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THE IMPACT OF RISK MANAGEMENT AND CAPITAL ADEQUACY RATIO ON BANKING PERFORMANCE IN INDONESIA

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Abstract

This research examines the impact of risk management practices and capital adequacy on banking performance in Indonesia. Bank performance is measured by Return on Assets, while risk management is represented by credit, market, liquidity, and operational risk indicators. Capital Adequacy Ratio is used as a proxy for capital strength, with firm size and firm growth rate serving as control variables. The study applies a quantitative approach using secondary data from the financial statements of 43 commercial banks listed on the Indonesia Stock Exchange during the 2020–2024 period and employs panel data regression with a fixed effects model. The results indicate that the variables jointly have a significant effect on banking performance. Partially, Loan Loss Provision, Operating Expense Ratio, Efficiency Ratio, and Capital Adequacy Ratio have a positive and significant impact on Return on Assets, while the remaining risk indicators and control variables do not show significant effects. These findings indicate that effective credit provisioning, operational efficiency, productive cost management, and adequate capital strength are key factors in improving banking performance and maintaining sector stability.

Keywords: Risk Management, Capital Adequacy, Banking Performance, Return on Assets

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INTRODUCTION

Banking plays a crucial role in the Indonesian economy as a financial intermediary that mobilizes public funds and reallocates them through lending and other financial instruments, as regulated under Undang-Undang Nomor 10 Tahun 1998 concerning Banking in Indonesia. Consequently, banking performance becomes a key indicator of financial system stability and national economic growth. Bank performance is commonly measured using Return on Assets (ROA), which reflects management effectiveness in utilizing assets to generate profits (Batekele & Maseka, 2025).

Bank profitability is influenced not only by operational efficiency but also by the management of credit, market, liquidity, and operational risks (Purnomo, 2024). Credit risk, proxied by Non-Performing Loans (NPL), Loan Loss Provisions (LLP), and Loan and Advances (LA), has been shown to significantly affect bank profitability (Firdaus & Ariyanti, 2020; Abdelaziz et al., 2022; Molla & Kaur, 2025). In addition, market risk (Financial Leverage and Interest Rate Risk), liquidity risk (Cash to Total Deposit Ratio and Loan to Deposit Ratio), and operational risk (Operating Expense and Efficiency Ratio) also influence banking performance (Gupta & Sikarwar, 2020; Cheng et al., 2020; Hacini et al., 2021; Safitri & Machmuddah, 2025; Alshammari, 2025).

Although studies on banking risk management have expanded, empirical research integrating all risk dimensions with the Capital Adequacy Ratio (CAR) in the Indonesian banking context remains limited. CAR reflects a bank's ability to absorb potential losses and maintain financial stability (Batekele & Maseka, 2025). Therefore, this study aims to empirically examine the effect of risk management and CAR on banking performance in Indonesia using a quantitative approach with panel data regression, incorporating Firm Size and Firm Growth Rate as control variables.

LITERATURE REVIEW

Banking Performance

Banking performance refers to the capacity of a bank to effectively utilize and allocate its resources to attain long-term financial sustainability (Kinkani Batekele & Tumana Maseka, 2025). Return on Assets is widely used as the primary indicator of banking performance because it reflects the efficiency of asset utilization in generating profits (Molla & Kaur, 2025). Return on Assets is considered more representative than other profitability indicators because it is not directly influenced by a bank's capital structure (Naili & Lahrichi, 2022). Within financial intermediation theory, Return on Assets is employed to evaluate the effectiveness of banks in performing their fund mobilization and lending functions (Gurung et al., 2023).

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Bank Risk Management

Bank risk management refers to an integrated process aimed at identifying, measuring, monitoring, and controlling risks inherent in banking activities (Barroso & Maio, 2024). Ineffective risk management can increase income uncertainty and weaken the financial stability of banks (Molla & Kaur, 2025). Risk–return trade off theory explains that higher risk exposure may lead to higher returns but simultaneously increases potential losses if not properly managed (Gupta & Sikarwar, 2020). Therefore, effective risk management plays a crucial role in maintaining profitability and ensuring the long-term sustainability of banking operations (Alnaa & Matey, 2023).

Credit Risk

Credit risk arises from borrowers' failure to meet their contractual repayment obligations to banks (Abdelaziz et al., 2022). Non-performing loans are used to measure the level of problematic loans and reflect the quality of a bank's credit portfolio (Munangi & Sibindi, 2020). An increase in Non-Performing Loan levels may reduce bank profitability through higher provisioning costs and lower interest income (Imuede Oyasor, 2025). Loan Loss Provision represents a prudential policy adopted by banks to anticipate potential credit losses (Sultana & Jalloh, 2025). Adequate Loan Loss Provision formation indicates sound credit risk management and supports long-term performance stability (Gurung et al., 2023). Loan and Advance reflect the scale of credit expansion as a core function of financial intermediation (Ahmed et al., 2021). Uncontrolled credit expansion without proper risk mitigation may increase default risk and negatively affect banking performance (Gazi et al., 2024).

Market Risk

Market risk is defined as the exposure of financial institutions to potential losses caused by variations in market variables, particularly interest rate movements and funding structures (Windsor et al., 2023). Financial Leverage reflects the extent to which banks rely on debt-based financing within their capital structure (Gupta & Sikarwar, 2020). Excessive Financial Leverage can increase interest burdens and elevate overall financial risk faced by banks (Alnaa & Matey, 2023). Interest Rate Risk measures the sensitivity of bank income to fluctuations in interest rates (Cheng et al., 2020). Imbalances between interest-sensitive assets and liabilities may reduce net interest margins and weaken bank profitability (Zia et al., 2025).

Liquidity Risk

Liquidity risk represents a bank's ability to meet short-term obligations without disrupting normal operations (Radovanov et al., 2023). Cash to Total Deposit Ratio indicates the proportion of cash holdings relative to total customer deposits (Eltweri, 2024). Excessive liquidity may result in opportunity costs due to underutilized funds that could otherwise generate income (Huang et al., 2025). Loan to Deposit Ratio

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reflects the effectiveness of channeling customer deposits into loan portfolios (Zheng et al., 2023). An excessively high Loan to Deposit Ratio may increase liquidity risk and undermine banking stability (Ahmed et al., 2021).

Operational Risk

Operational risk is associated with failures in internal processes, systems, and human resource management (Joshua et al., 2021). Operating Expense Ratio is used to assess the efficiency of banks in managing operational costs (Safitri & Machmuddah, 2025). An increase in Operating Expense Ratio indicates rising operational costs that may adversely affect financial performance (Bhatta & Pradhan, 2023). Efficiency Ratio reflects a bank's ability to generate income relative to its operating expenses (Bilal et al., 2024). Higher operational efficiency indicates effective management practices and contributes to improved profitability (Alshammari, 2025).

Capital Adequacy

Capital adequacy refers to a bank's ability to absorb potential losses arising from various financial risks while maintaining stable operations (Naili & Lahrichi, 2022). Capital Adequacy Ratio is widely used as the main indicator to assess the strength and resilience of a bank's capital structure (Mousa & Almashaqbeh, 2025). According to Kinkani Batekele and Tumana Maseka (2025), banks with higher capital adequacy levels tend to demonstrate stronger financial stability and more sustainable performance.

Control Variable

Firm Size reflects the scale of bank operations, which influences managerial complexity and operational efficiency (Bolívar et al., 2024). Larger banks may benefit from economies of scale but also face diseconomies of scale due to increased operational complexity (Molla & Kaur, 2025). Firm Growth Rate represents the pace at which banks expand in response to market opportunities (Jamaluddin & Khatami, 2023). Aggressive growth without effective management can increase risk exposure and negatively affect financial performance (Mansikkamäki, 2023).

Based on the theoretical foundations and empirical evidence discussed in the literature review, banking performance is influenced by the effectiveness of risk management practices and the adequacy of capital held by banks. Credit risk, market risk, liquidity risk, and operational risk represent key dimensions of bank risk management that may affect profitability through asset quality, cost efficiency, and income stability. In addition, capital adequacy plays a crucial role in enhancing financial resilience and supporting sustainable banking operations, while firm-specific characteristics such as firm size and growth rate may also influence performance outcomes. Accordingly, this study formulates the following hypotheses to empirically

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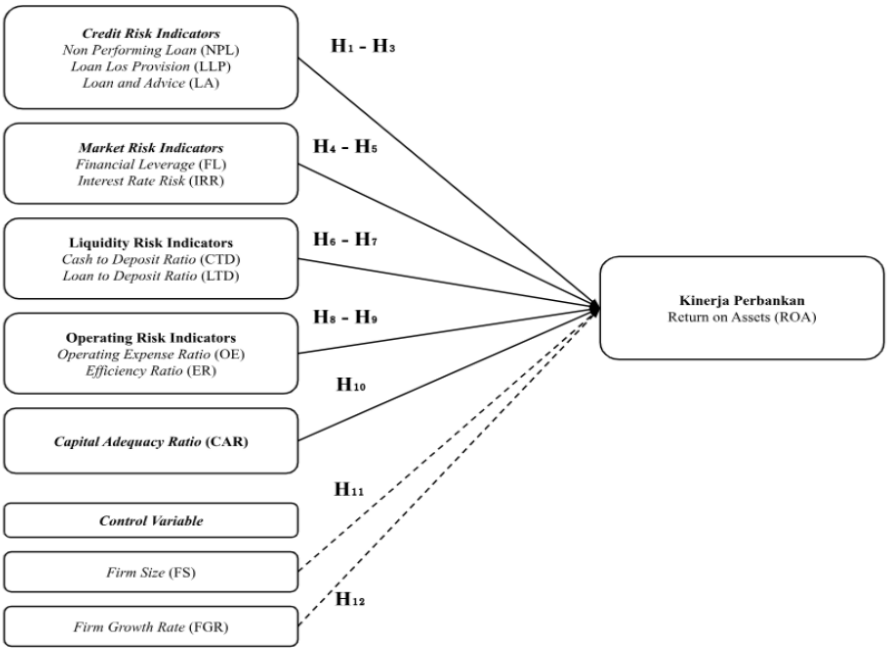
examine the impact of risk management and capital adequacy on banking performance in Indonesia.

Figure 1
Conceptual Framework



Source: Data processed by researchers, 2025

H_1: Non-Performing Loan (NPL) has a negative effect on banking performance.
H_2: Loan Loss Provision (LLP) has a negative effect on banking performance.
H_3: Loan and Advance (LA) has a positive effect on banking performance.
H_4: Financial Leverage (FL) has a negative effect on banking performance.
H_5: Interest Rate Risk (IRR) has a negative effect on banking performance.
H_6: Cash-to-Total Deposit Ratio (CTD) has a negative effect on banking performance.
H_7: Loan-to-Deposit Ratio (LTD) has a positive effect on banking performance.
H_8: Operating Expense Ratio (OE) has a negative effect on banking performance.
H_9: Efficiency Ratio (ER) has a negative effect on banking performance.
H_{10}: Capital Adequacy Ratio (CAR) has a positive effect on banking performance.
H_{11}: Firm Size (FS) has a negative effect on banking performance.
H_{12}: Firm Growth Rate (FGR) has a negative effect on banking performance.

RESEARCH METHOD

Research Design

This study employs a quantitative approach with hypothesis testing to analyze the effect of risk management and the Capital Adequacy Ratio (CAR) on banks' financial performance (ROA), with Firm Size and Firm Growth Rate as control

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variables. The data used consist of secondary data obtained from the financial statements and annual reports of commercial banks listed on the Indonesia Stock Exchange (IDX) during the 2020–2024 period. The analytical method applied is panel data regression using EViews software.

Variables and Measurement

In this study, variable measurement is conducted to examine the effects of independent and control variables on banks' financial performance. The definitions and measurements of the variables are presented in Table 1:

Table 1
Operational Definition of Variables

Dependent Variable	Variable	Label	Measurement	Reference
Financial Performance	Return on Asset	ROA	$\frac{\text{Net Income After Tax}}{\text{Total Assets}}$	Molla MT, Kaur R (2025)
Independent Variable	**Variable**	**Label**	**Measurement**	**Reference**
Credit risk indicators	Nonperforming Loan	NPL	$\frac{\text{Non Performing Loans}}{\text{Total Loans and Advences}}$	Molla MT, Kaur R (2025)
	Loan loss provision	LLP	$\frac{\text{Loan Loss Provision}}{\text{Gross Loan}}$	Molla MT, Kaur R (2025)
	Loan and Advances	LA	$\frac{\text{Total Loans and Advences}}{\text{Total Deposits}}$	Molla MT, Kaur R (2025)
Market Risk Indicators	Financial Leverage	FL	$\frac{\text{Total Liabilitas}}{\text{Total Assets}}$ x 100%	Kanakriyah, R., Salameh, R., Al-Hanini, E., Abu Snobar, R., & Shkokani, H. (2025)
	Interest Rate Risk	IRR	$\frac{\text{Interest Income}}{\text{Performing Loan}}$	Akporien, O. F., Akpoyibo, G., Egware, N. O., & Otuya, S. (2025)
Liquidity Risk Indicators	Cash to Total Deposit	CTD	$\frac{\text{Total Cash}}{\text{Total Deposit}}$	Molla MT, Kaur R (2025)

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	Loan to Deposit	LTD	$\frac{\text{Total Loans}}{\text{Total Deposit}}$	Molla MT, Kaur R (2025)
Operational Risk indicator	Operating Expense	OE	$\frac{\text{Total Operating Expense}}{\text{Total Assets}}$	Molla MT, Kaur R (2025)
	Efficiency Ratio	ER	$\frac{\text{Total Expense}}{\text{NII Before Provision + Ot}}$	Molla MT, Kaur R (2025)
	Capital Adequacy Ratio	CAR	$\frac{\text{Capital of Bank}}{\text{Risk} - \text{Weighted Assets}}$	Kinkani Batekele dan Tumana Maseka (2025)
Control Variable	**Variable**	**Label**	**Measurement**	**Reference**
	Firm Size	FS	Logaritma dari total aset perusahaan.	Molla MT, Kaur R (2025)
	Firm Growth Rate	FGR	$\frac{(Revenue_t - Revenue_{t-1})}{Revenue_{t-1}}$	Molla MT, Kaur R (2025)

Data Collection Method

The research data are obtained from secondary sources in the form of financial statements and annual reports of banks published on the Indonesia Stock Exchange (IDX) website (www.idx.co.id) and the official websites of the respective banks. The data used are quantitative in nature and have been officially published.

Sampling Method

The sampling technique employed is purposive sampling with the following criteria:

1. Commercial banks listed on the Indonesia Stock Exchange (IDX) during the 2020–2024 period;
2. Banks that have been publicly listed (go public) at least since 2019; and
3. Banks that have complete financial statements throughout the research period.

Based on these criteria, 43 banks were selected as the research sample, resulting in a total of 215 observations.

RESULTS AND DISCUSSION

Model Testing

In panel data regression analysis, three alternative models can be applied, namely the common effect, fixed effect, and random effect models. The selection of the

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most appropriate model is carried out through a series of statistical tests, including the Chow test, Hausman test, and Lagrange Multiplier (LM) test, to ensure the suitability of the panel data model used in the analysis.

Chow Test

The Chow test is used to determine the appropriate model between the common effect and fixed effect models. The test results show that the probability values of the cross-section F and cross-section Chi-square are 0.0000 (< 0.05), indicating that the fixed effect model is more appropriate to use. Therefore, the analysis is continued with the Hausman test to determine the next best model.

Table 2
Chow Test Results

Redundant Fixed Effect Test

Effect Test	*Statistic*	*d.f.*	*Prob.*
Cross section F	4.203858	(42.160)	0.0000
Cross section Chi-square	159.875856	42	0.0000

Hausman Test

The Hausman test is used to determine the appropriate model between the fixed effect and random effect models. The test results show a probability value of 0.0013 (< 0.05), indicating that the random effect model is rejected and the fixed effect model is deemed the most appropriate. Therefore, based on the results of the Chow test and the Hausman test, this study employs the fixed effect model.

Table 3
Hausman Test Result

Test Cross-section random effects

Test Summary	*Chi-sq. Statistic*	*Chi-Dq. D.f.*	*Prob.*
Cross-section random	32.266006	12	0.0013

Lagrange Multiplier (LM) test

The Lagrange Multiplier (LM) test is used to compare the common effects and random effects models. However, in this study, the LM test is not conducted because the results of the Chow test indicate that the fixed effects model is the most appropriate specification. Consequently, the common effects model is eliminated from consideration, rendering the Lagrange Multiplier test irrelevant.

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F Test

F-test is conducted to evaluate the joint significance of the regression model. The results show that the probability value of the F-statistic is 0.0000, which is lower than the 5% significance level. This indicates that all independent variables, when considered simultaneously, have a statistically significant influence on Return on Assets (ROA). Therefore, the regression model can be regarded as statistically reliable and appropriate for empirical analysis.

Table 4
F-Test Result

F-Statistic	Prob (F-Statistic)
5.604171	0.00000

Adjusted R-squared

The Goodness of Fit evaluation yields an Adjusted R-squared value of 0.537423, indicating that approximately 53.74% of the variation in banking performance (ROA) is explained by the variables included in the model, while the remainder is attributed to factors outside the analysis.

Table 5
Adjusted R Test Result

R-squared	*Adjusted R-squared*
0.654148	0.537423

Panel Data
Regression Equation

This study aims to examine the effect of risk management on banking performance by applying multiple linear regression to panel data. The independent variables consist of ten risk management indicators grouped into four main categories, namely credit risk, market risk, liquidity risk, and operational risk. Credit risk is proxied by Non-Performing Loan (NPL), Loan Loss Provision (LLP), and Loan and Advance (LA). Market risk is measured using Financial Leverage (FL) and Interest Rate Risk (IRR). Liquidity risk is represented by the Cash-to-Deposit Ratio (CTD) and the Loan-to-Deposit Ratio (LTD). Operational risk is captured through the Operating Expense Ratio (OE) and the Efficiency Ratio (ER). In addition, this study includes the Capital Adequacy Ratio (CAR) as a capital variable to assess banks' capacity to absorb potential losses arising from risk exposure. To reduce potential bias caused by differences in bank characteristics, two control variables, Firm Size (FS) and Firm Growth Rate (FGR), are incorporated, allowing for a more accurate estimation of the

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relationships among variables. Based on the empirical results, the estimated regression model is expressed as follows:

ROA = 0.263569635522 + 0.108124290855 **NPL** + 0.910159132786 **LLP** + 0.00556259867865 **LA** + 0.00599348722477 **FL** - 0.0102495903108 **IRR** - 0.779351712654 **CTD** + 0.0175268902192 **LTD** + 0.0525482012427 **OE** + 0.0220680518393 **ER** + 0.155095168876 **CAR** + 0.00326752267325 **FS** - 0.0150434063608 **FGR**

Hypothesis Testing

Partial Test (t-Test)

Table 6
Partial Test (t-Test)

Dependent Variable: ROA
Method: Panel Least Squares
Date: 12/21/25 Time: 15:27
Sample: 2020 2024
Periods included: 5
Cross-sections included: 43
Total panel (balanced) observations: 215

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.263570	0.219321	1.201753	0.2312
NPL	0.108124	0.138654	0.779812	0.4367
LLP	0.910159	0.419441	2.169936	0.0315
LA	0.005563	0.076832	0.072399	0.9424
FL	0.005993	0.006195	0.967516	0.3347
IRR	-0.010250	0.044076	-0.232542	0.8164
CTD	-0.779352	1.344005	-0.579873	0.5628
LTD	0.017527	0.069835	0.250977	0.8022
OE	0.052548	0.021974	2.391431	0.0179
ER	0.022068	0.004891	4.511550	0.0000
CAR	0.155095	0.066206	2.342603	0.0204
FS	0.003268	0.010614	0.307851	0.7586
FGR	-0.015043	0.019835	-0.758436	0.4493

Source: Eviews 13, Data Processing Results, 2025

Based on the t-test results presented in the regression output, the following findings are obtained:

1. Non-Performing Loan (NPL) produces a p-value of 0.4367, which is above the 0.05 significance threshold. Accordingly, H_1 is not supported, indicating that NPL does not exert a statistically significant influence on Return on Assets (ROA).

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2. Loan Loss Provision (LLP) yields a p-value of 0.0315, which falls below the 0.05 significance level. Thus, H_2 is supported, confirming that LLP has a positive and statistically significant effect on ROA. The positive coefficient of 0.910159 reflects that higher provisioning for credit losses is associated with increased profitability.
3. Loan and Advance (LA) records a p-value of 0.9424, exceeding the 0.05 level of significance. Therefore, H_3 is not supported, suggesting that LA does not have a significant effect on ROA.
4. Financial Leverage (FL) shows a p-value of 0.3347, which is greater than the 0.05 significance level. As a result, H_4 is not supported, indicating that FL does not significantly affect ROA.
5. Interest Rate Risk (IRR) has a p-value of 0.8164, surpassing the 0.05 threshold. Consequently, H_5 is not supported, implying that IRR does not have a statistically significant relationship with ROA.
6. Cash-to-Deposit Ratio (CTD) reports a p-value of 0.5628, which is above the significance level of 0.05. Hence, H_6 is not supported, indicating that CTD does not significantly influence ROA.
7. Loan-to-Deposit Ratio (LTD) records a p-value of 0.8022, exceeding the 0.05 significance level. Therefore, H_7 is not supported, suggesting that LTD does not have a statistically significant impact on ROA.
8. Operating Expense Ratio (OE) produces a p-value of 0.0179, which is below the 0.05 significance level. Thus, H_8 is supported, indicating that OE has a positive and statistically significant effect on ROA. The positive coefficient of 0.052548 suggests that improved operating expense management enhances bank profitability.
9. Efficiency Ratio (ER) shows a p-value of 0.0000, well below the 0.05 significance level. Accordingly, H_9 is supported, confirming that ER has a positive and statistically significant effect on ROA. The coefficient of 0.022068 indicates that higher operational efficiency contributes to improved financial performance.
10. Capital Adequacy Ratio (CAR) records a p-value of 0.0204, which is lower than the 0.05 threshold. Therefore, H_{10} is supported, indicating that CAR has a positive and statistically significant effect on ROA. The coefficient value of 0.155095 implies that stronger capital adequacy enhances bank profitability.
11. Firm Size (FS) yields a p-value of 0.7586, which exceeds the 0.05 significance level. Thus, H_{11} is not supported, indicating that FS does not have a statistically significant effect on ROA.
12. Firm Growth Rate (FGR) records a p-value of 0.4493, which is above the 0.05 significance level. Consequently, H_{12} is not supported, indicating that FGR does not significantly affect ROA.

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Discussion Results

The empirical findings of this study demonstrate that banking performance in Indonesia is influenced by the quality of internal risk management practices and capital strength rather than by external scale-related factors or growth orientation. Although risk management variables jointly exert a significant effect on Return on Assets (ROA), only Loan Loss Provision, Operating Expense Ratio, Efficiency Ratio, and Capital Adequacy Ratio exhibit significant individual impacts. These results indicate that profitability in the banking sector is primarily shaped by managerial effectiveness in risk anticipation, operational execution, and capital planning, rather than by the volume of credit expansion or exposure to market and liquidity risks.

The insignificant effect of Non-Performing Loan suggests that the adverse impact of deteriorating asset quality has largely been absorbed through proactive provisioning policies, causing credit risk to be reflected earlier in financial statements rather than directly affecting profitability. This finding supports the argument that well-functioning provisioning mechanisms reduce the sensitivity of bank performance to fluctuations in problem loans, as reported by Ademokoya et al. (2020). Conversely, the positive and significant impact of Loan Loss Provision indicates that higher provisioning levels may reflect prudent risk governance and income-smoothing behavior rather than worsening credit quality, aligning with the perspective of Saleh and Paz (2023). The absence of a significant relationship between Loan and Advance and ROA further implies that credit expansion alone does not guarantee improved performance, particularly when funding costs, credit monitoring expenses, and default risks offset potential income gains, consistent with Abdulrahman (2021).

The findings related to market and liquidity risk indicators reveal that Financial Leverage, Interest Rate Risk, Cash-to-Deposit Ratio, and Loan-to-Deposit Ratio do not exert a direct influence on banking profitability. This outcome indicates that Indonesian banks operate within a regulatory and supervisory framework that effectively constrains excessive exposure to market and liquidity risks. Effective asset–liability management practices and regulatory compliance appear to limit the transmission of interest rate volatility, leverage fluctuations, and liquidity imbalances to bank performance. This result is consistent with Chukwunulu (2022) and Al-Aziz (2020), who emphasized that strong prudential regulation weakens the direct profitability effects of market and liquidity risk indicators.

Operational performance emerges as a central driver of banking profitability in this study. The positive and significant effects of Operating Expense Ratio and Efficiency Ratio suggest that higher operational spending and efficiency improvements are not necessarily indicators of inefficiency but may represent productive investments that enhance revenue-generating capacity. Expenditures related to digital

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infrastructure, regulatory compliance, and human capital development can strengthen service quality and operational resilience, ultimately improving profitability. This interpretation is supported by Irawan et al. (2025) and Bilal et al. (2024), who highlighted that operational efficiency should be viewed as a value-creation process rather than solely as cost minimization.

Capital strength also plays a decisive role in shaping banking performance. The positive and significant effect of Capital Adequacy Ratio confirms that well-capitalized banks possess greater capacity to absorb risk, maintain financial stability, and support sustainable operations. Strong capital buffers enhance market confidence and provide flexibility in responding to economic shocks, thereby reinforcing profitability. This finding corroborates the arguments of Kinkani Batekele and Tumana Maseka (2025) and Naili and Lahrichi (2022), who emphasized capital adequacy as a fundamental pillar of banking resilience. The insignificant effects of Firm Size and Firm Growth Rate further indicate that profitability differences among banks are not driven by scale or growth intensity, but rather by how effectively banks manage risks, costs, and capital resources.

Overall, the discussion highlights that banking performance in Indonesia is predominantly determined by internal governance quality, operational efficiency, and capital adequacy. These findings contribute to the literature by demonstrating that effective internal management mechanisms outweigh the direct influence of credit volume, market exposure, or growth orientation in explaining profitability. The results underscore the importance of strengthening risk governance frameworks and prioritizing efficiency-oriented strategies to support sustainable banking performance in emerging market contexts.

CONCLUSION

This study concludes that banking performance in Indonesia is largely determined by the effectiveness of internal risk management practices and the strength of capital adequacy rather than by bank size or growth dynamics. The empirical results demonstrate that Loan Loss Provision, Operating Expense Ratio, Efficiency Ratio, and Capital Adequacy Ratio significantly influence banking performance, indicating that prudent credit loss provisioning, disciplined cost management, high operational efficiency, and sufficient capital buffers are critical factors in sustaining profitability. These findings suggest that banks with well-managed internal processes and strong capital positions are better equipped to maintain stable performance amid economic uncertainty, while excessive focus on expansion or scale does not necessarily translate into improved profitability.

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The policy implications of this study emphasize the need for regulators and banking authorities to strengthen supervisory frameworks that promote forward-looking credit provisioning, efficient operational practices, and robust capital planning aligned with banks' risk profiles. Policymakers are encouraged to reinforce regulations that support prudent capital adequacy standards and integrated risk governance to enhance financial resilience. At the managerial level, bank executives should prioritize internal efficiency improvements, optimize cost structures, and embed risk management into strategic decision-making processes. By aligning regulatory oversight with internal managerial discipline, the recommended policies are expected to support sustainable banking performance, reinforce financial stability, and contribute to the long-term resilience of the Indonesian banking sector.

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