

IMPACT OF CREDIT RISK MANAGEMENT ON PROFITABILITY OF DEPOSIT MONEY BANKS IN NIGERIA

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Abstract

This study investigates the impact of credit risk management on banks' profitability in Nigeria from 2015 to 2024. The population of the study comprises of all the fourteen (14) deposit money banks listed on the Nigerian Exchange (NGX) Group as at 31 December, 2024. The study used ex-post facto research design. A panel estimation of fourteen banks from 2015 to 2024 was done using the random effect model framework. Our findings show that non-performing loan ratio (NPLR) has a statistically significant negative relationship with profitability (ROA). The loan to asset ratio (LAR) has a positive and statistically insignificant on bank profitability. The Capital Adequacy Ratio (CAR) has a negative and statistically insignificant on bank profitability. The Loan Loss Provision Ratio (LLPR), has a negative and statistically insignificant on bank profitability. Therefore, the study recommends that Banks should prioritize improving their loan screening and monitoring processes to reduce NPLR.

keywords: credit risk management, profitability, listed deposit money banks, Nigeria

1. Introduction

The adequate management of credit risk in financial institutions is critical for the survival and growth of financial institutions. In order to strengthen the performance of Nigerian banks, the Central Bank of Nigeria (CBN) has been taking strong measures since 2005 till date; this has made the landscape of Nigerian banking changed altogether. All the Nigerian banks were directed to follow the norms of capital adequacy, asset quality, provision for non-performing assets, prudential norms, disclosure requirements, acceleration of pace and reach of latest technology, streamlining the procedures and complying with accounting standards and making financial statements transparent and using the same financial calendar.

These factors, the interest of the analysts and researchers got developed to evaluate the financial profitability of the Nigerian banks. Credit risk management is a structured approach to managing uncertainties through risk assessment, development of strategies to manage it and mitigation of risk using managerial resources. The strategies include transferring to another party, avoiding the risk, reducing the negative effects of the risk, and accepting some or all of the consequences of a particular risk.

The intermediation role of banks can be said to be a catalyst for economic growth through the Financial Services they provide. The credit function of banks enhances the ability of investors to exploit desired profitable ventures. Credit creation is the main income generating activity of banks (Kargi, 2011). However, it exposes the

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banks to credit risk. The Basel Committee on Banking Supervision (2001) defined credit risk as the possibility of losing the outstanding loan partially or totally, due to credit events (default risk). Credit risk management is an internal determinant of bank profitability. The higher the exposure of a bank to credit risk, the higher the tendency of the banks to experience financial crisis and vice-versa.

Risk management is the individual effort which incorporates acknowledgment of risk, risk evaluation, developing policies to control it, and lessening of risk by means of managerial resources (Appa, 1996). Whereas, credit risk is the possibility of loss caused by debtor's default of a loan or other earnings that relate to credit (principal and/or interest).

Credit risk is the possibility that a borrower or counter party will fail to meet agreed obligations. Globally, more than 50% of total risk elements in Banks and Financial Institution (FI) s are credit risk alone. Thus, managing credit risk for efficient management of a FI has gradually become the most crucial task. Credit risk management encompasses identification, measurement, matching mitigations, monitoring and control of the credit risk exposures.

This paper evaluates the CRM on the profitability of Nigerian banks for a period of 10 years (2006 -2015). The study is encouraged by the current government policy of establishing AMCON as an important element of distress resolution in Nigerian banks. The policy was expected to help existing banks to turn around non-performing loans or classified assets on their balance sheets into viable or at least recoverable investments. The study would be particularly relevant in the context of the ongoing debate on how banks should minimize the incidence of increasing non-performing loans on their balance sheets.

On the basis of the background, the study formulates the following hypothesis for testing: **H₀₁**: CRM does not have any impact on the profitability of Nigerian banks. The rest of this paper is outlined as follows: Section two reviews related literature on issues related to the subject matter; section three talks about the methodology; section four centred on data analysis and interpretation of findings; and section five concludes the paper and suggests recommendations.

2. Literature Review

Credit Risk Management and Risk based Supervision in Banks has been the subject of study of many Agencies and Researchers and Academicians. There is a treasure of literature available on the subject. A careful selection of relevant material was a formidable task before starting the research. Efforts have been made to scan the literature highly relevant to the Context.

Credit risk represents a measurable threat to the banks' profitability; as a result, several researchers have examined the impact of CRM on bank performance in different scopes. Ahmed, Takeda, and Shawn (1998) employed multi-variant regression and found that loan loss provision has an important positive impact on non-performing loans. So, a raise in loan loss provision implies an elevation in credit risk and decomposition in the value of loans subsequently distressing bank performance negatively.

In another study, Ahmad and Ariff (2007) used regression analysis in their study to establish the most important determinant of credit risk of commercial banks in emerging economies' banking systems weighted against the developed economies' banking systems. It establishes that a rise in loan loss provision is as well regarded as a

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major determinant of potential credit risk. They added that credit risk in emerging economies' banks is greater than that in developed economies.

Froot and Stein (1998) found that credit risk management through active loan purchase and sales activity affects banks' investments in risky loans. Banks that purchase and sell loans hold more risky loans (Credit Risk and Loss loans and commercial real estate loans) as percentage of the balance sheet than other banks. Again, these results are especially striking because banks that manage their credit risk (by buying and selling loans) hold more risky loans than banks that merely sell loans (but don't buy them) or banks that merely buy loans (but don't sell them).

In an effort to study the impact of bank regulations, concentration, financial and institutional development on commercial banks' margin, and profitability in the Middle East and North Africa (MENA) nations from 1989 to 2005, using the unbalanced panel data regression, Ben-Naceur and Omran (2008) found that bank capitalization and credit risk have considerable and positive influence on net interest margin, cost efficiency, and profitability of banks.

In Nigeria, Kargi (2011) reviewed the impact of credit risk on the profitability of Nigerian banks, using five years' data for the period of 2004-2008. The study examines the relationship through the use of descriptive, correlation, as well as regression model. He established that CRM has an important role in the profitability of Nigerian banking sector. The study supports the claim that profitability of bank is negatively controlled by loans and advances, non-performing loans, and deposits levels, thus exposing banks to huge risk of illiquidity and distress.

The Ghanaian study of Boahene et al. (2012) utilized regression analysis in an attempt to reveal the connection between credit risk and profitability of selected banks and established that credit risk components (non-performing loan rate, net charge-off rate, and the pre-provision profit as a percentage of net total loans and advances) have a positive and significant relationship with bank profitability. This shows that banks in Ghana enjoy high profitability regardless of high credit risk, an opposing view to other views expressed in many studies that credit risk indicators are negatively related to profitability.

In contrast to the position of the Ghanaian study, scholars like Kolapo, Ayeni, and Oke (2012) studied CRM and performance of Nigerian banks using panel model regression analysis. They argued that the impact of credit risk on bank performance considered using the ROA of banks as a measure of performance in Nigeria is cross-sectional invariant. A rise in non-performing loans or loan losses provision reduces profitability (ROA), whereas a rise in total loan and advances improves profitability.

The study suggests that Nigeria banks have to improve their ability in credit analysis and loan management, whereas the regulatory authorities ought to give extra concentration to banks' conformity to applicable requirements of the Bank and Other Financial Institutions Act (BOFIA) 1 and prudential guidelines governing banking practices in Nigeria. The findings of these studies reviewed reveal diverse outcomes. Based on the above studies, the common determinants for CRM are the level of bad loans (non-performing loans), problem loans, or provision for loan losses on the one hand, and on the other hand, the frequently used proxy for profitability is ROA. The regular approach used by the largest part of these studies was to analyze the effect of CRM on any other variable suitable to the debate using regression analysis; the regression analysis measures the actual impact of CRM on profitability of firms.

Contrary to the findings of the studies above, Kithiniji (2010) investigated the effect of credit risk management on the profitability of commercial banks in Kenya from 2004 to 2008 period, and found that the bulk of the profits of commercial banks

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are not influenced by the amount of credit and non-performing loans. His interesting but quite surprising results show that credit risk indicators have no relationship with bank profitability. Overall, the existing literature provides a rather comprehensive account of the effect of credit risk on bank performance, but the empirical results vary significantly. Also, the time dimension of the panels used in most of the empirical studies is too small to appropriately capture the effect of volatility of credit risk on bank profitability. Literature describing the effect of credit risk on the Nigerian banking sector is sparse. Therefore, more studies are needed to address the above issues satisfactorily, in order to allow a better insight into the effect of credit risk on bank profitability, especially in Nigeria.

3. Methodology

This study employed the ex-post facto research design. This research design employed a retrospective and observational approach, in examining the relationship among variables. Thus, it is used to examine the impact of credit risk on profitability of listed deposit money banks in Nigeria by analyzing existing data. The study relies on data extracted from the annual reports and accounts of listed DMBs for the period 2015 to 2024.

This data is analysed using the multiple regression technique of analysis as it provides the basis for explaining the impact of credit risk management on profitability. The population of the study comprises of all the fourteen (14) deposit money banks listed on the Nigerian Exchange (NGX) Group as 31 December, 2024. Table 1 shows the listed DMBs, the Date of Incorporation (DOI) and the Date of Listing (DOL) on the NGX.

Table 1

Listed Deposit Money Banks on the Nigerian Exchange Group as at 31 December, 2024

S/N	Name of Banks	Date of Listed	Date of Incorporation	Remark
1	Access Bank Holdings	November 18 1998	February 8 1989	Selected
2	Eco-Bank	September 11 2006	October 3 1985	Selected
3	First Bank PLC	January 1 1971	August 13 2012	Selected
4	FCMB Group	June 21 2013	November 12 2012	Selected
5	Fidelity PLC	May 17 2005	November 19 1987	Selected
6	GTCO PLC	September 1 1996	July 20 1990	Selected
7	Jaiz Bank	February 10 2017	July 20 2003	Selected
8	Stanbic IBTC/Holding PLC	November 23 2002	March 14 2012	Selected
9	Sterling Bank PLC	August 17 1993	November 26 1960	Selected
10	Union Bank PLC	1970	May 30 1969	Not Selected
11	United Bank for Africa PLC	March 31 1970	February 23 1961	Selected
12	Unity Bank PLC	December 22 2005	April 27 1987	Selected
13	Wema Bank PLC	February 13 1990	May 2 1945	Selected
14	Zenith Bank PLC	October 21 2004	May 30 1990	Selected

Source: Compiled by Researcher from the Nigerian Exchange Group, 2024

The purposive sampling technique is employed in this study to identify and select banks that were listed between 2015 and 2024. This resulted in the exclusion of union bank that was delisted. Hence the sample size of the study is thirteen DMBs as indicated in Table 1.

Variable Measurement

Table 2

Variable, Proxy, Definition, Measurements and Sources

Variable	Proxy	Definition	Measurement	Sources
<i>Dependent:</i>				
Financial Performance	Return on Assets (ROA)	The ratio that measures a company's profit after tax (PAT) against its total assets.	PAT / Total Assets	Appa (1996); Ahmed et al. (1998); Kolapo et al. (2012)
<i>Independent:</i>				
Credit Risk Management	NPLR	The ratio that measures the proportion of non-performing loans as against the total loans for a period	Non-performing Loans / Total Loan	Appa (1996); Ahmed et al. (1998); Kolapo et al. (2012)
	LAR	The average cost per loan advanced to a customer, indicating the efficiency in distributing loans.	Total Operating Cost / Total Amount of Loans	Appa (1996); Ahmed et al. (1998); Kolapo et al. (2012)
	CAR	A ratio that measures the total capital of a bank as a percentage of its risk-weighted credit coverage.	Capital Fund / Risk Weighted Assets	Appa (1996); Ahmed et al. (1998); Kolapo et al. (2012)
	LLPR	The ratio of loan loss provision to classified assets, used as a measure for credit risk.	Loan Loss Provision / Classified Assets	Kargi (2011)

Source: Compiled by Researcher, 2026

Model Specification

The empirical framework for the investigation of the link between credit risk management practices and banks' profitability is given as follows:

$$Y = \beta_0 + \beta F_{it} + \varepsilon_{it} \text{-----} (1)$$

Where: Y is the dependent variable; β_0 is constant; β is the coefficient of explanatory variable; F_{it} is the explanatory variable; and ε_{it} is the error term (assumed to have zero mean and independent across the time period). By adopting the econometric model as in equation above particularly to this study, the equation below develops:

$$ROA_{it} = \beta_0 + \beta_1 NPLR_{it} + \beta_2 LAR_{it} + \beta_3 CAR_{it} + \beta_4 LLPR_{it} + \varepsilon_{it} \text{-----}(2)$$

Where: ROA = Return on Assets; i = Cross section; t = Time; β_0 = Constant; $\beta_1 - \beta_4$ = Coefficients; NPLR = non-performing loan ratio; LAR = Loans and Advances Ratio; CAR = Capital Adequacy Ratio; LLPR = Loan Loss Provision Ratio; ε = Error term.

4. Results and Discussion

This section presents an analysis and discussion of results. It covers the descriptive statistics, correlation, diagnostic tests and regression analysis.

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Descriptive Statistics

Table 3

Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Minimum	Maximum
ROA	130	.037	.09	-.157	.65
NPLR	130	.137	.473	.001	4.555
LAR	130	3.499	8.923	.033	57.077
CAR	130	1.868	3.284	-10.259	21.797
LLPR	130	1.413	3.826	.006	40.094

Source: Extracted from STATA 16.0 output file, 2026

The descriptive statistics of the study show significant variability in the key variables, reflecting diverse approaches among Nigerian banks in managing credit risk and profitability. The mean Return on Assets (ROA) is 0.037, indicating small positive profitability on average, but the standard deviation of 0.09 shows considerable variation, with the minimum value being -0.157 and the maximum reaching 0.65.

The mean Non-performing Loan Ratio (NPLR) is 0.137, suggesting that, on average, 13.7% of loans are non-performing, but the high standard deviation of 0.473 indicates wide disparity, with the ratio ranging from a minimum of 0.001 to a maximum of 4.555. The Loan to Asset Ratio (LAR) has a mean of 3.499, but its standard deviation of 8.923 highlights extreme differences in lending strategies, with values ranging from 0.033 to 57.077.

The Capital Adequacy Ratio (CAR) has a mean of 1.868, but with a high standard deviation of 3.284, showing variability, and some banks having negative values, as low as -10.259, and others as high as 21.797. The Loan Loss Provision Ratio (LLPR) has a mean of 1.413, but its standard deviation of 3.826 indicates that while some banks maintain conservative provisions, others have large variations, with the ratio ranging from 0.006 to 40.094.

Correlation Matrix

Table 4

Pairwise Correlations

Variables	ROA	NPLR	LAR	CAR	LLPR
ROA	1.000				
NPLR	-0.012 (0.892)	1.000			
LAR	-0.026 (0.771)	0.844* (0.000)	1.000		
CAR	0.057 (0.520)	-0.068 (0.439)	-0.074 (0.401)	1.000	
LLPR	-0.072 (0.417)	-0.043 (0.627)	-0.067 (0.452)	-0.044 (0.619)	1.000

Source: Extracted from STATA 16.0 output file, 2026

** shows significance at $p < 0.05$*

The pairwise correlation results in Table 4 reveal the relationships between credit risk management variables and profitability. The Return on Assets (ROA) shows weak negative correlations with both the Non-performing Loan Ratio (NPLR) and Loan

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to Asset Ratio (LAR) (-0.012 and -0.026, respectively), which are not statistically significant, with p-values of 0.892 and 0.771. However, LAR has a strong positive correlation with NPLR (0.844), which is statistically significant at $p < 0.05$, suggesting that as non-performing loans increase, the loan-to-asset ratio also tends to rise (significant at $p < 0.05$).

Capital Adequacy Ratio (CAR) exhibits weak and insignificant correlations with ROA, NPLR, and LAR (0.057, -0.068, -0.074, respectively), with p-values of 0.520, 0.439, and 0.401, indicating no substantial relationship. Similarly, the Loan Loss Provision Ratio (LLPR) has weak negative correlations with ROA, NPLR, LAR, and CAR, with values ranging from -0.072 to -0.067, and none are statistically significant (p-values of 0.417, 0.627, 0.452, and 0.619, respectively). These findings suggest that while some relationships exist, particularly between NPLR and LAR, the overall impact of credit risk management on profitability (ROA) is weak or negligible (Kolapo et al., 2012; Appa, 1996).

Diagnostic Tests

Normality Test

Table 5

Shapiro-Wilk W test for Normal Data

Variable	Obs	W	V	z	Prob>z
Residuals	130	0.558	45.477	8.589	0.000

Source: Extracted from STATA 16.0 output file, 2026

The results of the Shapiro-Wilk W test for normality in Table 5 indicate that the residuals from the model do not follow a normal distribution. The W-statistic for the residuals is 0.558, which is significantly less than 1, suggesting a departure from normality. The V value is 45.477, and the z-statistic is 8.589, both of which are substantial, further confirming the non-normality of the residuals.

The p-value of 0.000 is well below the typical significance level of 0.05, indicating that the null hypothesis of normality is rejected. These results suggest that the residuals are not normally distributed, which may have implications for the validity of certain statistical tests and estimations used in the study, requiring possible adjustments or alternative methods to account for non-normality (Shapiro & Wilk, 1965).

Multicollinearity Test

Table 6

Variance Inflation Factor

Variable	VIF	1/VIF
NPLR	1.935	.517
LAR	1.935	.517
CAR	1.032	.969
LLPR	1.017	.983
Mean VIF	1.48	.

Source: Extracted from STATA 16.0 output file, 2026

The results of the Variance Inflation Factor (VIF) test in Table 6 indicate that there is no significant issue of multicollinearity among the independent variables in the model. The VIF values for Non-performing Loan Ratio (NPLR) and Loan to Asset Ratio (LAR) are both 1.935, which are well below the common threshold of 10, suggesting moderate multicollinearity but not a critical concern.

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The Capital Adequacy Ratio (CAR) has a VIF of 1.032, and the Loan Loss Provision Ratio (LLPR) has a VIF of 1.017, both of which are very close to 1, indicating very low multicollinearity with other variables. The mean VIF of 1.48 is also quite low, further reinforcing that multicollinearity is not problematic in this model. These results suggest that the independent variables do not suffer from high multicollinearity, allowing for more reliable coefficient estimates and ensuring that the model's findings are robust (O'Brien, 2007).

Hausman Specification Test

Table 7

Hausman (1978) Specification Test

	Coef.
Chi-square test value	3.387
P-value	.495

Source: Extracted from STATA 16.0 output file, 2026

The Chi-square test value is 3.387, and the p-value is 0.495 shown in Table 7 implies that the Hausman specification test is not significant. This high p-value indicates that there is no significant difference between the fixed effects and random effects models, leading to the acceptance of the null hypothesis. Therefore, the random effects model is more appropriate for this analysis, as it is statistically equivalent to the fixed effects model, implying that the random effects assumption of no correlation between the regressors and the individual effects holds (Hausman, 1978).

Regression Results

Table 8

Regression Results

ROA	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
NPLR	-.016	.007	-2.21	.027	-.03	-.002	**
LAR	.009	.008	1.20	.231	-.006	.024	
CAR	-.001	.003	-0.34	.736	-.006	.004	
LLPR	-.002	.005	-0.41	.68	-.013	.008	
Constant	-.014	.028	-0.49	.627	-.068	.041	
Mean dependent var	0.037			SD dependent var	0.090		
Overall r-squared	0.066			Number of obs	130		
Chi-square	5.236			Prob > chi2	0.026		
R-squared within	0.033			R-squared between	0.356		

Source: Extracted from STATA 16.0 output file, 2026

*** $p < .01$, ** $p < .05$, * $p < .1$

The fitness of the model in this study, as indicated by the p-value of 0.026, suggests that the model is statistically significant at the 5% level, implying that the independent variables collectively have a statistically meaningful impact on Return on Assets (ROA), the dependent variable. A p-value of 0.026 is below the typical threshold of 0.05, meaning that the null hypothesis (which posits no relationship between the independent variables and profitability) is rejected, and we can conclude that at least some of the credit risk management variables have a significant effect on profitability.

The overall R-squared value of 0.026 indicates that only 2.6% of the variation in ROA is explained by the model. This low R-squared value suggests that while the model is statistically significant, it does not explain most of the variability in bank profitability. This implies that other important factors, such as macroeconomic

variables, regulatory policies, or management practices, might play a more substantial role in determining bank profitability and were not captured in the current model.

Additionally, the R-squared within value of 0.033 and R-squared between value of 0.356 show that there is some variation within individual banks over time, but more significant variation exists between banks. This suggests that bank-specific factors, such as size, operational strategies, and sectoral focus, may be more influential in determining profitability than the credit risk management variables included in the model.

In conclusion, the p-value of 0.026 indicates that the model is statistically significant, but the R-squared value of 0.026 suggests that the model does not have strong explanatory power. This highlights the need for further research to include additional variables or refine the model to better explain the variation in profitability among Nigerian deposit money banks.

The regression results in Table 8 provide insights into the relationship between credit risk management variables and the profitability of Nigerian banks as measured by Return on Assets (ROA). The coefficient for Non-performing Loan Ratio (NPLR) is -0.016, with a p-value of 0.027, which is statistically significant at the 5% level. This negative coefficient suggests that an increase in the non-performing loan ratio is associated with a decrease in bank profitability. The t-value of -2.21 further supports the significance of this relationship, with the 95% confidence interval for NPLR ranging from -0.03 to -0.002, indicating a fairly strong negative impact.

In contrast, the Loan to Asset Ratio (LAR) shows a positive coefficient of 0.009, but the p-value of 0.231 indicates that this relationship is not statistically significant, meaning that LAR does not have a meaningful effect on ROA in this model. Similarly, the Capital Adequacy Ratio (CAR) and Loan Loss Provision Ratio (LLPR) have very small negative coefficients (-0.001 and -0.002, respectively), but neither is statistically significant, with p-values of 0.736 and 0.68, respectively. This suggests that changes in capital adequacy or loan loss provisions do not significantly influence the banks' profitability in the context of this study.

The constant term is -0.014, but the high p-value of 0.627 suggests that it is not significantly different from zero, indicating no major baseline effect on ROA when all independent variables are zero. The overall R-squared value of 0.066 indicates that the model explains only about 6.6% of the variation in ROA, suggesting that there may be other factors not included in the model that better explain bank profitability. The R-squared within value of 0.033 and R-squared between value of 0.356 indicate that there is some variation between banks but relatively little variation within banks over time.

The Chi-square value of 5.236 and the p-value of 0.264 suggest that the model's overall fit is not statistically significant, meaning that the explanatory variables collectively do not significantly predict the variation in ROA. These results indicate that, while NPLR has a significant negative impact on profitability, other credit risk management variables, such as LAR, CAR, and LLPR, do not significantly influence ROA in this context. The regression results indicate the varying effects of the independent variables on the profitability (ROA) of listed deposit money banks in Nigeria.

Discussion of Findings

Non-performing Loan Ratio (NPLR) and Profitability

The Non-performing Loan Ratio (NPLR) has a statistically significant negative relationship with profitability (ROA). The coefficient for NPLR is -0.016, with a p-value of 0.027, which is significant at the 5% level. This suggests that as the proportion

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of non-performing loans increases, the profitability of the bank decreases. The negative coefficient signifies that increasing defaults or poor loan quality erode profitability by increasing the provisions for loan losses and decreasing interest income from performing loans. Therefore, effective credit risk management to reduce NPLR would likely improve bank profitability.

This finding is consistent with previous studies that have found a significant negative relationship between NPLR and bank profitability, such as those by Ugwu and Okwo (2025), who highlight that NPLR reduces financial stability and profitability in Nigerian banks. Similarly, Taofeek (2026) asserts that higher NPLR negatively impacts bank performance by increasing risk exposure and financial costs. However, other studies, such as those by Aliero and Ewah (2021), have reported mixed results, showing either weaker or insignificant effects of NPLR on profitability, particularly in the context of banks that have strong risk management systems.

Loan to Asset Ratio (LAR) and Profitability

The Loan to Asset Ratio (LAR) has a positive coefficient of 0.009, but the p-value of 0.231 indicates that this relationship is not statistically significant. Although the positive coefficient suggests that higher lending activity relative to total assets might increase profitability, the lack of statistical significance indicates that, in this sample, the effect of LAR on profitability is not strong or consistent enough to be considered meaningful.

This result is consistent with the findings of Adebayo et al. (2021), who note that while a high LAR could lead to increased interest income, its impact on profitability is often offset by higher default risks and the need for greater loan loss provisions. Contrastingly, studies by Kolapo et al. (2012) suggest that higher LAR significantly contributes to profitability, particularly in banks with effective credit risk management practices, indicating that the effect might vary depending on the bank's operational context and risk exposure.

Capital Adequacy Ratio (CAR) and Profitability

The Capital Adequacy Ratio (CAR) has a very small negative coefficient of -0.001, with a p-value of 0.736, which is far above the 0.05 threshold for statistical significance. This suggests that the capital reserves a bank holds in relation to its risk-weighted assets do not significantly impact its profitability in this study. This finding aligns with the study by Adegbite et al. (2020), which found that CAR did not significantly affect the profitability of Nigerian banks during periods of economic instability. However, this result contradicts the findings of Oke and Akinyomi (2019), who argue that adequate capital buffers are essential for maintaining profitability, especially in times of financial distress, as they reduce the likelihood of insolvency and help banks manage risk more effectively.

Loan Loss Provision Ratio (LLPR) and Profitability

The Loan Loss Provision Ratio (LLPR), which measures the bank's provision for potential loan losses, has a negative coefficient of -0.002, with a p-value of 0.68, indicating that this relationship is not statistically significant. A negative coefficient suggests that higher provisions for loan losses might reduce profitability, as these provisions reduce the bank's income. This could be due to the banks' generally conservative risk management practices or the fact that the level of provisioning is insufficiently varied across the sample to have a meaningful impact.

This result is in line with findings by Kargi (2011), who argues that while loan loss provisions can lower short-term profits, they are a necessary safeguard against future defaults and do not necessarily harm long-term profitability. On the other hand,

studies like those by Kolapo et al. (2012) contradict this by suggesting that inadequate provisions for loan losses can lead to significant profitability challenges in the long run, especially when economic conditions worsen.

Policy Implications

The findings of this study have important policy implications for the banking sector in Nigeria. The significant negative relationship between Non-performing Loan Ratio (NPLR) and profitability suggests that banks should prioritize effective credit risk management practices to reduce non-performing loans, as this could improve their profitability.

Policymakers and regulators should encourage banks to adopt robust loan screening processes, enhance monitoring systems, and enforce stricter risk assessment protocols to minimize defaults. The lack of statistical significance in the relationships between Loan to Asset Ratio (LAR), Capital Adequacy Ratio (CAR), and Loan Loss Provision Ratio (LLPR) with profitability indicates that while these factors are important for financial stability, they may not directly influence profitability in the short term. Consequently, banks may benefit from focusing more on improving asset quality rather than merely increasing capital buffers or loan provisions.

5. Conclusion and Recommendations

Based on the findings of the study, the following conclusions are reached:

- i. The study found a statistically significant negative relationship between Non-performing Loan Ratio (NPLR) and profitability, indicating that higher levels of non-performing loans lead to reduced profitability for Nigerian banks. As NPLR increases, banks face higher provisioning costs and lower income from performing loans, which negatively impacts their financial performance.
- ii. The Loan to Asset Ratio (LAR) showed a positive coefficient but was not statistically significant, suggesting that, in the context of this study, the volume of loans relative to total assets does not have a meaningful impact on profitability.
- iii. The Capital Adequacy Ratio (CAR) showed a very small negative coefficient and was not statistically significant. This suggests that, in the context of this study, the level of capital reserves in relation to risk-weighted assets does not have a direct impact on bank profitability. While CAR is important for financial stability, it does not appear to drive profitability in this sample.
- iv. The Loan Loss Provision Ratio (LLPR) was found to have a negative but statistically insignificant relationship with profitability, indicating that loan loss provisions do not significantly impact profitability in the short term. While provisioning is necessary to cover potential loan defaults, it does not appear to significantly reduce bank profitability in this sample.

The following recommendations are therefore made based on the above conclusions:

- i. Banks should prioritize improving their loan screening and monitoring processes to reduce NPLR. Policymakers and regulators could enforce stricter loan classification standards and introduce regular audits to ensure that banks adhere to sound lending practices. Additionally, providing training for credit officers and implementing early warning systems could help identify potential loan defaults before they affect profitability.
- ii. While LAR can be a useful indicator of lending activity, banks should not rely solely on increasing the loan-to-asset ratio to boost profitability. Instead, banks

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- should focus on optimizing their loan portfolios by ensuring loan quality and diversification. The Nigerian banking sector should emphasize risk-based pricing to ensure that lending activities are sustainable and profitable.
- iii. Although CAR may not directly impact profitability, regulators should still ensure that banks maintain adequate capital buffers to withstand financial shocks and promote long-term stability. However, banks may want to focus more on improving their operational efficiency and credit risk management practices rather than focusing primarily on increasing capital reserves, as capital adequacy alone does not guarantee profitability.
 - iv. Banks should maintain adequate loan loss provisions to safeguard against potential defaults but should also focus on better managing their loan portfolios to reduce the need for large provisions. Regulators could provide guidelines on optimal provisioning levels that balance risk protection without excessively eroding profitability.

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