Nigeria was found to be significantly negatively impacted by interest rate control. The study concludes that interest rate management significantly and negatively affects profitability.

Consequently, while the regulator should concentrate more on ensuring that banks follow important rules of the Bank and Other Financial Institutions Act and prudential standards, DMBS in Nigeria should enhance their credit analysis and loan administration capabilities. A greater interest rate spread (higher interest charges), as a result of the discrepancy between the minimum interest rates (MPR) set by the central bank of Nigeria and the interest rates charged by the deposit money banks, is considered by the study to be considered counterproductive. Borrower defaults in loan servicing are more likely to occur with higher interest rates, which increases the likelihood of a greater quantity and value of non-performing loans. From a different angle, the whims of high-interest rates typically restrict the number of clients willing to take loans for investments. These two elements have a significant propensity to reduce the amount and turnover of performing bank advances and loans. To entice more borrowers to take out loans with high chances of effective loan servicing and principal payback, banks are recommended to lower their interest rates.

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5.3 Suggestion for Further Studies

This study evaluates the influence of risk management on the profitability of Nigeria Quoted DMBS and paves the foundation for more studies in the following areas:

A similar study can be carried out utilizing businesses from different economic sectors. These industries could include, among others, insurance companies and pension funds-provident.

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APPENDIX

. hausman fixed random

	— Coefficients —			
	(b) fixed	(B) random	(b-B) Difference	sqrt(diag(V_b-V_B)) S.E.
LRM	-.2243032	-.2226263	-.0016769	.0376978
CRM	-3.392645	-3.371254	-.0213915	.1414484
INTRM	-1.343563	-1.34244	-.0011233	.0543293

b = consistent under Ho and Ha; obtained from xtreg
 B = inconsistent under Ha, efficient under Ho; obtained from xtreg

Test: Ho: difference in coefficients not systematic

$$\begin{aligned} \text{chi2}(3) &= (b-B)'[(V_b-V_B)^{-1}](b-B) \\ &= 0.03 \\ \text{Prob}>\text{chi2} &= 0.9983 \end{aligned}$$



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