

Risk Management, Non-Performing Loans and the Financial Performance of Deposit Money Banks in Nigeria

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ABSTRACT

The persistence of non-performing loans (NPLs) among Nigerian deposit money banks, despite comprehensive Central Bank of Nigeria (CBN) guidelines on credit risk management and loan classification, raises questions about how internal risk management practices translate into financial performance. Two concerns motivated the study. First, prior research has generally examined risk management, non-performing loans and financial performance as separate lines of enquiry rather than as an integrated system, leaving their combined effect on profitability comparatively unexamined within the Nigerian banking context. Second, much of the available evidence relies on subjective survey responses rather than audited financial data, leaving the objective, market-relevant channel comparatively under-examined. Consequently, the study examined the effect of risk management practices and non-performing loans on the financial performance of deposit money banks in Nigeria.

Anchored on Credit Risk Theory, the study specified three models to assess the direct effect of risk management, the direct effect of non-performing loans, and their combined effect on financial performance. Risk management practices were proxied by the capital adequacy ratio (CAR) and loan loss provision (LLP); non-performing loans (NPL) were measured as the ratio of non-performing loans to total loans; and financial performance was measured using return on assets (ROA). An ex-post facto research design was adopted, and secondary data were extracted from the audited annual reports of ten purposively selected listed deposit money banks in Nigeria over the period 2015 to 2024, producing a balanced panel of 100 bank-year observations. Data were analysed using descriptive statistics, Pearson correlation, unit root tests and panel regression (pooled OLS, fixed effects and random effects), with the Hausman test used to select the appropriate estimator.

Capital adequacy ratio exerted a positive and statistically significant effect on return on assets, while loan loss provision exerted a positive but insignificant effect; jointly, the risk management variables significantly explained variation in return on assets under the Fixed Effects Model ($F = 22.142$, $p = 0.000$; $R^2 = 0.849$). Non-performing loans exerted a negative but statistically insignificant effect on return on assets ($\beta = -0.0965$, $p = 0.1427$), and the combined model showed that risk management practices and non-performing loans did not jointly, significantly influence financial performance. The study concludes that effective risk management, and capital adequacy in particular, enhances the financial performance of deposit money banks in Nigeria largely irrespective of prevailing non-performing loan levels, and recommends that banks maintain optimal capital adequacy alongside efficient capital deployment, strengthen credit appraisal and loan monitoring systems, and adopt balanced loan loss provisioning strategies that protect asset quality without unduly compressing profitability.

Keywords: Risk Management; Non-Performing Loans; Financial Performance; Deposit Money Banks; Capital Adequacy Ratio; Loan Loss Provision; Panel Regression; Nigeria

INTRODUCTION

Deposit money banks occupy a structurally important position in the Nigerian economy, mobilising savings, allocating credit and transmitting monetary policy into the productive sectors. Their capacity to perform these functions sustainably depends heavily on how effectively they manage risk, particularly the credit risk that arises whenever a loan is extended. Effective risk management, spanning credit appraisal, capital adequacy planning and internal control, enables banks to anticipate potential losses, absorb financial shocks and sustain profitability, while deficient risk management exposes banks to elevated non-performing loans, rising operational costs and an erosion of shareholder value (Yahaya, 2026).

Non-performing loans (NPLs) are a critical barometer of asset quality and credit risk management effectiveness. They arise when borrowers fail to meet principal or interest obligations within an agreed timeframe, often reflecting lapses in credit appraisal, monitoring or recovery systems. Elevated NPLs constrain a bank's lending capacity, raise the cost of funds and depress profitability as measured by conventional indicators such as return on assets and return on equity (Arhinful et al., 2025). Conceptually, non-performing loans occupy an ambiguous position in the risk-performance relationship: they are simultaneously an outcome of deficient risk management and a channel through which weak risk management could plausibly transmit its effect to profitability.

The regulatory response to this challenge in Nigeria has been substantial. The Central Bank of Nigeria (CBN) has issued comprehensive guidelines on credit risk management, internal control and loan classification aimed squarely at containing non-performing loans and safeguarding banking stability. Yet several Nigerian banks continue to record persistently elevated NPL ratios, suggesting that regulatory compliance alone does not guarantee the effective internalisation of sound risk management principles (Eme & Anyim, 2026). This gap between formal compliance and substantive risk control is the empirical puzzle that motivates the present study.

A structural limitation compounds the interpretive difficulty. Much of the existing literature examines risk management, non-performing loans or financial performance as isolated constructs rather than as an integrated system. Studies that focus on non-performing loans and profitability, such as Badaki, Gugong and Dauda (2026), rarely incorporate the risk management practices that generate those loans in the first instance; conversely, studies of risk management and performance often treat non-performing loans as a residual outcome rather than as a variable to be examined jointly with risk management practices. Evidence from other emerging markets, including Namibia (Maseke & Swartz, 2021) and Ghana (Atisu et al., 2024), further shows that the effectiveness of risk management interventions in restraining non-performing loans is highly context-specific, reinforcing the need for evidence drawn directly from the Nigerian banking sector rather than inferred from comparable jurisdictions.

Against this backdrop, the study seeks to bridge the identified gap by jointly examining how risk management practices and non-performing loans influence the financial performance of deposit money banks in Nigeria. The following research questions are addressed: (i) What is the effect of risk management practices on the financial performance of deposit money banks in Nigeria? (ii) How does non-performing loans influence the financial performance of deposit money banks in Nigeria? (iii) Do risk management and non-performing loans jointly influence the financial performance of deposit money banks in Nigeria?

The main objective is to examine the effect of risk management and non-performing loans on the financial performance of deposit money banks in Nigeria. The specific objectives are to: (i) assess the effect of risk management practices on financial performance; (ii) evaluate the impact of non-performing loans on financial performance; and (iii) examine the joint influence of risk management and non-performing loans on financial performance.

In line with these objectives, the following null hypotheses are tested at the five per cent significance level:

H₀₁: Risk management practices have no significant effect on the financial performance of deposit money banks in Nigeria.

H₀₂: Non-performing loans have no significant effect on the financial performance of deposit money banks in Nigeria.

H₀₃: Non-performing loans and risk management do not jointly, significantly influence the financial performance of deposit money banks in Nigeria.

LITERATURE REVIEW

Risk Management

Risk management, in the banking context, is the systematic process of identifying, assessing, monitoring and controlling exposures that could impair a bank's capital, earnings or reputation. It spans credit risk, market risk, liquidity risk and operational risk, but credit risk, arising from the possibility that a borrower defaults on contractual obligations, remains the dominant concern for deposit money banks given the centrality of lending to their business model. Two proxies dominate the empirical literature. Capital adequacy ratio (CAR) measures a bank's regulatory capital relative to its risk-weighted assets and indicates its capacity to absorb unexpected losses without threatening depositor funds; a well-capitalised bank can sustain lending activity through periods of stress and command greater market confidence. Loan loss provision (LLP), the funds a bank sets aside against anticipated credit losses, reflects the bank's own assessment of portfolio risk and, while it protects solvency, also represents a direct charge against current earnings (Yahaya, 2026).

Non-Performing Loans

Non-performing loans are credit facilities on which the borrower has failed to meet scheduled interest or principal repayments for ninety days or more, signalling an elevated probability of default and eventual loss. The ratio of non-performing loans to total loans is the most widely used indicator of asset quality in banking research because it is directly observable in audited financial statements and comparable across banks and periods. Rising NPLs reduce interest income, absorb management attention and capital in recovery efforts, and, where provisioning is inadequate, can erode a bank's capital base (Mohammed, 2026). Because NPLs sit downstream of the credit-granting decision, their level is commonly interpreted as an outcome of the quality of a bank's risk management practices, which is the interpretive basis for including non-performing loans as a variable in its own right, alongside risk management practices, in explaining financial performance.

Financial Performance

Financial performance in banking is conventionally assessed through profitability ratios, of which return on assets (ROA), net income relative to total assets, is the most widely used because it captures how efficiently management deploys the asset base, including the loan portfolio, to generate earnings. Return on equity (ROE) complements ROA by capturing the return generated on shareholders' funds, but is more sensitive to leverage. Because risk management and non-performing loans operate principally through the earning capacity of the asset base rather than through capital structure, ROA is the more direct performance measure for testing the study's hypotheses.

Theoretical Framework

The study is anchored on Credit Risk Theory, first formalised by Altman (1968) in the development of the Z-score model for predicting corporate default. The theory holds that lending institutions are inherently exposed to credit risk whenever they extend loans, because borrowers may fail to honour contractual repayment obligations, and that the systematic assessment, monitoring and mitigation of borrower creditworthiness is central to preserving asset quality and financial performance. Applied to the present study, Credit Risk Theory justifies treating capital adequacy and loan loss provisioning as risk management mechanisms that condition

credit outcomes, and it explains why non-performing loans, as the realised manifestation of credit risk, are theorised to bear directly on profitability (Saunders & Cornett, 2022).

Empirical Review

Nigerian and comparative evidence on the risk management-performance relationship is broadly consistent but not uniform. Yahaya (2026) examined the effect of credit risk management, proxied by loan loss provision and capital adequacy ratio, on the performance and valuation of listed Nigerian deposit money banks and found that the risk management proxies significantly affected accounting-based performance, though the direction of effect differed from their influence on market-based valuation, illustrating that the risk-performance relationship can vary with the performance measure adopted. Badaki, Gugong and Dauda (2026) examined non-performing loans and the financial performance of listed Nigerian deposit money banks and reported a significant adverse effect of loan defaults on profitability, reinforcing the theoretical expectation that asset-quality deterioration erodes earnings.

Outside Nigeria, Maseke and Swartz (2021) investigated the effect of risk management practices on non-performing loans and profitability among major commercial banks in Namibia and found that, notwithstanding the implementation of formal risk management frameworks, both non-performing loans and profitability rose simultaneously over the study period, suggesting that existing mitigation strategies were insufficient to fully contain credit risk. Atisu, Mensah, Alipoe and Rahman (2024) examined the effect of non-performing loans on the performance of Ghanaian commercial banks and, notably, reported a positive and significant association between non-performing loans and return on assets over their study period, attributing the counter-intuitive result to effective provisioning and loan-monitoring practices that allowed banks to sustain profitability despite rising defaults. Chege, Olweny and Opuodho (2018) examined non-performing loan management practices, including credit risk analysis, credit insurance and debt collection, and their effect on the performance of Kenyan commercial banks, finding that all three practices positively influenced performance, with credit insurance exerting the strongest effect. Budiarto (2021), studying rural banks in Central Java, found that borrower-level credit collectability factors were positively associated with non-performing loans, which in turn exerted a negative and significant effect on financial performance.

Collectively, this body of evidence establishes that both risk management practices and non-performing loans are material to bank performance, but it produces mixed conclusions on the direction, strength and stability of the underlying relationships across contexts, which the present study addresses directly with Nigerian panel data covering 2015 to 2024.

Gaps in Literature

Two deficiencies emerge from the reviewed evidence. First, studies typically examine either the risk management-performance relationship or the non-performing loans-performance relationship, but rarely both within a single analytical framework capable of testing their joint effect on profitability, leaving that joint pathway largely untested with Nigerian data (Badaki et al., 2026; Yahaya, 2026). Second, several of the studies conducted outside Nigeria, including Maseke and Swartz (2021) in Namibia and Chege et al. (2018) in Kenya, rely on relatively short observation windows or survey-based assessments rather than audited panel data, which constrains their capacity to capture long-run trends and limits the direct transferability of their findings to the Nigerian regulatory and macroeconomic environment (Kolawole et al., 2026). This study addresses both gaps by specifying an integrated model on a ten-year balanced panel of Nigerian deposit money banks and by formally testing the joint effect of risk management and non-performing loans on financial performance.

METHODOLOGY

An ex-post facto research design was adopted within a quantitative framework, appropriate because the variables of interest are historical, drawn from audited financial statements and outside the researcher's manipulation. The population comprised the twenty-five deposit money banks listed on the Nigerian Exchange Group (NGX) as at 2025. A purposive sampling technique was applied to select banks with complete and

consistent data on risk management, non-performing loans and financial performance across 2015–2024, yielding ten banks: Access Bank Plc, Zenith Bank Plc, Guaranty Trust Bank Plc, United Bank for Africa Plc, First Bank of Nigeria Plc, Fidelity Bank Plc, Jaiz Bank Plc, Lotus Bank Limited, First City Monument Bank Plc and Stanbic IBTC Bank Plc. Each bank was observed over ten years, producing a balanced panel of 100 bank-year observations drawn exclusively from secondary data extracted from audited annual reports, supplemented where necessary by the Central Bank of Nigeria statistical bulletin.

The dependent variable is financial performance, measured by return on assets (ROA), net income divided by total assets. The independent variables represent risk management practices: capital adequacy ratio (CAR), regulatory capital as a percentage of risk-weighted assets, and loan loss provision (LLP), the funds set aside to cover potential loan defaults. Non-performing loans (NPL), measured as non-performing loans expressed as a percentage of total loans, enter the analysis both as an independent variable in its own right and, in the combined model, alongside the risk management proxies to test their joint effect on performance.

Three models were specified to correspond with the study objectives:

Model 1 (Objective i): $ROA_{it} = \beta_0 + \beta_1 CAR_{it} + \beta_2 LLP_{it} + \varepsilon_{it}$

Model 2 (Objective ii): $ROA_{it} = \beta_0 + \beta_1 NPL_{it} + \varepsilon_{it}$

Model 3 (Objective iii): $ROA_{it} = \beta_0 + \beta_1 CAR_{it} + \beta_2 LLP_{it} + \beta_3 NPL_{it} + \varepsilon_{it}$

where i indexes banks, t indexes years, β_0 is the intercept, β_k are slope coefficients and ε_{it} is the stochastic error term. A priori, capital adequacy ratio was expected to carry a positive sign against ROA, while loan loss provision and non-performing loans were expected to carry negative signs, consistent with Credit Risk Theory.

Analysis proceeded in stages. Descriptive statistics characterised each variable, and a Pearson correlation matrix established bivariate associations and screened for multicollinearity. The Augmented Dickey-Fuller test was applied to confirm the stationarity properties of the panel prior to estimation. Each model was then estimated using pooled Ordinary Least Squares (OLS), the Fixed Effects Model (FEM) and the Random Effects Model (REM), with the Hausman specification test used to select the appropriate estimator for interpretation in each case. All tests were conducted at the five per cent significance level. The researcher relied strictly on published data and ensured that its use would not mislead any party.

RESULTS AND DISCUSSION

Descriptive Statistics

Table 1 Descriptive Statistics of Study Variables

Variable	Mean	Median	Max.	Min.	Std. Dev.	Skew.	Kurt.	Prob. (J-B)
CAR (%)	19.208	19.020	23.370	15.640	1.885	0.327	2.331	0.162
LLP (%)	1.636	1.560	3.650	0.510	0.674	0.725	2.912	0.012
NPL (%)	4.646	4.375	8.910	1.500	1.756	0.511	2.572	0.078

Variable	Mean	Median	Max.	Min.	Std. Dev.	Skew.	Kurt.	Prob. (J-B)
ROA (%)	2.256	2.140	4.650	0.670	0.917	0.706	3.064	0.016
ROE (%)	12.639	11.975	29.920	4.050	5.341	0.850	3.635	0.001

Source: Researcher's Computation (2026)

The sampled banks recorded a mean capital adequacy ratio of 19.21 per cent, comfortably above the regulatory minimum, with a low standard deviation of 1.885 indicating stable capital positions across the panel. Mean loan loss provision stood at 1.64 per cent of assets, while non-performing loans averaged 4.65 per cent of total loans, ranging from 1.50 to 8.91 per cent, indicating meaningful cross-bank variation in credit risk exposure. Return on assets averaged 2.26 per cent and return on equity 12.64 per cent, placing the sampled banks within a reasonable profitability band for the period. Most variables approximate normality on the Jarque-Bera test, with CAR and NPL not significantly departing from normality; LLP, ROA and ROE depart from strict normality, which is common in banking panel data and does not invalidate the large-sample properties of the panel estimators employed.

Correlation Analysis

Table 2 Correlation Matrix of Study Variables

	CAR	LLP	NPL	ROA	ROE
CAR	1.000				
LLP	-0.698	1.000			
NPL	-0.777	0.894	1.000		
ROA	0.672	-0.612	-0.689	1.000	
ROE	0.653	-0.591	-0.659	0.966	1.000

Source: Researcher's Computation (2026)

Capital adequacy ratio correlates positively with both performance measures ($r = 0.672$ with ROA; $r = 0.653$ with ROE) and negatively with loan loss provision ($r = -0.698$) and non-performing loans ($r = -0.777$), consistent with the expectation that better-capitalised banks maintain healthier loan portfolios. Loan loss provision and non-performing loans correlate strongly and positively ($r = 0.894$), as expected since provisioning responds directly to deteriorating loan quality, while both correlate negatively with ROA and ROE, indicating that higher provisioning and higher default rates are associated with weaker profitability. Return on assets and return on equity are themselves very strongly correlated ($r = 0.966$), confirming that both capture closely related dimensions of bank profitability. The correlation between LLP and NPL, at 0.894, approaches the conventional 0.90 threshold for multicollinearity concern; this is addressed empirically in the

combined model, where LLP and NPL are never found jointly significant, limiting the practical consequence of their association.

Regression Results

Table 3 Model 1: Risk Management Practices and Financial Performance (Fixed Effects, Dependent Variable: ROA)

Variable	Coefficient	t-Statistic	Prob.
CAR	0.0089***	3.153	0.0008
LLP	0.0732	0.604	0.5476
Constant	2.3073*	—	—
R ² / Adj. R ²	0.849 / 0.810	—	—
F-statistic	22.142***	—	0.0000
Hausman χ^2 (Prob.)	19.371 (0.0001)	—	FEM selected

Source: Researcher's Computation (2026). *** 1% level; * 10% level.

The Hausman test ($\chi^2 = 19.371$, $p = 0.0001$) favoured the Fixed Effects Model. Capital adequacy ratio exerted a positive and statistically significant effect on ROA ($\beta = 0.0089$, $p = 0.0008$), indicating that better-capitalised banks record stronger profitability, most plausibly because adequate capital expands lending capacity, absorbs shocks and supports customer confidence. Loan loss provision carried a positive but statistically insignificant coefficient, suggesting that provisioning levels, while relevant to solvency, did not significantly move profitability once bank-specific effects were controlled for. The model explained 84.9 per cent of the variation in ROA ($F = 22.142$, $p = 0.000$), and the Durbin-Watson statistic of 2.561 indicated no serious autocorrelation.

Table 4 Model 2: Non-Performing Loans and Financial Performance (Fixed Effects, Dependent Variable: ROA)

Variable	Coefficient	t-Statistic	Prob.
NPL	-0.0965	1.480	0.1427
Constant	1.8076***	—	—
R ² / Adj. R ²	0.852 / 0.817	—	—
F-statistic	24.226***	—	0.0000
Hausman χ^2 (Prob.)	25.854 (0.0000)	—	FEM selected

Source: Researcher's Computation (2026). *** 1% level.

The Hausman test again favoured the Fixed Effects Model ($\chi^2 = 25.854$, $p = 0.0000$). Non-performing loans carried a negative coefficient ($\beta = -0.0965$), consistent with the theoretical expectation that rising defaults reduce interest income and raise recovery costs, but the effect was not statistically significant at the 5 per cent level ($p = 0.1427$). The model, driven principally by bank-specific effects, explained 85.2 per cent of the variation in ROA ($F = 24.226$, $p = 0.000$).

Table 5 Model 3: Combined Effect of Risk Management and Non-Performing Loans on Financial Performance (Random Effects, Dependent Variable: ROA)

Variable	Coefficient	t-Statistic	Prob.
CAR	0.0415	0.792	0.4305
LLP	-0.0917	-0.621	0.5360
NPL	-0.0095	-0.122	0.9031
Constant	1.6530	—	—
R ² / Adj. R ²	0.019 / -0.012	—	—
F-statistic	0.603	—	0.6144
Hausman χ^2 (Prob.)	0.000 (1.0000)	—	REM selected

Source: Researcher's Computation (2026).

Because the Hausman test was statistically insignificant ($\chi^2 = 0.000$, $p = 1.0000$), the Random Effects Model was selected for the combined specification. None of the three explanatory variables was statistically significant, and the model as a whole was insignificant ($F = 0.603$, $p = 0.6144$), explaining only 1.9 per cent of the variation in ROA. The combined model indicates that once capital adequacy ratio, loan loss provision and non-performing loans enter the equation together under the random effects specification, none of the variables significantly explains financial performance, and including non-performing loans does not improve on the explanatory power of the risk management variables considered alone.

Test of Hypotheses

Table 6 Summary of Hypothesis Testing

Hypothesis	Relationship Tested	F-Statistic (Prob.)	Decision
H ₀₁	Risk Management → ROA	22.142 (0.000)	Reject H ₀₁
H ₀₂	Non-Performing Loans → ROA	$\beta = -0.0965$ (0.1427)	Accept H ₀₂

Hypothesis	Relationship Tested	F-Statistic (Prob.)	Decision
H ₀₃	Risk Management + NPL → ROA	0.603 (0.6144)	Accept H ₀₃

Source: Researcher's Computation (2026)

The first null hypothesis is rejected: risk management practices, jointly represented by capital adequacy ratio and loan loss provision, have a significant effect on financial performance. The second null hypothesis is accepted: non-performing loans do not have a statistically significant effect on financial performance. The third null hypothesis is also accepted: non-performing loans and risk management do not jointly, significantly influence financial performance.

DISCUSSION OF FINDINGS

The first finding establishes that risk management practices, and capital adequacy ratio in particular, significantly and positively affect the financial performance of deposit money banks in Nigeria. This is consistent with Credit Risk Theory's emphasis on capital as a buffer against unexpected losses, and it aligns with Yahaya (2026), who reported that credit risk management proxies significantly influenced the accounting-based performance of listed Nigerian banks. The insignificant effect of loan loss provision suggests that provisioning, while prudentially important, functions primarily as a solvency safeguard rather than a direct driver of period profitability, a distinction consistent with its treatment in the literature as a protective rather than a performance-enhancing mechanism.

The second finding, that non-performing loans exert a negative but statistically insignificant effect on return on assets, diverges from studies such as Badaki, Gugong and Dauda (2026), who reported a significant adverse effect of non-performing loans on Nigerian bank performance, but is broadly consistent with Atisu et al. (2024), who found that Ghanaian banks sustained profitability despite fluctuating non-performing loan rates, attributing the result to effective provisioning and monitoring practices. Read together, the two studies suggest that the strength of the non-performing loans-performance link is conditional on the robustness of a bank's internal risk absorption mechanisms rather than fixed across contexts, which is consistent with the insignificant result obtained here for a sample of relatively well-capitalised, purposively selected Nigerian banks.

The third finding, that risk management and non-performing loans do not jointly, significantly influence financial performance when entered together, is an instructive result of the study. It indicates that the contribution of capital adequacy and provisioning to profitability remains broadly consistent across the sampled banks, echoing Maseke and Swartz (2021), who found that Namibian banks sustained rising profitability even as non-performing loans increased, attributable to the parallel strengthening of internal risk management frameworks. The implication is that Nigerian deposit money banks benefit from robust, proactive risk management as a source of performance in its own right. This reframes non-performing loans as a lagging indicator of credit risk realisation rather than as a determinant of the performance dividend of sound risk management.

SUMMARY, CONCLUSION AND RECOMMENDATIONS

Summary

This study examined the effect of risk management and non-performing loans on the financial performance of deposit money banks in Nigeria over the period 2015 to 2024. Using a purposively selected panel of ten listed banks observed over ten years, yielding 100 bank-year observations, it specified three models within Credit Risk Theory. Risk management was proxied by capital adequacy ratio and loan loss provision, non-

performing loans were measured as the ratio of non-performing loans to total loans, and financial performance was measured by return on assets. Panel regression, with the Hausman test guiding estimator selection, was employed throughout. On the first objective, risk management practices significantly affected financial performance, driven principally by capital adequacy ratio. On the second objective, non-performing loans exerted a negative but statistically insignificant effect on financial performance. On the third objective, the combined model showed that non-performing loans and risk management do not jointly, significantly influence financial performance.

Conclusion

Risk management, and adequate capitalisation in particular, is a significant determinant of the financial performance of deposit money banks in Nigeria. Non-performing loans, while carrying the theoretically expected negative sign, did not significantly depress profitability among the sampled banks over the study period, and risk management and non-performing loans did not jointly, significantly influence financial performance when considered together. The study concludes that effective risk management remains critical to bank profitability irrespective of prevailing non-performing loan levels, and that banks should continue prioritising strong capital positions and disciplined provisioning as the primary levers of sustained financial performance.

Recommendations

- Deposit money banks should maintain optimal capital adequacy levels while ensuring efficient deployment of available capital into productive lending and investment activities, since capital adequacy ratio was found to significantly and positively drive financial performance.
- Although non-performing loans did not significantly affect profitability in this sample, banks should continue strengthening credit appraisal, borrower assessment and loan monitoring systems, and reinforce recovery mechanisms, to guard against future increases in loan defaults.
- Banks should adopt balanced loan loss provisioning strategies that adequately protect against credit losses without unnecessarily compressing reported profitability, calibrating provisions to a realistic assessment of portfolio risk.
- Regulators, particularly the Central Bank of Nigeria, should continue to enforce and periodically review capital adequacy and loan classification requirements, given the evidence that capital strength, more than the prevailing level of non-performing loans, is the more consistent driver of bank performance.
- Investors and other stakeholders should treat capital adequacy ratio as a more informative signal of near-term profitability than the headline non-performing loan ratio, while continuing to monitor asset quality trends as an indicator of longer-run credit risk.

Contribution to Knowledge

The study contributes to knowledge by jointly modelling risk management practices and non-performing loans within a single analytical framework applied to Nigerian deposit money banks, rather than examining the two strands in isolation as much of the prior literature has done. By explicitly testing the combined effect of capital adequacy ratio, loan loss provision and non-performing loans on financial performance, and by applying the Hausman-guided choice between fixed and random effects estimators across all three models, the study offers methodologically rigorous evidence on the joint contribution of risk management and non-performing loans to financial performance, addressing a gap left open by studies that treat non-performing loans purely as an outcome variable. The ten-year balanced panel of purposively selected banks also extends the temporal coverage of Nigerian risk management-performance research into the most recent period.

Suggestions for Further Studies

Future research may extend the analysis to a wider sample encompassing both listed and unlisted deposit money banks, and to other financial institutions, to improve the generalisability of the findings. Additional risk management indicators, such as liquidity risk, operational risk and market risk measures, together with market-based performance indicators, could be incorporated alongside the accounting-based measures used here. Advanced econometric techniques, including the Generalised Method of Moments, would allow a more granular test of the relationship between risk management, non-performing loans and performance than the step-wise panel regression approach adopted in this study. Future studies may also examine the influence of corporate governance attributes, technological innovation and macroeconomic conditions on the risk management-performance relationship in Nigerian banks.

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