INTERNATIONAL JOURNAL OF LATEST TECHNOLOGY IN ENGINEERING, MANAGEMENT & APPLIED SCIENCE (IJLTEMAS)

ISSN 2278-2540 | DOI: 10.51583/IJLTEMAS | Volume XIV, Issue V, May 2025

Risk Management Practices and Financial Performance Among Deposit Money Banks in Nigeria

[1] Adedipe Oluwaseyi Ayodele (PhD), [2] Adeyemi Praise Oluwatobiloba

Department of Accounting and Finance, Faculty of Management Sciences, Ajayi Crowther University, Oyo

DOI: https://doi.org/10.51583/IJLTEMAS.2025.140500094

Received: 03 June 2025; Accepted: 07 June 2025; Published: 21 June 2025

Abstract: The banking sector in Nigeria plays an important role in the nation's financial ecosystem and is a major driver of economic growth and development. However, despite this essential role, Nigerian banks are exposed to a wide range of risks that can significantly impact their financial stability and overall performance. This study investigated the effect of credit risk management on the financial performance of deposit money banks in Nigeria, using panel data from five selected banks. Employing both Random and Fixed Effects models, the research evaluated how credit risk influences financial performance, with Return on Assets (ROA) serving as the key performance indicator. The findings revealed a positive and significant relationship between credit risk and ROA, indicating that higher credit risk levels are associated with improved financial outcomes. This underscores the importance of robust credit risk management and well-structured governance frameworks in driving financial performance. The study concluded that credit risk can positively impact market-based performance, as investors may perceive higher risk as a signal of greater potential returns. It emphasized the importance of robust risk management practices and governance mechanisms in sustaining long-term financial health. Consequently, the study recommended that banks strengthen their credit risk management frameworks, promote a culture of transparency and ethical behavior, and conduct regular reviews of governance structures to ensure alignment with evolving regulatory and market conditions.

Keywords: Credit Risk Management, Financial Performance, Capital Adequacy Ratio, Non-Performing Loans, Loan Loss Provisioning

I. Introduction

Nigeria's banking sector is a cornerstone of the nation's financial system, significantly contributing to economic expansion and development. Deposit Money Banks (DMBs) act as essential intermediaries, channeling funds from depositors to borrowers, which in turn stimulates investment, trade, and overall economic activity. The financial stability and performance of Nigerian banks are continually challenged by a variety of risks, despite their fundamental importance to the economy.

One of the most significant of these is credit risk, which arises when borrowers default on their loan's obligations. Credit risk is the opportunity that the borrower will default in reimbursement of the acquired asset. In a volatile and unpredictable economic environment such as Nigeria's, the management of credit risk becomes essential. Effective credit risk management enables banks to evaluate, monitor, and mitigate the potential losses from lending activities. This not only helps in averting substantial financial setbacks but also enhances the banks' profitability and resilience to economic shocks (Oyelakun, *et al*., 2023; Ugwu, 2025).

Over time, Nigeria's banking sector has undergone significant regulatory and governance reforms. Ugwu (2025) highlighted how excessive bad debts in Deposit Money Banks (DMBs) stemmed from poor corporate governance, inadequate credit administration, and weak adherence to credit risk management principles. To address these concerns, the Central Bank of Nigeria (CBN) has implemented a series of prudential regulations and risk management guidelines. These measures aim to enhance transparency, fortify governance structures, and ensure robust risk management across the banking industry (Animasaun, *et al*., 2025).

While risk management has long been acknowledged as essential to banking operations, there remains a significant need for empirical investigation into how these practices influence the financial performance of DMBs in Nigeria. A deeper understanding of the distinct types of risk and their respective impacts on key financial indicators such as capital adequacy, asset quality, and profitability is critical. Such insights are invaluable to policymakers, regulators, and banking professionals committed to fostering stability and robustness within the sector (Malahim, 2023).

The existing literature presents divergence views on the relationship between risk management practices and the financial performance of Deposit Money Banks (DMBs) in Nigeria and other African nations. Some scholars argued that credit risk management and liquidity risk have a significant impact on return on assets (ROA), (Ademola & Ismaila, 2022; Animasaun et al., 2025). Conversely, other researchers contend that credit risk and financial risk have a positive influence on financial performance; measured by return on equity (ROE) and ROA, but their effect remains statistically insignificant (Jackson & Tamuke, 2022; Mbanefo, 2024; Tomomewo et al., 2023; Ugwu, 2025).

This conflicting evidence in findings presents a challenge for policymakers, complicating efforts to ascertain the extent to which risk management practices affect the financial health of DMBs. In light of this uncertainty, the present study investigated the relationship between risk management practices and the financial performance of Deposit Money Banks (DMBs) in Nigeria. By doing so, it will enrich the literature on credit risk management and financial performance. Also, the findings are expected to guide

ISSN 2278-2540 | DOI: 10.51583/IJLTEMAS | Volume XIV, Issue V, May 2025

strategic decision-making and inform regulatory policies that foster a more resilient and sustainable banking industry in Nigeria (Jackson & Tamuke, 2022).

II. Literature Review

Risk management

Risk management involves identifying, assessing, and prioritizing potential threats, followed by strategic measures to mitigate, monitor, and control their impact or likelihood. Risks can originate from numerous sources, including market volatility, political instability, and project failures at any stage, legal liabilities, credit risks, accidents, natural disasters, deliberate adversarial attacks, or unpredictable events. Successfully managing these uncertainties helps organizations maintain stability and optimize performance. Enoch, Digil, and Arabo (2021) conducted a comparative study on how credit risk management affects the profitability of microfinance banks in Nigeria. Their research highlighted that banks often struggle with inadequate information when assessing loan applications, making it difficult to evaluate borrowers' commitment and business viability. The study found that strengthening credit risk control measures significantly improves profitability by reducing payment defaults.

Loan loss provisioning

Loan loss provisioning is a vital aspect of banking operations, serving as an allowance for potential loan losses including non-performing loans, customer bankruptcy, and renegotiated loans with lower payments. These provisions are reflected in loan loss reserves on a bank's balance sheet, which can increase through provisions or decrease via net charge-offs. By continually updating these provisions based on historical default rates and payment statistics, banks aim to present an accurate financial position. This practice contributes significantly to financial system stability, as it allows banks to recognize estimated losses preemptively, thereby preserving capital and sustaining credit supply during economic downturns. Research indicates that effective loan loss provisioning management correlates with increased profitability, highlighting the importance of prudent risk assessment and management in banking operations (Mulyanto *et al*., 2021). Thus, the study examined the first hypothesis:

$H0_1$: There is no significant relationship between loan loss provisioning and Financial Performance.

Non-Performing Loan Ratio (NPLR)

The non-performing loan ratio, better known as the NPL ratio, is the ratio of the amount of non-performing loans in a bank's loan portfolio to the total amount of outstanding loans the bank holds. The Non-performing loans (NPLs) ratio measures the effectiveness of a bank in receiving repayments on its loans. Non-performing loans (NPLs) can be a significant risk for banks because they tie up capital that could be used for profitable lending. When a borrower is unable to make payments due to financial distress, bankruptcy, or loss of income, banks classify these loans as non-performing. Adeusi *et al.* (2013) found a strong link between effective risk practices and improved bank performance in Nigeria, with a negative correlation between non-performing loans and profitability. Financial analysts frequently use the NPL ratio to compare the quality of loan portfolios among banks. They may view lenders with high NPL ratios as engaging in higher-risk lending, which can lead to bank failures. Economists examine NPL ratios to predict potential instability in financial markets. Investors can view NPL ratios to choose where to invest their money; they can view banks with low NPL ratios as being lower-risk investments than those with high ratios. (Ilelaboye *et al*., 2023).

Non-Performing Loan Ratio (NPLR) represents the percentage of loans that are not generating income due to delayed or defaulted payments. If a bank has a high **Loan to Deposit Ratio (**LTDR) or **Loan to Asset Ratio (**LTAR), it could indicate aggressive lending practices, which may increase the likelihood of defaults and thus raise the NPLR. Banks with strong risk management frameworks can maintain a balance, ensuring profitability while minimizing loan defaults. The Loan to Deposit Ratio (LTDR) and the Loan to Asset Ratio (LTAR) are both crucial indicators of a bank's liquidity and risk exposure, and they can significantly impact the Non-Performing Loan Ratio (NPLR).

Loan to Deposit Ratio (LTDR) measures the proportion of a bank's loans to its total deposits. A high LTDR suggests that a bank is aggressively lending relative to its deposit base, which can lead to a higher risk of non-performing loans if credit assessment is weak. Conversely, a lower LTDR indicates a more conservative lending approach, potentially reducing the NPLR. (Adenuga *et al.*, 2021).

Loan to Asset Ratio (LTAR) assesses the proportion of a bank's total assets that are allocated to loans. A high LTAR means a large portion of the bank's assets is tied up in loans, increasing exposure to credit risk. If the bank does not maintain strong underwriting standards, this can lead to an elevated NPLR, as more loans default. (Tomomewo *et al*., 2023). At this point, the second hypothesis in the study is examined to be:

$H0_2$: There is no significant relationship between non-performing loan ratio and Financial Performance.

Capital Adequacy Ratio (CAR)

The capital adequacy ratio (CAR), also referred to as the capital-to-risk weighted assets ratio (CRAR), is a crucial metric for assessing a bank's financial stability. It evaluates how well a bank can fulfill its obligations by comparing its capital to risk-weighted

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assets. Regulatory authorities closely monitor this ratio to gauge a bank's risk of failure and ensure depositor protection while maintaining the overall stability of financial systems. Maintaining a minimum CAR is essential, as it provides banks with a buffer against potential losses, reducing the likelihood of insolvency and the subsequent loss of depositor funds. However, despite the Central Bank of Nigeria's (CBN) prudential regulations, the rate of non-performing loans rose from 4.84% to 5.3% between February and April 2022. This exceeded the regulatory cap of 5%, indicating that banks were holding more problematic loans than allowed (Ubah, 2021; Animasaun *et al*., 2025).

Capital Adequacy Ratio (CAR) measures a bank's financial strength by comparing its capital reserves to its risk-weighted assets. It consists of two tiers of capital, which are summed and divided by risk-weighted assets, adjusted according to the risk levels of the bank's loans. This method ensures that financial institutions maintain sufficient capital to cover potential losses, helping regulators uphold stability and efficiency within the banking sector. Thus, the third hypothesis examined in the study is:

$H0_3$: There is no significant relationship between capital adequacy ratio and Financial Performance.

Financial Performance

In the banking industry, financial performance refers to the effectiveness with which a bank utilizes its available resources to generate profits. It is typically evaluated through various key financial indicators, including Return on Assets (ROA), which measures how efficiently a bank's assets contribute to its earnings, and Return on Equity (ROE), which reflects the profitability derived from shareholders' investments. Additionally, profitability ratios such as the Net Interest Margin (NIM) are employed to assess a bank's capability to balance its interest income against interest expenses. Collectively, these metrics offer a comprehensive assessment of a bank's financial health and operational effectiveness.

Assessing financial performance is vital for maintaining the stability of banking institutions, as it helps determine their capacity to absorb potential losses and sustain operations during economic downturns. Early identification of financial inefficiencies allows banks to refine their risk management strategies, thereby minimizing the likelihood of severe financial distress (Animasaun, *et al.*, 2025). Moreover, strong financial performance enhances a bank's ability to support economic development by providing more credit to individuals and businesses, thus fostering increased economic activity (Jackson & Tamuke, 2022).

Conversely, weak financial performance can escalate into bank failures, posing serious threats to the stability of the entire financial system. Consequently, continuous monitoring and proactive enhancement of financial performance are imperative to ensure institutional resilience. Sustained financial strength not only promotes the longevity of banks but also contributes significantly to the overall health and stability of the national economy (Ataine & Osuji, (2024).

Theoretical Review

Agency Theory: Jensen & Meckling (1976) initially proposed the agency hypothesis and proposed implications for the allocation of ownership and management. The agency problem's fundamental principle is that ownership and control should be kept separate. This causes a conflict of interest between management and its shareholders. Stated differently, managers and investors usually have different interests (Schroeder *et al*., 2014). As a result, Managers diminish the company's worth by trying to maximize their personal gains while disregarding the shareholders' ones. Soon followed orders from the government to decrease and improve the matter of the agency. Outside investors utilize corporate governance as a collection of safeguards to protect themselves against expropriation by insiders (Lonkani, 2018).

Subcommittees are responsible for monitoring and are subordinate to the Board of Directors. According to Jo and Harjoto (2011), the corporate governance monitoring role positively affects the value of the organization. As a result, the firm's value will increase. Agency theory states that shareholders and managers have different risk appetites (Jensen and Meckling, 1976; Subramaniam *et al*., 2009).

Credit risk theory: One of the biggest risks to banks' position in credit intermediation is credit default, which occurs when borrowers are unable to repay the loans they took out from their banks (Coyle, 2000). The Credit risk theory was proposed by Merton (1977) default model and compares a firm's credit risk to the equity and debt obligations in its capital structure. There is no doubt that the capital will be affected if borrowers don't fulfill their bank commitments. Another difficulty for central banks is making sure that Banks have sufficient policies and procedures in place to protect them against past-due loans by means of the regular release of recommendations to banks and the establishment and execution of penalties for violating the criteria. The goal of these central banks' initiatives is to prevent financial systemic instability and ensure that banks and their clients fulfill the terms and conditions of financial covenants. However, banks are prepared to impose higher interest rates on loans with likely increased chances of default (Owojori *et al*. 2011). Banks' financial results need to be in line with how skillfully their exposures to credit risk are handled. Additionally, it is anticipated that management teams at banks will look for and use suitable techniques to manage increasing exposures to credit risk, even while staying inside the parameters set by their individual central banks corporate governance code and prudential principles (Almustafa *et al*., 2023)

Loan Pricing Theory: This idea was created in 1981 by Stiglitz and Weiss. According to the hypothesis, banks consistently set high interest rates. Opponents contend that banks ought to take the moral risks and issues with adverse selection in the loan market when optimizing interest revenue in light of the robust credit market Asymmetry in information. When banks establish high interest

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rates, it will cause an adverse selection issue in the market. These high rates are acceptable to borrowers. Upon receiving these advances and loans, the borrower could experience moral hazard behaviors, also known as "borrower moral hazard," because they are inclined to undertake extremely dangerous ventures or investments.

Financial Intermediation Theory: According to Besley and Bringham (2009), having intermediaries enhances economic well-being. They also stated that the purpose of financial intermediaries was to fulfill the specific needs of borrowers and savers, as well as to lower the inefficiencies that would arise in the case that fund users could obtain loans exclusively by taking out direct loans from savers. Money is needed for various reasons by various individuals and groups and other economic actors. In order to supply the required funding, there are many types of organizations that offer financial services. Deposit money banks are among such institutions that render financial services.

Their primary activity is financial intermediation, often known as indirect financing, which entails transferring money from the economy's surplus to its deficit units; thus transforming bank deposits into loans and credits. There are companies that possess solid concepts and commercial prospects that they would like to invest money in, but they lack the necessary funds. They would be ready to take out a loan from net savers with excess money. For this reason, these subsequent categories are known as net borrowers or the economy's deficit unit. But there are obstacles that make it challenging for the borrowing to happen. And as a result, in order to eliminate this obstacle, a go-between, an intermediary is required to serve as a bridge between the net borrowers and net savers. This position is known as financial intermediary. The function of financial intermediation is directing cash from net savers with unused savings to Investors or net borrowers that require financial assistance

Empirical Review

Animasaun, *et al*., (2025) examined the impact of credit risk management on the financial performance of listed deposit money banks in Nigeria between 2013 and 2022. Using an ex-post facto research design, the authors analyzed data from ten listed banks and applied Panel Ordinary Least Square (OLS) regression to assess the relationship between credit risk management and financial performance. The findings indicated that credit risk management significantly affects return on assets (Adj $R^2 = 0.301$, F-Statistics = 4.561471, p-value = 0.000011 < 0.05). The study concluded that effective credit risk management enhances financial performance and recommends that banks strengthen their risk management practices and maintain sufficient liquidity to mitigate negative impacts on profitability

Ugwu, (2025) examines the impact of credit risk management on the financial performance of selected deposit money banks in Nigeria. It analyzes data from 2000 to 2023, focusing on key financial indicators such as non-performing loans, provisions for bad debt, and loan loss provisions. The research employs various econometric techniques, including unit root tests, cointegration analysis, and the Auto-Regressive Distributed Lag (ARDL) model, to assess both short-term and long-term effects. Findings indicate that while credit risk management has a positive impact on financial performance, its effect remains statistically insignificant. The study recommends that monetary authorities implement policies to enhance loan repayment, including the use of collateral and guarantees to mitigate potential losses.

Mbanefo, (2024), conducted a study analyzing the impact of risk management on the performance of Deposit Money Banks (DMBs) in Nigeria. The research focused on credit risk, liquidity risk, operational risk, and capital risk, examining their effects on return on equity. Using econometric techniques such as Augmented Dickey-Fuller Tests for Unit Roots and Ordinary Least Squares (OLS), the study found that risk management had an insignificant effect on DMB performance within the study scope. The study recommended that the Central Bank of Nigeria (CBN) strengthen its regulatory framework to enhance risk management practices. Additionally, DMBs were advised to equip their credit and risk management officers with better skills and competencies. The CBN was also encouraged to conduct regular risk assessments and promote a risk-awareness culture through supervision.

Nnaomah, *et al*., (2024) provides a comparative analysis of AI applications in risk management within the U.S. and Nigerian banking sectors. It examines how AI technologies are adopted and implemented to address various risk types, including credit, market, operational, and compliance risks. The researchers conducted a literature review**,** examining existing studies, industry reports, and regulatory frameworks to understand AI adoption trends in both countries. Additionally, they employed case studies of selected banks to assess AI implementation in risk management practices. The study utilized survey research design**,** collecting data from banking professionals, AI experts, and regulatory bodies. The analysis incorporated statistical techniques such as regression analysis and descriptive statistics to evaluate AI's impact on risk mitigation strategies. The findings of the study indicated that U.S. banks have a more mature AI integration, leveraging advanced analytics, machine learning models, and natural language processing for fraud detection, compliance monitoring, and decision-making. In contrast, Nigerian banks are in the early stages of AI adoption, facing challenges such as inadequate technological infrastructure, regulatory hurdles, and a shortage of AI-skilled professionals. Despite these disparities, the study highlights the growing interest in AI within Nigeria's banking sector, driven by the need for enhanced competitiveness and regulatory compliance. The paper underscores the importance of supportive policies, investment in technology, and capacity building to foster AI-driven risk management.

Tomomewo *et al*., (2023) examined the impact of credit risk management **on** non-performing loans in Nigerian deposit money banks. It evaluates key credit risk management indicators such as capital adequacy, loan and advance, loan loss provision, and loan-to-total asset ratio**,** while measuring non-performing loans using the non-performing loan-to-total loan ratio**.** The research spans

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2013 to 2022**,** covering 14 listed banks in Nigeria. Using panel regression estimation techniques including OLS estimation, fixed effect model, and random effect model**,** the study finds that Capital adequacy ratio (CAA) has a positive and significant effect on non-performing loans**,** Loan loss provision (LLP) and loan-to-total asset ratio (LTAR) show positive but insignificant effects and Loan and advances (LA) exhibit a negative and insignificant effect on non-performing loans. The study concluded that credit management components influence non-performing loans at varying significance levels**.** It recommends that banks adopt different loan loss provisioning approaches for specific loan categories to minimize adverse effects.

Oyelakun, *et al*., (2023) investigated the article titled "Credit Risk and its Management in the Banks: A Conceptual Review". The study explores the concept of credit risk in banking and how it can be managed to prevent financial instability. The authors employed a conceptual review methodology in their study on credit risk management in banks. This approach involved gathering and analyzing information from original journal papers that explored the relationship between credit risk and commercial banks' performance. Instead of conducting primary data collection, they relied on existing literature to assess how credit risk impacts financial institutions and how it can be effectively managed.

Ademola & Ismaila (2022) examined the financial risk and performance of deposit money banks in Nigeria. The focused on financial risk and performance in Nigerian deposit money banks, emphasizing credit and liquidity risk. Compared to broader research on banking performance, their study aligns with key themes found in global literature. The study employed a quasi-experimental ex post facto design, analyzing how pre-existing independent variables influenced financial performance. Using panel data regression analysis with STATA 17, they assessed ten banks listed on the Nigerian Stock Exchange between 2010 and 2019. The findings revealed that Credit risk and liquidity risk significantly impact financial performance (measured by return on equity, ROE). Also, financial risk negatively affects the financial performance of Nigerian deposit money banks. The study highlights the importance of risk management in maintaining banking stability.

Jackson & Tamuke (2022) conducted an empirical analysis on the relationship between credit risk management and the financial performance of domiciled banks in Sierra Leone. Their study utilized panel data from the Bank of Sierra Leone covering the period from 2008Q1 to 2018Q41. The findings of the study indicated that high levels of non-performing loans (NPLs) contributed to the fragility of the banking system and the low productive base of the domestic economy exacerbates the prevalence of NPLs. The Bank of Sierra Leone (BSL) had to intervene with stringent measures spanning from 2015-2017 to stabilize two state-owned commercial banks. The study recommended that return on assets (ROA) and return on equity (ROE) be used as independent indicators for monitoring banking performance.

Akintola & Adesanya (2021) examined the relationship between deposit money banks (DMBs) and economic growth in Nigeria from 1994 to 2017. Using secondary data from sources like the Central Bank of Nigeria and the National Bureau of Statistics, they applied regression analysis and the Ordinary Least Square (OLS) method to assess the impact of money supply, bank credit, and interest rates on Nigeria’s real GDP. Their findings indicated that DMBs significantly influence economic growth through credit provision and interest rates on lending. They recommended that the Central Bank of Nigeria should regulate bank charges and interest rates to ensure affordable credit access for manufacturers and other productive sectors1. Additionally, they suggested that government supervision and regulation should enhance public confidence in the banking system.

III. Methodology

Research Design

This study employs both ex-post facto and panel research designs, approaches widely utilized in previous research to examine relationships between variables (Animasaun et al., 2025). Given that relevant data are readily available in firms' audited financial reports, the ex-post facto method is particularly valuable. Additionally, a longitudinal research approach was adopted, encompassing five cross-sectional banking units over a 10-year span (2014–2023), yielding a total of 50 firm-year observations (5 banks times 10 years). The study focuses on Nigerian deposit money banks, with data collected and analyzed quantitatively.

Population of the Study

The population of this study comprised all 24 deposit money banks in Nigeria as listed by the Central Bank of Nigeria (CBN) in 2023. These banks were chosen as they play a significant role in Nigeria's financial sector and provide a complete overview of risk management and financial performance. The non-deposit money bank was exempted because they were not within the scope of the study.

Sample size and Sampling Techniques

The study's sample size was 5 listed deposit money banks on the Nigerian Stock Exchange (NSE) which has been rebranded as the Nigerian Exchange Group Plc (NGX Group) basically because of their financial strength market share influence**.** The study employed stratified random sampling technique to ensure that all DMBs were selected. This method has been employed in studies like Aremu, Arogundade, and Azeez (2022), ensuring that a sufficient number of banks were selected, thereby enhancing the generalizability and reliability of the results.

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Sources of Data

This study utilized secondary data to obtain information on both dependent and independent variables. These variables include loan loss provisioning, non-performing loan ratio, capital adequacy ratio, and financial performance indicators. The data were collected from the audited financial statements of the listed Deposit Money Banks (DMBs) in Nigeria. Additionally, the NGX Group database and the Central Bank of Nigeria (CBN) annual reports were also consulted. The dataset covered a ten-year period (2014–2023), allowing for a comprehensive analysis of the trends and relationships between risk management variables and financial performance.

Table 3.1 Listed Deposit Money Banks and Their Respective Year of Listing

S/N	Name of bank	Year of listing
1	Access Bank plc, Access Holding plc	1998, 2022
2	First Bank Nigeria plc, FBN Holding plc	1991,2012
3	GTB Plc, GTCO plc	1996, 2021
4	Stanbic IBTC Holdings plc	2012
5	Zenith Bank plc	2004
Source: Authors' Compilation, 2025		

IV. Results and Discussion

Descriptive Statistics

The descriptive statistics for the variables utilized in the analysis are shown in Table 4.1.

Table 4.1: Descriptive Statistics				
	ROA	CAR	LTDR	LTAR
Mean	1.192	17.909	0.533	0.343
Median	1.225	18.360	0.550	0.290
Maximum	1.990	37.400	1.550	0.780
Minimum	0.120	8.020	0.000	0.110
Std. Dev.	0.462	4.973	0.246	0.149
Skewness	-0.659	0.275	0.694	0.881
Kurtosis	3.213	3.481	4.805	2.855
Jarque-Bera	11.273	3.386	32.843	19.802
Probability	0.004	0.184	0.000	0.000
Sum	181.230	2722.170	81.000	52.170
Sum Sq. Dev.	32.236	3734.340	9.128	3.338
Observations	152	152	152	152

Source: Researcher’s computation, 2025

The mean value of Return on Assets (ROA), a metric used to assess financial performance and which is calculated by dividing the Net Income by Total Assets., in table 4.1 was 1.192 for all of the chosen institutions. This shows that the financial performance of these banks' assets is, on average. The standard deviation of 0.462 reflects moderate variability in ROA among the banks, indicating differences in the values their assets relative to their cost. The minimum ROA observed was 0.120, implying that at least one bank's assets were valued below their replacement cost, potentially signaling poor market performance or undervaluation. Conversely, the maximum value of 1.990 indicates that another bank's assets were valued nearly twice their replacement cost, reflecting strong return on asset confidence.

The Capital Adequacy Ratio (CAR) has a mean value of 17.909, indicating that, on average, the banks maintain capital levels that are 17.909% of their risk-weighted assets. The standard deviation of 4.973 shows some variation in capital adequacy among the

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banks, with values ranging from a minimum of 8.020% to a maximum of 37.400%. This suggests that while some banks have relatively low capital buffers, others maintain significantly higher levels of capital.

The Loan to Deposit Ratio (LTDR) has a mean value of 0.533, meaning that, on average, 53.3% of the banks' deposits are converted into loans. The standard deviation of 0.246 indicates variability in the extent to which banks utilize their deposits for lending, with LTDR values ranging from 0.000 (indicating no loans) to 1.550 (indicating that loans exceed deposits by 55%).

The Loan to Asset Ratio (LTAR) has a mean value of 0.343, indicating that, on average, 34.3% of the banks' total assets are composed of loans. The standard deviation of 0.149 suggests some variation among the banks, with LTAR values ranging from a minimum of 0.110 to a maximum of 0.780, reflecting differences in the proportion of assets allocated to loans.

Correlation

Table 4.2: Correlation Matrix					
		ROA	CAR	LTDR	LTAR
ROA	Pearson Correlation	1.000			
	Sig. (2-tailed)				
CAR	Pearson Correlation	.403**	1.000		
	Sig. (2-tailed)	(0.000)			
LTDR	Pearson Correlation	0.116	-0.076	1.000	
	Sig. (2-tailed)	(0.154)	(0.351)		
LTAR	Pearson Correlation	.159*	.190*	.395**	1.000
	Sig. (2-tailed)	(0.050)	(0.019)	(0.000)	
	N	152	152	152	152

Source: Researcher's Computation, 2025

From table 4.2 above, the correlation between financial performance and Credit risk is positive but statistically insignificant, with a correlation coefficient of ($r = 0.130;\ \rho > 0.1$). This indicates that while return on asset and credit risk generally move in the same direction, the strength of their relationship is weak. From an accounting perspective, this suggests that credit risk does not have a notable impact on financial performance, reflecting that variations in the independence of the risk management are not significantly influencing financial performance perceptions of the firm's value. In contrast, Return on Assets (ROA) shows a positive and statistically significant correlation with Capital Adequacy Ratio (CAR), with a correlation coefficient of ($r = 0.403 **;\ \rho < 0.05$). This significant positive relationship suggests that as CAR increases, ROA also tends to increase. This therefore indicated that, CAR reflects the firm's financial stability and capital strength, which can enhance investor confidence and positively influence financial performance, as indicated by ROA.

The correlation between Return on Assets (ROA) and Loan to Asset Ratio (LTAR) is also positive and statistically significant, with a coefficient of ($r = 0.159;\ \rho < 0.05$). This indicates that a higher LTAR is associated with a higher ROA. This result implies that firms with a greater proportion of loans relative to their assets are perceived more favorably, reflecting positively in ROA.

The Return on Assets (ROA) and Loan to Deposit Ratio (LTDR) showed a strong and favorable association, with a correlation coefficient of($r = 0.165;\ \rho < 0.05$). This significant positive relationship suggests that as LTDR increases, ROA tends to rise as well. In accounting terms, this indicates that a higher loan-to-deposit ratio may be associated with better market performance or growth expectations, which enhances the firm's performance as captured ROA.

Table 4.3: Pooled Regression								
	Pooled Effect			Fixed Effect			Random Effect	
	Coeff.	ρ		Coeff	ρ		Coeff	ρ
CAR	0.347***	0.000		0.018	0.224		0.035***	0.000
LTDR	0.255*	0.099		0.349*	0.095		0.337**	0.048
LTAR	0.088	0.730		0.108	0.821		0.109	0.731
R^2	0.18			0.44			0.61	
F-Stat	11.160			3.437			6.246	
Prob.	0.000			0.000			0.000	

Source: Researcher's Computation, 2025

Note:***, **and * denotes significance at 1% , 5% and 10% respectively

Table 4.3 above presented the results of a pooled regression analysis using three different models: Pooled Effect**,** Fixed Effect**,** and Random Effect**.** CAR (Capital Adequacy Ratio) Shows a strong, significant positive effect in the Pooled Effect and Random Effect

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models ($\rho = 0.000$). The Fixed Effect model does not show statistical significance ($\rho = 0.224$), suggesting that when controlling for individual entity characteristics, CAR may not be a strong predictor.

Loan-To Deposit Ratio (LTDR) displays a weakly significant effect in the Pooled Effect and Fixed Effect models ($\rho = 0.099$ *and* 0.095, *respectively*). This shows moderate significance in the Random Effect model ($\rho = 0.048$), indicating that LTDR has a more stable relationship when accounting for individual variations.

Loan-To Asset Ratio (LTAR) does not show a strong relationship in any model (ρ *-values* > 0.7), implying that LTAR does not strongly affect the dependent variable.

Model Fit (R^2, F-statistic, ρ value)**:** R^2 values indicate how well the models explain the variation in the dependent variable; Pooled Effect: 0.18 (weak fit)**,** Fixed Effect: 0.44 (moderate fit) and Random Effect: 0.61 (strongest fit)**.** F-statistics and P values show that all models are statistically significant ($\rho = 0.000$), meaning the overall regressions are meaningful.

Table 4.4: Hausmann Test			
Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	1.551	3.000	0.671
Period random	7.342*	3.000	0.062
Cross-section and period random	2.121	3.000	0.548

Source: Researcher's Computation, 2025

Hypothesis 1 ($H0_1$): *There is no significant relationship between loan loss provisioning and financial performance.* To test this, panel regression analysis was conducted using both Fixed and Random Effects models. The Hausman test in table 4.4, ($\chi^2 = 1.551$, $\rho > 0.1$) since the p-value is relatively high, we fail to reject the null hypothesis, suggesting that random effects may be appropriate.

Hypothesis 2 ($H0_2$): *There is no significant relationship between non-performing loan ratio and financial performance.* Analysis shows that the Loan to Deposit Ratio (LTDR) has a positive and statistically significant effect on Return on Assets (ROA). A 1% rise in LTDR corresponds to a 0.337% increase in ROA as indicated in table 4.3 above suggesting that efficient use of deposits for lending improves financial performance and market perception. Although the Loan to Asset Ratio (LTAR) also has a positive effect on ROA, the relationship is statistically insignificant. This indicates that while allocating more assets to loans may support profitability, LTAR alone is not a strong predictor of financial performance. The model's R^2 value of 0.6, means that 61% of ROA variation is explained by Capital Adequacy Ratio (CAR), LTDR, and LTAR, while the remaining 39% is due to other factors. The F-statistic (6.246) confirms the overall model is statistically significant.

Hypothesis 3 ($H0_3$): *There is no significant relationship between capital adequacy ratio and financial performance.* Results reveal a significant positive relationship between CAR and ROA in table 4.3 above indicating that a 1% increase in CAR results in a 0.035% in rise in ROA, confirming that well-capitalized banks are perceived as financially stable and less risky, which boosts their market valuation.

V. Conclusion and Recommendations

The study examined the effect of credit risk management on the financial performance of deposit money banks in Nigeria, using data from five selected banks. It applied both Random and Fixed Effects models to assess the influence of credit risk on financial performance, with ROA serving as the key performance indicator. The findings offered a detailed insight into the relationship between credit risk and financial outcomes in the banking industry. The analysis revealed that credit risk had a positive and significant impact on ROA, suggesting that higher levels of credit risk were associated with improved financial performance. This supports the idea that effective credit risk management and sound governance structures are critical drivers of financial success. The study concluded that credit risk enhances market-based financial performance, possibly because investors associate higher credit risk with the potential for greater returns. It also emphasized that strong risk management practices and governance mechanisms play a vital role in sustaining financial performance.

Based on these findings, the study recommended that banks should strengthen their credit risk management frameworks to ensure a well-balanced strategy that effectively manages risk while optimizing returns. Establishing a corporate culture rooted in transparency, ethical practices, and risk awareness would bolster the efficiency of credit risk management and oversight committees. Additionally, continuously reviewing and updating governance frameworks is crucial to keeping them effective and aligned with evolving market conditions and regulatory requirements.

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Appendix

Unit Root Test
Null Hypothesis: Unit root (individual unit root process)

Series: TQ
Date: 08/24/24 Time: 09:12
Sample: 2014 2023
Exogenous variables: Individual effects
User-specified lags: 1
Total (balanced) observations: 50
Cross-sections included: 19

Method	Statistic	Prob.**
Im, Pesaran and Shin W-stat	-3.28673	0.0005

** Probabilities are computed assuming asympotic normality

Intermediate ADF test results

Cross section	t-Stat	Prob.	E(t)	E(Var)	Lag	Max Lag	Obs
1	-0.9801	0.6819	-1.544	2.369	1	1	6
2	-1.5492	0.4456	-1.544	2.369	1	1	6
3	-0.5231	0.8167	-1.544	2.369	1	1	6
4	-1.6471	0.4059	-1.544	2.369	1	1	6
5	-1.0883	0.6409	-1.544	2.369	1	1	6
6	-1.8400	0.3323	-1.544	2.369	1	1	6
7	-2.2145	0.2182	-1.544	2.369	1	1	6
8	-0.9331	0.6989	-1.544	2.369	1	1	6
9	-2.2049	0.2208	-1.544	2.369	1	1	6
10	-2.3836	0.1790	-1.544	2.369	1	1	6
11	-6.2287	0.0039	-1.544	2.369	1	1	6
12	-2.3586	0.1846	-1.544	2.369	1	1	6
13	-4.9313	0.0119	-1.544	2.369	1	1	6
14	-2.0633	0.2596	-1.544	2.369	1	1	6
15	-3.4879	0.0517	-1.544	2.369	1	1	6
16	-7.1417	0.0020	-1.544	2.369	1	1	6
17	-1.8694	0.3219	-1.544	2.369	1	1	6
18	-1.6604	0.4007	-1.544	2.369	1	1	6
19	-6.2834	0.0038	-1.544	2.369	1	1	6
Average	-2.7047		-1.544	2.369			

Warning: for some series the expected mean and variance for the given lag and observation are not covered in IPS paper

Null Hypothesis: Unit root (individual unit root process)

Series: CAR
Date: 08/24/24 Time: 09:13
Sample: 2014 2023
Exogenous variables: Individual effects
User-specified lags: 1
Total (balanced) observations: 50

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Cross-sections included: 19

Method	Statistic	Prob.**
Im, Pesaran and Shin W-stat	-3.30922	0.0005

** Probabilities are computed assuming asympotic normality

Intermediate ADF test results

Cross section	t-Stat	Prob.	E(t)	E(Var)	Lag	Max Lag	Obs
1	0.0791	0.9292	-1.544	2.369	1	1	6
2	-2.1192	0.2434	-1.544	2.369	1	1	6
3	-1.4990	0.4669	-1.544	2.369	1	1	6
4	-2.0110	0.2754	-1.544	2.369	1	1	6
5	-1.8342	0.3344	-1.544	2.369	1	1	6
6	-18.098	0.0000	-1.544	2.369	1	1	6
7	-1.7950	0.3493	-1.544	2.369	1	1	6
8	-1.8489	0.3292	-1.544	2.369	1	1	6
9	-1.3096	0.5495	-1.544	2.369	1	1	6
10	-1.6792	0.3932	-1.544	2.369	1	1	6
11	-1.0698	0.6484	-1.544	2.369	1	1	6
12	0.2033	0.9423	-1.544	2.369	1	1	6
13	-8.2492	0.0009	-1.544	2.369	1	1	6
14	-1.6431	0.4076	-1.544	2.369	1	1	6
15	-2.0336	0.2685	-1.544	2.369	1	1	6
16	-0.8727	0.7196	-1.544	2.369	1	1	6
17	-2.7388	0.1204	-1.544	2.369	1	1	6
18	-0.9227	0.7026	-1.544	2.369	1	1	6
19	-2.0980	0.2493	-1.544	2.369	1	1	6
Average	-2.7126		-1.544	2.369			

Warning: for some series the expected mean and variance for the given lag and observation are not covered in IPS paper

Null Hypothesis: Unit root (individual unit root process)

Series: LTDR

Date: 9/1/25 Time: 09:15

Sample: 2014 2023

Exogenous variables: Individual effects

User-specified lags: 1

Total (balanced) observations: 50

Cross-sections included: 19

Method	Statistic	Prob.**
Im, Pesaran and Shin W-stat	-1.34434	0.0894

** Probabilities are computed assuming asympotic normality

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Intermediate ADF test results

Cross section	t-Stat	Prob.	E(t)	E(Var)	Lag	Max Lag	Obs
1	-3.9833	0.0307	-1.544	2.369	1	1	6
2	-0.6262	0.7905	-1.544	2.369	1	1	6
3	-1.3326	0.5395	-1.544	2.369	1	1	6
4	-2.3073	0.1959	-1.544	2.369	1	1	6
5	-2.2470	0.2101	-1.544	2.369	1	1	6
6	-1.5801	0.4331	-1.544	2.369	1	1	6
7	-0.4788	0.8278	-1.544	2.369	1	1	6
8	-1.7086	0.3814	-1.544	2.369	1	1	6
9	-1.9842	0.2840	-1.544	2.369	1	1	6
10	-0.5021	0.8220	-1.544	2.369	1	1	6
11	-2.7623	0.1171	-1.544	2.369	1	1	6
12	-1.0279	0.6642	-1.544	2.369	1	1	6
13	-9.2458	0.0004	-1.544	2.369	1	1	6
14	-0.9500	0.6928	-1.544	2.369	1	1	6
15	0.2107	0.9430	-1.544	2.369	1	1	6
16	-1.5797	0.4332	-1.544	2.369	1	1	6
17	-1.8098	0.3439	-1.544	2.369	1	1	6
18	-2.2742	0.2035	-1.544	2.369	1	1	6
19	-2.1669	0.2307	-1.544	2.369	1	1	6
Average	-2.0187		-1.544	2.369			

Warning: for some series the expected mean and variance for the given lag and observation are not covered in IPS paper

Null Hypothesis: Unit root (individual unit root process)
Series: D(LTDR)
Date: 9/1/25 Time: 09:15
Sample: 2014 2023
Exogenous variables: Individual effects
User-specified lags: 1
Total (balanced) observations: 50
Cross-sections included: 19

Method	Statistic	Prob.**
Im, Pesaran and Shin W-stat	-2.72758	0.0032

** Probabilities are computed assuming asympotic normality

Intermediate ADF test results

Cross section	t-Stat	Prob.	E(t)	E(Var)	Lag	Max Lag	Obs

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1	-1.1587	0.5979	-1.558	2.648	1	1	5
2	-1.9674	0.2873	-1.558	2.648	1	1	5
3	-1.8108	0.3377	-1.558	2.648	1	1	5
4	-2.0001	0.2774	-1.558	2.648	1	1	5
5	-2.2518	0.2118	-1.558	2.648	1	1	5
6	-1.3311	0.5252	-1.558	2.648	1	1	5
7	-2.4535	0.1705	-1.558	2.648	1	1	5
8	-1.8554	0.3224	-1.558	2.648	1	1	5
9	-1.5640	0.4290	-1.558	2.648	1	1	5
10	-1.1625	0.5960	-1.558	2.648	1	1	5
11	-11.544	0.0003	-1.558	2.648	1	1	5
12	-1.7026	0.3756	-1.558	2.648	1	1	5
13	-5.4845	0.0109	-1.558	2.648	1	1	5
14	-4.6846	0.0209	-1.558	2.648	1	1	5
15	0.1703	0.9310	-1.558	2.648	1	1	5
16	-2.2143	0.2208	-1.558	2.648	1	1	5
17	-1.2466	0.5607	-1.558	2.648	1	1	5
18	-1.8692	0.3178	-1.558	2.648	1	1	5
19	-2.8180	0.1187	-1.558	2.648	1	1	5
Average	-2.5763		-1.558	2.648			
Warning: for some series the expected mean and variance for the given lag							
and observation are not covered in IPS paper							

Null Hypothesis: Unit root (individual unit root process)							
Series: LTAR							
Date: 9/1/25 Time: 09:15							
Sample: 2014 2023							
Exogenous variables: Individual effects							
User-specified lags: 1							
Total (balanced) observations: 50							
Cross-sections included: 19							
Method					Statistic		Prob.**
Im, Pesaran and Shin W-stat					-2.62190		0.0044
** Probabilities are computed assuming asympotic normality							
Intermediate ADF test results							
Cross						Max	
section	t-Stat	Prob.	E(t)	E(Var)	Lag	Lag	Obs
1	-1.1085	0.6328	-1.544	2.369	1	1	6
2	-2.9765	0.0913	-1.544	2.369	1	1	6
3	-2.6702	0.1301	-1.544	2.369	1	1	6
4	-1.3543	0.5300	-1.544	2.369	1	1	6
5	-5.2295	0.0091	-1.544	2.369	1	1	6
6	-0.6584	0.7817	-1.544	2.369	1	1	6
7	-2.6259	0.1366	-1.544	2.369	1	1	6
8	-1.4161	0.5025	-1.544	2.369	1	1	6
9	-1.0375	0.6608	-1.544	2.369	1	1	6

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10	-1.9687	0.2888	-1.544	2.369	1	1	6
11	-0.8431	0.7288	-1.544	2.369	1	1	6
12	-4.8485	0.0129	-1.544	2.369	1	1	6
13	-3.2178	0.0697	-1.544	2.369	1	1	6
14	-2.6300	0.1360	-1.544	2.369	1	1	6
15	-4.1017	0.0271	-1.544	2.369	1	1	6
16	-2.9399	0.0952	-1.544	2.369	1	1	6
17	-3.5466	0.0486	-1.544	2.369	1	1	6
18	-0.6302	0.7894	-1.544	2.369	1	1	6
19	-3.1244	0.0772	-1.544	2.369	1	1	6
Average	-2.4699		-1.544	2.369			
Warning: for some series the expected mean and variance for the given lag							
and observation are not covered in IPS paper							