DIJEFA: Dinasti International Journal of Economics, Finance & Accounting
E-ISSN: 2721-303X
P-ISSN: 2721-3021
https://dinastipub.org/DIJEFA dinasti.info@gmail.com +62 811 7404 455

DOI: https://doi.org/10.38035/dijefa.v6i6.5915
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Received: 19 November 2025 | **Revised:** 23 December 2025 | **Accepted:** 08 January 2026

The Influence of Risk Mitigation on Firm Value with Profitability as an Intervening Variable

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Abstract: This study aims to analyze the effect of risk mitigation on firm value with profitability as an intervening variable in banking sub-sector companies listed on the Indonesia Stock Exchange during the period 2020–2024. The independent variables in this research are Loan to Debt Ratio (LDR), Capital Adequacy Ratio (CAR), and Operating Expenses to Operating Income (BOPO). The dependent variable is Price to Book Value (PBV), while the intervening variable is Return on Assets (ROA). The study employs purposive sampling, multiple regression analysis, and Sobel test using SPSS 25 software, with a total sample of 45 banks listed on the IDX. The findings indicate a significant negative effect of LDR on ROA, a significant positive effect of CAR on ROA, and a significant negative effect of BOPO on ROA. Furthermore, LDR has a significant negative effect on PBV, CAR has a significant positive effect on PBV, BOPO has a significant negative effect on PBV, and ROA has a significant positive effect on PBV. ROA, as an intervening variable, is able to mediate the relationship between risk mitigation variables and firm value.

Keywords: Risk Mitigation, Loan to Debt Ratio (LDR), Capital Adequacy Ratio (CAR), Operating Expenses to Operating Income (BOPO), Return on Assets (ROA), Price to Book Value (PBV).

INTRODUCTION

Indonesia's economy during the 2020–2024 period experienced substantial fluctuations, primarily due to the global pandemic, which triggered an economic contraction of –2.07% in 2020. Nevertheless, signs of recovery began to emerge in the subsequent years, with economic growth returning to a positive trajectory and reaching 5.05% in 2023. These conditions illustrate that the resilience of the national economy is highly dependent on the ability of strategic sectors to manage risks and maintain operational stability.

The banking sector serves as a critical pillar supporting economic recovery, functioning as an intermediary institution that channels funds to productive sectors. With a contribution of 1.74% to the national Gross Domestic Product (GDP), the banking industry acts as one of the primary drivers of economic growth. However, global economic pressures, exchange rate

volatility, and shifts in digital consumption patterns require banks to strengthen their risk-mitigation capabilities to remain competitive and stable.

Risk mitigation is a crucial aspect for the banking industry, given its high exposure to credit, liquidity, market, and operational risks. Ineffective risk management may undermine bank profitability and, in turn, erode investor confidence. Therefore, the implementation of robust and effective risk-mitigation strategies not only safeguards the financial stability of banks but also forms the foundation for sustaining business continuity amid economic uncertainty.

Firm value, commonly measured using the Price to Book Value (PBV) ratio, is a key indicator for assessing market perceptions of a company's future prospects. A high PBV reflects strong investor confidence in the bank's performance and its ability to generate value. Conversely, a low PBV may signal market concerns regarding the bank's risk exposure and profitability. Accordingly, understanding the factors that influence PBV is essential for enhancing a firm's investment appeal, as suggested by Brigham and Houston in Purba & Juliartini (2025).

One of the primary determinants of Price to Book Value (PBV) is the Loan to Deposit Ratio (LDR), which is closely related to liquidity risk. According to Wiadnyani and Artini (2023), liquidity risk represents a bank's ability to meet its financial obligations in a timely manner using its liquid assets. This ratio serves as a critical indicator for investors when evaluating a bank's financial soundness and the effectiveness of management in administering third-party funds.

Empirical findings from Tjahjadi (2022) indicate that LDR exerts a significant negative influence on firm value. An excessively high LDR suggests that a large portion of third-party funds has been allocated to credit, which may elevate the risk of default. Although such conditions may enhance interest income, the accompanying increase in credit risk can diminish investor confidence and ultimately exert downward pressure on PBV.

The second factor influencing Price to Book Value (PBV) is the Capital Adequacy Ratio (CAR). This ratio reflects the extent to which a bank's capital is sufficient to absorb risks arising from its productive assets. According to Lestari and Sari (2024), a high CAR indicates a bank's strong capacity to maintain financial stability and withstand potential losses, thereby enhancing investor confidence and exerting a positive impact on firm value.

A study conducted by Nugroho and Prasetyo (2023) found that CAR has a significant positive effect on firm value. These findings reinforce the argument that a higher capital adequacy ratio enhances a bank's ability to expand its operational activities, improve profitability, and strengthen its financial standing in the eyes of the market. Investors tend to view firms with robust capital structures as entities possessing strong long-term growth prospects.

The third factor affecting Price to Book Value (PBV) is the Operating Expenses to Operating Income Ratio (BOPO), which measures the level of operational efficiency within a bank. According to Wiadnyani and Artini (2023), operational efficiency reflects a bank's capability to manage its resources to generate income at minimal cost. A high BOPO ratio indicates operational inefficiency, which may reduce profitability and diminish investor perceptions of firm value.

Empirical evidence from Tjahjadi (2022) also demonstrates that BOPO has a significant negative effect on firm value. An increase in the BOPO ratio indicates higher costs incurred in generating revenue, thereby reducing profitability and exerting downward pressure on PBV. Conversely, a lower BOPO ratio suggests improved operational efficiency, which may enhance the bank's competitiveness in the capital market.

Previous studies have reported mixed findings regarding the influence of financial ratios on firm value. Salsabila (2022) argues that the Loan to Deposit Ratio (LDR) affects firm value,

suggesting that the more effectively a bank channels third-party funds into credit, the higher its value is perceived by investors. However, these results contrast with the findings of Kansil (2023), who reported that LDR has no significant effect on firm value, indicating that credit distribution efficiency may not always serve as a primary indicator of firm value enhancement.

The existing literature thus reveals inconsistent results concerning the impact of LDR, CAR, and BOPO on PBV. While some studies support significant relationships, others find no such effects. These inconsistencies highlight a research gap that warrants further investigation, particularly within the context of the Indonesian banking industry during the highly volatile period of 2020–2024.

In addition, previous studies examining the effects of LDR, CAR, BOPO, and ROA on PBV have reported inconsistent findings. These variations indicate the presence of a research gap that warrants further investigation, particularly regarding the mediating role of profitability (ROA) in the relationship between financial ratios and firm value. Accordingly, more comprehensive research is needed to understand how risk mitigation, as reflected through financial ratios, influences firm value through the channel of profitability.

Based on these empirical and theoretical phenomena, the present study focuses on: (1) analyzing the effect of LDR, CAR, and BOPO on profitability; (2) analyzing the effect of LDR, CAR, BOPO, and ROA on firm value; and (3) examining the indirect effects of LDR, CAR, and BOPO on firm value through ROA as an intervening variable. The study employs banking firms listed on the Indonesia Stock Exchange (IDX) during the 2020–2024 period as the research population.

This research is expected to provide practical benefits for investors by serving as a basis for investment decision-making, particularly in understanding the relationship between risk, profitability, and firm value in the banking sector. For banking institutions, the findings may serve as a reference for enhancing operational efficiency and strengthening risk management practices in order to maintain stability and competitiveness. Theoretically, this study contributes to the development of financial management literature, specifically concerning financial ratio analysis, profitability, and firm value within the banking industry.

Therefore, this study is conducted to address both empirical and theoretical gaps related to the influence of risk mitigation on firm value with profitability as an intervening variable, particularly among banking companies listed on the Indonesia Stock Exchange during the 2020–2024 period.

METHODS

This study examines the effect of financial ratios on firm value, with profitability as a mediating variable, focusing on banking sector companies listed on the Indonesia Stock Exchange (IDX) between 2020 and 2024. The independent variables include Loan to Deposit Ratio (LDR), Capital Adequacy Ratio (CAR), and Operating Expenses to Operating Income (BOPO), while Return on Assets (ROA) serves as the mediating variable and Price to Book Value (PBV) as the dependent variable. These variables were operationalized to ensure accurate measurement, with LDR assessing liquidity (Kasmir, 2021), CAR reflecting capital adequacy (Pandia, 2021), BOPO indicating operational efficiency (Riyadi, 2021), ROA measuring profitability (Yudha et al., 2023), and PBV representing market valuation (Brigham & Houston, 2022).

The study employed a quantitative research design, using secondary data obtained from the financial statements of all banks listed on the IDX during the research period. Purposive sampling was applied to select 45 banks with complete financial reports, resulting in 225 annual observations (Sugiyono, 2018; 2020). Data collection involved literature review and documentation methods, including accessing reports directly from the IDX website. Two regression models were estimated to analyze both direct and indirect effects. The first model

assessed the impact of LDR, CAR, and BOPO on ROA, while the second model examined the influence of LDR, CAR, BOPO, and ROA on PBV. Regression coefficients and their standard errors were obtained from SPSS output and used to test hypotheses. Direct effects of financial ratios on ROA and PBV were analyzed, and the mediating role of ROA was assessed using the Sobel test, based on the regression coefficients and standard errors from the respective paths.

Prior to hypothesis testing, classical assumption tests were conducted to ensure model validity. Normality tests confirmed that residuals were normally distributed, heteroscedasticity tests verified the constancy of residual variance, multicollinearity tests examined correlations among independent variables using VIF and tolerance, and autocorrelation tests assessed residual independence. These procedures ensured that the regression models and mediation analysis were robust and reliable.

RESULTS AND DISCUSSION

This study focuses on banking sub-sector companies listed on the Indonesia Stock Exchange (IDX) during the period 2020–2024. The sampling technique employed was purposive sampling, with the first criterion requiring firms to be continuously listed on the IDX for five consecutive years within the study period, resulting in 47 banking sub-sector companies. The second criterion required firms to publish complete financial reports throughout the observation period, yielding 45 eligible companies.

This selection process ensures that the sample represents the relevant characteristics of banking sub-sector firms in the Indonesian capital market, thereby enabling a more in-depth and representative analysis of the period under study. Based on these criteria, the final sample includes the following companies:

Bank Raya Indonesia Tbk, Bank IBK Indonesia Tbk, Bank Amar Indonesia Tbk, Bank Jago Tbk, Bank MNC Internasional Tbk, Bank Capital Indonesia Tbk, Bank Central Asia Tbk, Allo Bank Indonesia Tbk, Bank KB Bukopin Tbk, Bank Mestika Dharma Tbk, Bank Negara Indonesia (Persero) Tbk, Bank Rakyat Indonesia (Persero) Tbk, Krom Bank Indonesia Tbk, Bank Tabungan Negara (Persero) Tbk, Bank Neo Commerce Tbk, Bank JTrust Indonesia Tbk, Bank Danamon Indonesia Tbk, Bank Pembangunan Daerah Banten Tbk, Bank Ganesha Tbk, Bank Ina Perdana Tbk, Bank Pembangunan Daerah Jawa Barat dan Banten Tbk, Bank Pembangunan Daerah Jawa Timur Tbk, Bank QNB Indonesia Tbk, and Bank Maspion Indonesia Tbk.

Descriptive Analysis

Table 1. Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
LDR	225	,4539	2,1009	1,134622	,4265608
CAR	225	,0960	,8208	,308812	,1464650
BOPO	225	-,4494	1,1898	,624497	,3390968
ROA	225	-,0107	,0266	,006451	,0077392
PBV	225	,2792	2,7261	,990369	,6161408
Valid N (listwise)	225				

Based on Table 1, the descriptive statistics summarize the mean, median, maximum, minimum, standard deviation, skewness, and kurtosis for the variables Loan to Debt Ratio (LDR) (X1), Capital Adequacy Ratio (CAR) (X2), Operating Expenses to Operating Income (BOPO) (X3), Return on Assets (ROA) (Z), and Price to Book Value (PBV) (Y).

Liquidity, measured by LDR, exhibits a minimum value of 0.4539 and a maximum value of 2.1009, with a mean of 1.134622 and a standard deviation of 0.4265608. These figures

indicate substantial variation in the ratio of credit distribution to third-party funds across firms in the dataset.

Capital adequacy, measured by CAR, ranges from a minimum of 0.0960 to a maximum of 0.8208, with a mean of 0.308812 and a standard deviation of 0.1464650. This result reflects the variation in capital adequacy levels among the firms included in the sample.

Operational efficiency, represented by BOPO, shows a minimum value of –0.4494 and a maximum value of 1.1898, with a mean of 0.624497 and a standard deviation of 0.3390968. These values illustrate the differences in the proportion of operating expenses relative to operating income among the firms.

Profitability, measured by ROA, has a minimum value of –0.0107 and a maximum value of 0.0266, with a mean of 0.006451 and a standard deviation of 0.0077392. These figures indicate variations in the firms' ability to generate earnings from their assets. Firm value, depicted through PBV, ranges from a minimum of 0.2792 to a maximum of 2.7261, with a mean of 0.990369 and a standard deviation of 0.6161408. This distribution reflects the variation in the market value relative to the book value of firms included in the study.

Data Quality Testing Normality Test

Normality Test

Table 2. One-Sample Kolmogorov-Smirnov Test

			Unstandardized Residual
N			225
Normal Parameters[a,b]	Mean		,0000000
	Std. Deviation		,42669229
Most Extreme Differences	Absolute		,052
	Positive		,052
	Negative		-,040
Test Statistic			,052
Asymp. Sig. (2-tailed)[c]			,200[d]
Monte Carlo Sig. (2-tailed)[e]	Sig.		,143
	99% Confidence Interval	Lower Bound	,134
		Upper Bound	,152

a. Test distribution is Normal.
b. Calculated from data.
c. Lilliefors Significance Correction.
d. This is a lower bound of the true significance.
e. Lilliefors' method based on 10000 Monte Carlo samples with starting seed 299883525.

The Kolmogorov–Smirnov normality test for the model incorporating variables X and Z in predicting Y yields an Asymp. Sig. value of 0.200, which exceeds the 0.05 significance threshold. This result indicates that the residuals do not deviate significantly from a normal distribution. In addition, the residual mean of 0.0000000 and the standard deviation of 0.42669229 reflect a distribution centered around zero with an acceptable level of dispersion, thereby fulfilling the normality assumption required for linear regression analysis.

Multicollinearity Test

Table 3. Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.	Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)	1,165	,135		8,619	,000		
	LDR	-,302	,069	-,209	-4,362	,000	,949	1,053
	CAR	1,549	,209	,368	7,429	,000	,887	1,127

	BOPO	-,662	,088	-,364	-7,478	,000	,919	1,088
	ROA	15,900	3,936	,200	4,039	,000	,892	1,121

a. Dependent Variable: PBV

The multicollinearity diagnostic for the model incorporating LDR, CAR, BOPO, and ROA as predictors of PBV indicates that the Tolerance values range from 0.887 to 0.949, while the corresponding VIF values fall within the interval of 1.053 to 1.127. These values are well below the commonly accepted thresholds—Tolerance > 0.10 and VIF < 10—suggesting that the independent variables do not exhibit problematic intercorrelations. Accordingly, the model can be considered free from multicollinearity, ensuring that each predictor contributes unique explanatory information to the regression equation without inflating standard errors or biasing coefficient estimates.

Autocorrelation Test

Table 4. Runs Test

	Unstandardized Residual
Test Value[a]	-,02844
Cases < Test Value	112
Cases >= Test Value	113
Total Cases	225
Number of Runs	113
Z	-,067
Asymp. Sig. (2-tailed)	,947

a. Median

The autocorrelation diagnostic using the Runs Test for the model examining the relationship between variables X and Z on Y yields a significance value of 0.947, which is substantially higher than the 0.05 threshold. This result indicates that the residuals do not exhibit any systematic pattern and are distributed randomly across observations. Consequently, the model is considered free from autocorrelation, implying that the residuals are independent and do not display serial dependence. This strengthens the validity of the regression model and supports the reliability of the estimated parameters.

Heteroscedasticity Test

Table 5. Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	,384	,079		4,836	,000
	LDR	-,076	,041	-,128	-1,881	,061
	CAR	,018	,122	,010	,148	,883
	BOPO	,018	,052	,024	,352	,725
	ROA	4,173	2,310	,126	1,806	,072

a. Dependent Variable: ABS_RES_2

The heteroscedasticity diagnostic test conducted on the regression model incorporating LDR, CAR, BOPO, and ROA as predictors of PBV demonstrates that all significance values exceed the conventional 0.05 threshold. Specifically, the obtained p-values are 0.061 for LDR, 0.883 for CAR, 0.725 for BOPO, and 0.072 for ROA. These results indicate that none of the independent variables exert a statistically significant effect on the absolute residuals. Accordingly, the variance of the residuals can be considered homogeneous, and the model is

deemed free from heteroscedasticity issues. Thus, the regression estimation satisfies the assumption of homoscedasticity, strengthening the reliability and validity of the model's inferential outcomes.

Hypothesis Test

Table 6. Hypothesis

Model	Coefficients B	Std. Error	Beta	t	Sig.
(Constant)	,009	,002		3,975	,000
LDR	-,003	,001	-,176	-2,748	,006
(Constant)	,009	,002		3,975	,000
CAR	,010	,003	,192	2,896	,004
(Constant)	,009	,002		3,975	,000
BOPO	-,003	,001	-,135	-2,056	,041
(Constant)	1,165	,135		8,619	,000
LDR	-,302	,069	-,209	-4,362	,000
(Constant)	1,165	,135		8,619	,000
CAR	1,549	,209	,368	7,429	,000
(Constant)	1,165	,135		8,619	,000
BOPO	-,662	,088	-,364	-7,478	,000
(Constant)	1,165	,135		8,619	,000
ROA	15,900	3,936	,200	4,039	,000

Hypotheses eight through ten to be tested pertain to the significant influence of the Loan to Deposit Ratio (LDR) (X1) on Price to Book Value (PBV). The examination of this indirect effect is conducted using the Sobel test, formulated as follows:

$$Z = \frac{ab}{\sqrt{b^2 s_a^2 + a^2 s_b^2}}$$

Table 7. Hypothesis 8 until 10

Variable	Z	P
LDR, PBV, ROA	**-2,272**	**0,023**
CAR, PBV, ROA	**2,571**	**0,019**
BOPO, PBV, ROA	**-2,272**	**0,023**

Discussion

The statistical test results indicate a significant negative effect of the Loan to Debt Ratio (LDR) on profitability (Return on Equity/Return on Assets). This finding suggests that a higher proportion of loans relative to funds or liabilities reduces the ability of a company or financial institution to generate profit. This result is consistent with the trade-off theory developed by Jensen and Meckling, as cited in Rahma and Lastanti (2023), which posits that an increase in the proportion of debt elevates financial risk because the firm must bear greater interest obligations or financing costs, thereby reducing its capacity to generate net income. The additional financial risk arising from a higher LDR may also lead to liquidity pressure and

increased interest expenses, ultimately lowering profitability and diminishing returns to shareholders. The results of this study indicate that several financial ratios, namely Loan to Deposit Ratio (LDR), Capital Adequacy Ratio (CAR), and the Operational Expenses to Operating Income ratio (BOPO), significantly affect both profitability and firm value, either directly or indirectly through profitability as an intervening variable.

The Effect of LDR on Profitability and Firm Value

The statistical analysis demonstrates that LDR has a significant negative effect on profitability (ROA and ROE). This indicates that the higher the ratio of loans to third-party funds, the lower the firm's ability to generate profits. This finding aligns with the trade-off theory proposed by Jensen and Meckling, as cited in Rahma and Lastanti (2023), which states that an increased proportion of debt raises financial risk because firms must bear higher interest obligations. Ozcan (2022) emphasized that the effect of LDR on profitability is non-linear; LDR can enhance performance up to an optimal point, but beyond that, it reduces profitability. Similar findings were reported by Adenuga et al. (2021) and Khan et al. (2024), highlighting that excessive LDR increases liquidity risk and compresses net earnings.

Furthermore, LDR also negatively affects firm value, measured by Price to Book Value (PBV). A high LDR reflects a large proportion of third-party funds already allocated to loans, which limits liquidity. This creates a high-risk perception among investors, reducing firm value. Studies by Indrawati and Rahman (2020), Mulyani and Yulianto (2021), Fatimah and Suryadi (2022), Nurfadilah and Ratnasari (2023), and Wiadnyani and Artini (2023) support this finding. Moreover, LDR indirectly affects firm value through profitability as an intervening variable, as shown in studies by Arifin and Cahyono (2024), Basuki and Rahman (2024), Suryani and Indrawati (2023), Dewi and Lestari (2022), and Wiadnyani and Artini (2023). These findings emphasize the importance of careful LDR management to prevent reductions in profitability and firm value.

The Effect of CAR on Profitability and Firm Value

The Capital Adequacy Ratio (CAR) has a significant positive effect on profitability. The higher the capital adequacy, the greater the firm's capacity to absorb risk and generate profits. This is consistent with signaling theory (Ross, 1977), which suggests that well-capitalized firms send positive signals to investors regarding their ability to manage financial risk and maintain operational stability. Empirical evidence from Arseto (2022), Erfandi et al. (2022), Sari et al. (2023), Mulia and Meidi (2023), and Pratiwi and Purba (2024) confirms that high CAR enhances banks' ability to distribute financing productively, strengthens profitability, and positively impacts stock returns.

CAR also has a significant positive effect on firm value, both directly and indirectly through profitability. A high CAR indicates financial stability and sound capitalization, which increases investors' confidence in the firm's ability to manage risk and sustain operations. Studies by Basuki and Rahman (2024), Arifin and Cahyono (2024), Fatimah and Suryadi (2022), Cahyani and Tubastuvi (2023), Wiadnyani and Artini (2023), Lestari and Sari (2024), Nugroho and Prasetyo (2023), Dewi and Utami (2022), Hartono and Yuliani (2023), and Oktaviani and Rahmah (2021) support this finding. Maintaining CAR at an optimal level not only mitigates financial risk but also strengthens profitability and firm value.

The Effect of BOPO on Profitability and Firm Value

The BOPO ratio has a significant negative effect on both profitability and firm value. A higher BOPO indicates lower operational efficiency, reducing net income. This aligns with operational efficiency theory, which emphasizes the importance of controlling costs to

maximize revenue. In the banking industry, banks with low BOPO are considered more efficient and capable of generating higher profits.

Empirical support comes from Irawan et al. (2025), Puspa Endrajati and Anggraeni (2024), Cahyani and Tubastuvi (2023), Basuki and Rahman (2024), Fadhilah et al. (2024), Hidayat and Firmansyah (2021), Dewi and Indrawati (2022), Rahmawati and Susanto (2023), Arifin and Cahyono (2024), Widyaningrum and Yuliana (2022), Hartati and Prabowo (2021), and Dewi and Sari (2023). BOPO also negatively affects firm value through profitability as an intervening variable, indicating that operational efficiency is critical in maintaining profits and market value.

The Effect of Profitability on Firm Value

Profitability has a significant positive effect on firm value. Higher returns on assets and equity signal effective management, strong business prospects, and the ability to provide optimal returns to shareholders. This is consistent with signaling theory, where high profitability sends positive signals to investors. Studies by Prasetyo and Haryanto (2021), Fatmawati and Sari (2022), Putri and Wulandari (2023), Basuki and Rahman (2024), and Wiadnyani and Artini (2023) confirm that high profitability enhances firm value.

Overall, the findings indicate that proper management of LDR, CAR, and BOPO influences profitability, which in turn enhances firm value. Financial strategies that balance credit expansion, capital adequacy, and operational efficiency are crucial to improving financial performance, strengthening investor confidence, and sustaining long-term firm growth.

In conclusion, profitability plays a crucial role as an intervening variable in the relationship between BOPO and firm value. The higher the BOPO ratio, the lower the resulting profitability, which in turn decreases firm value. Therefore, improving operational efficiency is a strategic step for companies to maintain profitability and enhance firm value in the eyes of investors.

CONCLUSION

The study demonstrates several significant relationships between banking performance indicators and firm value. A higher Loan to Deposit Ratio (LDR) is found to exert a significant negative effect on Return on Assets (ROA), indicating that excessive credit expansion relative to third-party funds elevates credit risk and reduces financial efficiency. Conversely, the Capital Adequacy Ratio (CAR) shows a significant positive influence on ROA, suggesting that stronger capital buffers enhance the bank's ability to absorb risk and improve profitability. The Operational Cost to Operational Income ratio (BOPO) exhibits a significant negative impact on ROA, confirming that operational inefficiency directly reduces profitability.

In relation to firm value, the findings reveal that LDR has a significant negative effect on Price to Book Value (PBV), as higher LDR levels above the optimal threshold increase liquidity risk and weaken investor confidence. CAR, however, positively and significantly affects PBV, indicating that robust capital structure strengthens financial stability and enhances investor perceptions. Meanwhile, BOPO negatively affects PBV, demonstrating that poor cost management lowers firm value due to diminished investor trust in the company's operational effectiveness. ROA itself positively influences PBV, highlighting profitability as a key signal of a firm's ability to generate value and enhance its market valuation.

Furthermore, ROA plays a critical mediating role in the relationships between LDR, CAR, BOPO, and PBV. High LDR reduces profitability, which subsequently lowers firm value. In contrast, higher CAR enhances ROA, thereby increasing PBV. Likewise, rising BOPO reduces ROA, ultimately decreasing firm value. Overall, the results confirm that profitability functions as an essential intervening variable linking risk management indicators

to firm value. Enhancing operational efficiency and strengthening capital management are thus crucial strategies for improving both profitability and overall firm valuation.

Recommendations for Future Researchers

Future studies may expand the research scope by incorporating additional variables such as Non-Performing Loans (NPL), Net Interest Margin (NIM), and firm size to provide a more comprehensive understanding of the determinants of profitability and firm value. Researchers are encouraged to employ more advanced analytical methods, such as Structural Equation Modeling (SEM), to examine both direct and indirect effects among variables simultaneously.

Extending the observation period may also be beneficial in capturing variations arising from changes in economic conditions and monetary policy that affect the banking sector. Comparative studies between conventional and Islamic banks are recommended to explore potential differences in how financial ratios influence profitability and firm value across different banking systems.

For Banking Management

Banks are advised to maintain the Loan to Deposit Ratio (LDR) within the optimal range of approximately 80–90% to ensure a balanced relationship between credit expansion and liquidity. Credit growth should be accompanied by effective risk management to prevent a decline in profitability. Strengthening the Capital Adequacy Ratio (CAR) is also essential to ensure sufficient capital resilience. A strong capital base enhances investor confidence and improves the institution's capacity to absorb financial risks.

Furthermore, banks need to reduce the Operational Cost to Operational Income ratio (BOPO) by improving cost efficiency and optimizing operational income. Effective cost control is a critical factor in sustaining profitability and increasing firm value. Enhancing profitability (ROA) can be achieved by strengthening funding structures, expanding non-interest income sources, and improving asset productivity. Higher profitability serves as a positive signal to the market regarding the bank's performance.

For Investors

Investors should consider CAR and ROA as positive indicators when evaluating investment opportunities in the banking sector, as both reflect strong capital conditions and efficient profit generation. Conversely, excessively high LDR and BOPO ratios should be treated with caution, as they signal potential liquidity risks and operational inefficiencies that may undermine firm value. A comprehensive fundamental analysis is recommended to assess the bank's ability to balance risk and return before making investment decisions.

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