

ANALYSIS OF CAPITAL STRATEGY AND CREDIT RISK MANAGEMENT IN INCREASING THE VALUE OF BANKING COMPANIES (A Study of State-Owned Banks Listed on the Indonesia Stock Exchange for the 2020–2025 Period)

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Abstract

This study analyzes the effect of capital strategy (Capital Adequacy Ratio/CAR) and credit risk management (Non-Performing Loan/NPL) on firm value (Price to Book Value/PBV) in state-owned banks (Bank BUMN) listed on the Indonesia Stock Exchange during 2020–2025. The research is motivated by fluctuations and disparities in firm value among state-owned banks despite operating in a relatively homogeneous sector and regulatory environment, along with inconsistencies in prior studies. This study uses a quantitative method with an associative approach. The sample comprises five state-owned banks (BBRI, BMRI, BBNI, BBTN, BRIS) over six years (2020–2025), yielding 30 observations from annual reports. Data were analyzed using panel data regression with EViews 13, including model selection (Chow Test, Hausman Test), multicollinearity testing, and hypothesis testing (t-test, F-test, coefficient of determination). Results show the Random Effect Model (REM) as the best-fit model. Partially, CAR has a significant positive effect on firm value, while NPL has no significant effect. Simultaneously, CAR and NPL significantly affect firm value, with an R-squared of 28.52%. These findings support Signaling Theory, whereby high capital adequacy signals financial strength to investors, thereby increasing the bank's market valuation.

Keywords: *Capital Strategy, CAR, Credit Risk Management, NPL, Firm Value, PBV, State-Owned Banks*

INTRODUCTION

Firm value reflects the market's assessment of a company's performance, growth prospects, and long term sustainability. It also represents the primary objective of strategic managerial decisions aimed at maximizing shareholder wealth (Ferdiansyah & Kustinah, 2025; Yonathan & Apriwenni, 2025). In the banking industry, firm value plays a particularly critical role due to the sector's dependence on public trust and its function as a pillar of national economic stability (Hidayat et al., 2025). As financial intermediaries controlling approximately 73% of Indonesia's total financial assets in 2024, banks, particularly State Owned Banks (Bank Badan Usaha Milik Negara, BUMN), serve as key indicators of the country's overall macroeconomic resilience (D. T. Lestari et al., 2025; Priharta et al., 2022).

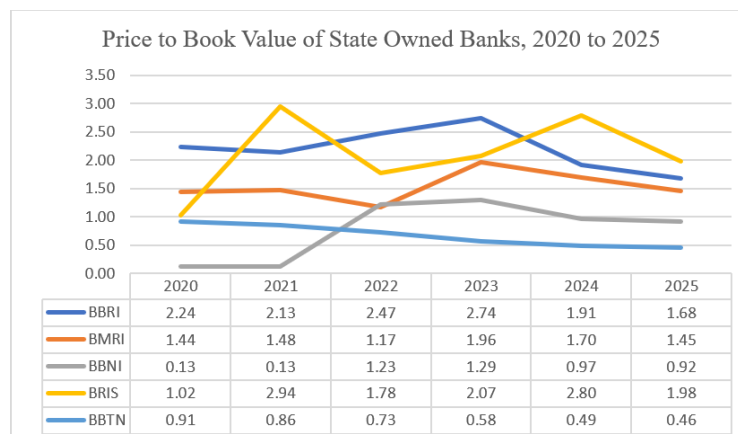


Figure 1. Price to Book Value (PBV) of Indonesian State Owned Banks, 2020–2025

Source: Annual Reports of each bank, processed by the authors

Empirical evidence indicates that the firm values of the five Indonesian State Owned Banks, namely BBRI, BMRI, BBNI, BBTN, and BRIS, as measured by the Price to Book Value (PBV) ratio, exhibited considerable fluctuations and disparities during the 2020–2025 period, despite operating under relatively homogeneous sectoral, regulatory, and ownership characteristics (Ceysa et al., 2024). BBRI and BRIS consistently maintained relatively high, although fluctuating, market valuations. BMRI demonstrated comparatively stable performance, whereas BBNI experienced substantial valuation changes and BBTN consistently recorded a PBV below 1.0. These findings reveal an empirical gap between the theoretical expectation that strong capital management and effective credit risk management should enhance firm value and the observed reality that similar institutional characteristics do not necessarily result in comparable market valuations.

From a theoretical perspective, two key indicators influence market perceptions of a bank's financial stability and future prospects, namely the Capital Adequacy Ratio (CAR), which represents capital management strategy, and the Non Performing Loan (NPL) ratio, which reflects credit risk management performance (Ikhsan & Jumono, 2022; Respati & Pujiastuti, 2024). Adequate capital levels provide a positive signal regarding a bank's capacity to withstand economic uncertainty (Zamaliah & Latief, 2020), whereas a high level of non performing loans may reduce investor confidence in asset quality and the effectiveness of risk management practices (Arhinful et al., 2025). These theoretical arguments are supported by Signalling Theory (Spence, 1973), which explains how managers convey credible information to reduce information asymmetry between firms and investors, as well as Strategic Management Theory (David, 2011), which emphasizes the importance of strategic decisions in capital allocation and risk management to achieve sustainable competitive advantage.

The importance of this study is further reinforced by inconsistent findings in previous research. Several studies have reported that the Capital Adequacy Ratio has a significant positive effect on firm value (Putri & Waluyo, 2025), whereas other studies have found the opposite result (Miranti et al., 2024). Similar inconsistencies are evident with respect to the Non Performing Loan ratio. Some studies have demonstrated a significant relationship between NPL and firm value (Lestari et al., 2026), while others have reported no significant effect (Haryanto & Susanto, 2023). This research gap highlights the need for a more comprehensive investigation focusing specifically on the characteristics of Indonesian State Owned Banks.

Based on these considerations, this study aims to: (1) examine the role of capital management strategy in explaining the firm value of Indonesian State Owned Banks, (2) analyze the role of credit risk management in explaining firm value, and (3) investigate the simultaneous effects of capital management strategy and credit risk management on the firm value of Indonesian State Owned Banks listed on the Indonesia Stock Exchange during the 2020–2025 period. To address these objectives, this study employs a quantitative associative approach using panel data regression analysis with EViews 13 based on 30 observations. This approach is expected to provide a comprehensive understanding of the relationship between the two independent variables and firm value, thereby offering valuable insights for bank management, investors, and regulators in formulating strategic decisions within the banking sector.

LITERATURE REVIEW

Signalling Theory

Signalling Theory, introduced by Spence (1973) in "Job Market Signaling," serves as the grand theory of this study. It explains how parties with greater information (management) convey signals to parties with less information (investors) to reduce information asymmetry. In the banking context, such signals may take the form of financial indicators like the Capital Adequacy Ratio (CAR) and Non-Performing Loan (NPL), which the market responds to through valuation changes (Azahra & Sulistyowati, 2025; Sapna et al., 2025). The theory's strength lies in explaining how internal corporate information is transmitted into market perception; however, its limitation lies in assuming investors act rationally and consistently interpret signals—an assumption not always valid in emerging capital markets such as Indonesia's.

Strategic Management Theory

As a middle-range theory, Strategic Management Theory (David, 2011) explains how organizations formulate and implement cross-functional strategic decisions to achieve corporate objectives. This theory is relevant in framing capital and credit risk management not merely as regulatory compliance but as strategic managerial decisions affecting competitive advantage and stakeholder trust. It complements Signalling Theory by emphasizing the internal decision-making process rather than solely the resulting market signal.

Firm Value

Firm value reflects market perception of a company's success in managing resources and generating growth prospects (Kelana, 2020; Ayuningsih et al., 2019). Price to Book Value (PBV) was selected as the indicator because it captures investors' external perception of a firm's internal policies (R. N. Amaliah et al., 2025). Nonetheless, PBV has methodological limitations, as it is heavily influenced by short-term market sentiment and may not fully reflect a firm's fundamental condition—an important caveat for interpreting this study's results.

Capital Strategy and Capital Adequacy Ratio (CAR)

CAR measures a bank's capital adequacy in absorbing potential losses (Ikhsan & Jumono, 2022). Putri and Waluyo (2025) and Mahliza et al. (2024) found a significant positive effect of CAR on firm value, supporting the argument that strong capitalization enhances investor confidence. Conversely, Miranti et al. (2024) found no significant effect, suggesting that investors do not always regard capital adequacy as a primary valuation criterion. This discrepancy is likely driven by sample heterogeneity: studies reporting non-significant results tend to use broader, more heterogeneous commercial bank samples, whereas studies reporting significant effects typically focus on more homogeneous groups such as state-owned or major banking associations (HIMBARA). This indicates that CAR's effect on PBV is context-dependent on sample characteristics.

Credit Risk Management and Non-Performing Loan (NPL)

NPL reflects the effectiveness of a bank's credit risk management (Respati & Pujiastuti, 2024). The literature reveals considerably more heterogeneous findings than for CAR. Lestari et al. (2026) and Wiadnyani and Artini (2023) found a significant effect of NPL on firm value, while Haryanto and Susanto (2023), Sochib et al. (2023), and Ikhsan and Jumono (2022) found no significant effect. Sundus and Komariah (2017) similarly reported non-significant findings using an earlier commercial bank sample. This inconsistency suggests the NPL–PBV relationship may be non-linear or mediated by other variables such as profitability (ROA), as evidenced in the mediation model by Ikhsan and Jumono (2022), where NPL significantly affected ROA but not PBV directly (full mediation).

Controversies and Debates in the Literature

Synthesizing the reviewed studies reveals three major areas of debate:

1. Directional consistency of CAR's effect is relatively more stable (typically positive) compared to NPL, though its statistical significance strongly depends on sample homogeneity and the study period.
2. The mediating role of profitability (ROA) appears to be a determining factor in whether NPL significantly and directly affects firm value—an aspect underexplored specifically within the state-owned bank context.
3. Mixed-sample bias, as most prior studies (Sundus & Komariah, 2017; Bila & Sugandha, 2022; Sochib et al., 2023) used broad commercial or national conventional bank samples without isolating the unique characteristics of state-owned banks—such as implicit government guarantees and regulatory homogeneity—which may moderate the CAR/NPL–PBV relationship.

Research Gap

Based on the review above, this study identifies three key research gaps: first, limited studies specifically isolate state-owned banks as a homogeneous sample, leaving the moderating role of unique characteristics such as implicit government support largely unexamined in the CAR/NPL–PBV relationship; second, a scarcity of updated data covering the 2020–2025 period, which captures post-pandemic recovery effects on banking valuation; and third, persistent inconsistency regarding NPL's effect that warrants re-examination within this specific context. This study aims to contribute updated, context-specific empirical evidence on state-owned banks to enrich the literature on capital strategy and credit risk management in Indonesian banking.

Conceptual Framework

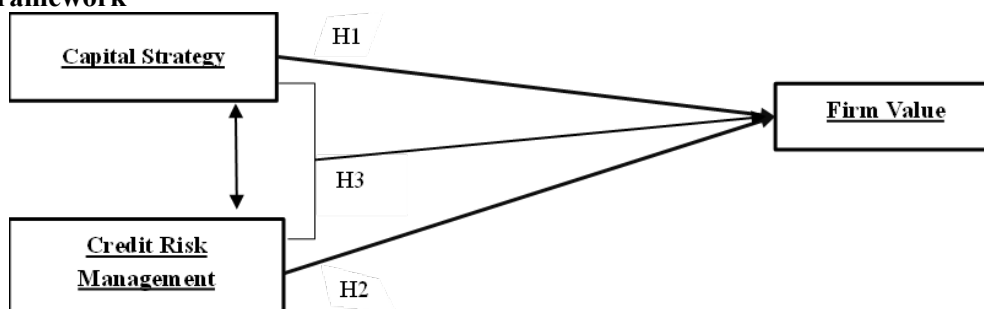


Figure 2. Conceptual Framework

Hypothesis

H1: Capital Strategy has a significant effect on the Firm Value of Indonesian State Owned Banks listed on the Indonesia Stock Exchange during the 2020 to 2025 period.

H2: Credit Risk Management has a significant effect on the Firm Value of Indonesian State Owned Banks listed on the Indonesia Stock Exchange during the 2020 to 2025 period.

H3: Capital Strategy and Credit Risk Management simultaneously have a significant effect on the Firm Value of Indonesian State Owned Banks listed on the Indonesia Stock Exchange during the 2020 to 2025 period.

METHOD

Research Design

This study employs a quantitative approach with an associative design to examine the relationship between two or more variables (Sugiyono, 2019). Specifically, it investigates the influence of Capital Strategy and Credit Risk Management on Firm Value in state-owned (BUMN) banks. The independent variables are Capital Strategy (X1) and Credit Risk Management (X2), while the dependent variable is Firm Value (Y).

Population and Sample

The population consists of all state-owned (BUMN) banking companies listed on the Indonesia Stock Exchange (IDX) during the 2020–2025 period, namely PT Bank Rakyat Indonesia (BBRI), PT Bank Mandiri (BMRI), PT Bank Negara Indonesia (BBNI), PT Bank Tabungan Negara (BBTN), and PT Bank Syariah Indonesia (BRIS). With five companies observed over six years, the study yields a balanced panel dataset of 30 firm-year observations.

Variable Operationalization

Data Collection

Secondary data were obtained from published annual financial reports, indices, and other relevant financial data accessed through the IDX official website (www.idx.co.id) and Bloomberg (www.bloomberg.com). Supporting theoretical material was gathered through a literature review of relevant books and journal articles.

Data Analysis Technique

Data were analyzed using EViews version 13 with a panel data regression approach, combining time-series (2020–2025) and cross-sectional (five companies) data. The analysis procedure comprised the following stages:

1. Descriptive Statistics. Used to summarize the raw data into measures such as mean, median, mode, range, and standard deviation, providing an overview of the characteristics of each variable.
2. Panel Data Regression Model Selection. Three estimation models were considered: the Common Effect Model (CEM), which pools cross-sectional and time-series data without accounting for individual or time differences; the Fixed Effect Model (FEM), which allows the intercept to vary across entities via dummy variables while holding regression coefficients constant; and the Random Effect Model (REM), which treats cross-sectional variation as part of the error term and is estimated using Generalized Least Squares (GLS). The most appropriate model was determined through the Chow Test (CEM vs. FEM), the Hausman Test (FEM vs. REM), and the Lagrange Multiplier (LM) Test (CEM vs. REM), each evaluated at a 5% significance level.
3. Classical Assumption Tests. Depending on the selected model, the study applied normality testing (Jarque-Bera test), multicollinearity testing (correlation matrix among independent variables, with a threshold of 0.80),

autocorrelation testing (Durbin-Watson statistic), and heteroscedasticity testing (Breusch-Pagan test), each assessed at the 5% significance level.

4. Panel Data Regression Estimation. The regression model used to test the effect of Capital Strategy (CAR) and Credit Risk Management (NPL) on Firm Value (PBV) is specified as:

$$PBV_{-it} = \beta_0 + \beta_1 CAR_{it} + \beta_2 NPL_{it} + \varepsilon_{it}$$

where PBV_{it} is firm value of company i in period t , β_0 is the constant, β_1 and β_2 are the regression coefficients of the independent variables, CAR_{it} and NPL_{it} are capital strategy and credit risk management of company i in period t , and ε_{it} is the error term.

5. Coefficient of Determination (R^2). Used to measure the proportion of variance in Firm Value explained by the independent variables, with values closer to 1 indicating stronger explanatory power.
6. Hypothesis Testing. The partial effect of each independent variable was tested using the t-test, while the simultaneous effect of all independent variables was tested using the F-test, both evaluated at a 5% significance level ($\alpha = 0.05$). A probability value ≤ 0.05 indicates a statistically significant effect.

RESULTS AND DISCUSSION

Descriptive Statistical Analysis Results

Based on descriptive statistics from 30 observations covering the 2020–2025 period, the mean values are 1.455661 for PBV, 0.208892 (20.89%) for CAR, and 0.026910 (2.69%) for NPL. All variables exhibit standard deviations lower than their respective means, indicating relatively low data dispersion and a tendency toward data homogeneity. Furthermore, all variables show Jarque-Bera probability values exceeding 0.05 ($PBV = 0.639098$; $CAR = 0.118063$; $NPL = 0.752917$), leading to the conclusion that the data are normally distributed. Consequently, the research data characteristics are deemed satisfactory and suitable for the subsequent panel data regression analysis.

Date: 07/10/26
Time: 10:52
Sample: 2020 2025

	PBV	CAR	NPL
Mean	1.455661	0.208892	0.026910
Median	1.447910	0.204511	0.029050
Maximum	2.943218	0.252848	0.043700
Minimum	0.129194	0.182422	0.009600
Std. Dev.	0.773689	0.018660	0.008807
Skewness	0.147350	0.921059	-0.297381
Kurtosis	2.206610	3.158297	2.683238
Jarque-Bera Probability	0.895396 0.639098	4.273074 0.118063	0.567600 0.752917
Sum	43.66983	6.266756	0.807300
Sum Sq. Dev.	17.35924	0.010097	0.002249
Observations	30	30	30

Figure 3. Descriptive Statistical Analysis of Variables

Panel Data Regression Model Estimation

Chow Test

Redundant Fixed Effects Tests
Equation: Untitled
Test cross-section fixed effects

Effects Test	Statistic	d.f.	Prob.
Cross-section F	8.996403	(4,23)	0.0002
Cross-section Chi-square	28.253980	4	0.0000

Figure 4. Chow Test

Based on the results of the Chow Test (Redundant Fixed Effects Test), the Cross-section F value was 8.996403 with a probability of 0.0002, and the Cross-section Chi-square value was 28.253980 with a probability of

0.0000. Because the probability values of both the Cross-section F and Cross-section Chi-square are ≤ 0.05 , H_0 is rejected and H_1 is accepted. Therefore, the appropriate model to use is the Fixed Effect Model (FEM). This result indicates that there are significant differences in characteristics among the cross-sectional units (banks), so the use of the Fixed Effect Model (FEM) is more appropriate than the Common Effect Model (CEM). Therefore, the analysis proceeds with the Hausman Test to determine whether the best model is the Fixed Effect Model (FEM) or the Random Effect Model (REM).

Hausman Test

Correlated Random Effects - Hausman Test
Equation: Untitled
Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	1.697895	2	0.4279

Figure 5. Hausman Test

Based on the results of the Hausman Test (Correlated Random Effects – Hausman Test), the Chi-Square Statistic value was 1.697895 with a probability (Prob.) value of 0.4279. Because the probability value of $0.4279 > 0.05$, H_0 is accepted and H_1 is rejected. Therefore, the appropriate model to use is the Random Effect Model (REM). This result indicates that the differences in characteristics among the cross-sectional units are not correlated with the independent variables, so the Random Effect Model (REM) is more appropriate to use than the Fixed Effect Model (FEM). Therefore, the panel data regression model selected in this study is the Random Effect Model (REM). Based on the results of the Chow Test and the Hausman Test, it was decided that the Random Effect Model (REM) is the most appropriate panel data regression model to use in this study. With this model selected, the next stage of analysis is to perform classical assumption testing to ensure that the regression model meets the necessary assumptions, so that the estimation results and hypothesis testing can be interpreted appropriately.

Classical Assumption Test

Based on the results of the Chow Test and the Hausman Test, it was decided that the Random Effect Model (REM) is the most appropriate panel data regression model to use in this study. With this model selected, the next stage of analysis is to conduct classical assumption testing. However, because the Random Effect Model (REM) is estimated using the Generalized Least Squares (GLS) method, this model is essentially already capable of accommodating heteroscedasticity and autocorrelation problems, so heteroscedasticity, autocorrelation, and normality tests are not the main requirements (Iqbal, 2025). Therefore, the classical assumption test conducted in this study is limited to the multicollinearity test, which aims to ensure that there is no high correlation among the independent variables, so that the model estimation results remain valid and can be properly interpreted.

Multicollinearity Test

Covariance Analysis: Ordinary
Date: 07/10/26 Time: 16:27
Sample: 2020 2025
Included observations: 30

Correlation	CAR	NPL
CAR	1.000000	
NPL	-0.038326	1.000000

Figure 6. Multicollinearity Test

Based on the results of the multicollinearity test using the correlation matrix, it is known that the correlation coefficient between the independent variables CAR and NPL is -0.038326. This value is smaller than 0.80, so based on the decision criteria, there is no multicollinearity in the regression model. Thus, H_0 is accepted, indicating that the independent variables do not have a strong relationship with one another. Therefore, the regression model used meets the assumption of non-multicollinearity, so the CAR and NPL variables are suitable for joint use in the panel data regression analysis without disruption caused by multicollinearity.

Panel Data Regression Analysis

Panel data regression analysis was conducted to determine the magnitude of the effect of the independent variables on the dependent variable based on the regression coefficient value of each variable. In this study, the model used is the Random Effect Model (REM), which has been established as the best model through the model selection tests. The panel data regression estimation results are presented as follows:

Dependent Variable: PBV				
Method: Panel EGLS (Cross-section random effects)				
Date: 07/10/26 Time: 16:37				
Sample: 2020 2025				
Periods included: 6				
Cross-sections included: 5				
Total panel (balanced) observations: 30				
Swamy and Arora estimator of component variances				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.947870	1.307003	-0.725224	0.4746
CAR	13.99321	5.734573	2.440149	0.0215
NPL	-19.30646	11.12940	-1.734726	0.0942
Effects Specification				
		S.D.	Rho	
Cross-section random		0.546541	0.6449	
Idiosyncratic random		0.405600	0.3551	

Figure 7. Panel Data Regression Analysis

Based on the table above, the multiple linear regression equation in this study can be seen as follows:

$$PBV_{it} = -0.947870 + 13.99321 CAR_{it} - 19.30646 NPL_{it} + \varepsilon_{it}$$

From the panel data regression equation above, it can be concluded that:

1. The constant of -0.947870 indicates that if the values of CAR and NPL are assumed to be constant or zero, the estimated PBV value is -0.947870.
2. The CAR coefficient of 13.99321 indicates that every 1-unit increase in CAR will increase PBV by 13.99321 units, assuming other variables remain constant.
3. The NPL coefficient of -19.30646 indicates that every 1-unit increase in NPL will decrease PBV by 19.30646 units, assuming other variables remain constant.

Coefficient of Determination

Weighted Statistics			
R-squared	0.285154	Mean dependent var	0.422075
Adjusted R-squared	0.232202	S.D. dependent var	0.460289
S.E. of regression	0.403324	Sum squared resid	4.392102
F-statistic	5.385181	Durbin-Watson stat	2.361082
Prob(F-statistic)	0.010761		

Figure 8. Coefficient of Determination

Based on the results of the coefficient of determination test in the table above, the R-squared (R^2) value obtained is 0.285154, or 28.52%. This indicates that the ability of the independent variables in the research model to explain the variation in the dependent variable is 28.52%, while the remaining 71.48% is influenced by other factors outside the research model that were not included in the analysis.

Hypothesis Testing

T-Test

The t-test is used to examine the partial effect of each independent variable on the dependent variable. The test was conducted at a significance level (α) of 5% with the following criteria:

- If the Prob. value ≤ 0.05 , the independent variable has a significant effect on the dependent variable, so the hypothesis is accepted.
- If the Prob. value > 0.05 , the independent variable has no significant effect on the dependent variable, so the hypothesis is rejected.

Based on the results of the t-test on the panel data regression model, the following results were obtained:

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.947870	1.307003	-0.725224	0.4746
CAR	13.99321	5.734573	2.440149	0.0215
NPL	-19.30646	11.12940	-1.734726	0.0942

Figure 9. Hypothesis Testing: T-Test

1. Effect of Capital Strategy on Firm Value (H1)

The t-test results show that the Capital Strategy variable, proxied by the Capital Adequacy Ratio (CAR), has a t-statistic value of 2.440149 with a probability (Prob.) value of 0.0215. This probability value is smaller than the 5% significance level ($0.0215 \leq 0.05$), indicating that CAR has a significant effect on firm value. In addition, the regression coefficient value of 13.99321 indicates a positive direction of effect, meaning that the higher the bank's capital adequacy level, the higher the firm value tends to be.

Thus, Hypothesis 1 (H1), which states that capital strategy has a significant effect on the firm value of BUMN banks listed on the Indonesia Stock Exchange during the 2020–2025 period, is accepted.

2. Effect of Credit Risk Management on Firm Value (H2)

The t-test results show that the Credit Risk Management variable, proxied by the Non-Performing Loan (NPL) ratio, has a t-statistic value of -1.734726 with a probability (Prob.) value of 0.0942. This probability value is greater than the 5% significance level ($0.0942 > 0.05$), indicating that NPL has no significant effect on firm value. Although the regression coefficient value of -19.30646 indicates a negative relationship, this effect is not statistically significant, so it cannot be used as a basis for stating that changes in the NPL level affect firm value.

Thus, Hypothesis 2 (H2), which states that credit risk management has a significant effect on the firm value of BUMN banks listed on the Indonesia Stock Exchange during the 2020–2025 period, is rejected.

DISCUSSION

Effect of Capital Strategy (X1) on Firm Value (Y)

Based on the results of the partial test conducted in this study, it is known that the Capital Strategy variable, proxied by the Capital Adequacy Ratio (CAR), has a significant and positive effect on Firm Value (PBV) in BUMN banks listed on the Indonesia Stock Exchange during the 2020–2025 period. This is indicated by a probability value of 0.0215, which is smaller than the 0.05 threshold, with a positive coefficient direction of 13.99321. Therefore, Hypothesis 1 (H1), which states that capital strategy has a significant effect on firm value, is accepted. This finding supports Signaling Theory, which serves as the grand theory in this study, in which a high level of capital adequacy is a positive signal conveyed by management to investors regarding the bank's ability to absorb risk and maintain financial stability (Spence, 1973). This signal is responded to by the market through increased investor confidence, which is ultimately reflected in a higher PBV valuation. This finding is also in line with Strategic Management Theory, which asserts that management's strategic decisions in managing capital are part of efforts to create competitive advantage and increase stakeholder confidence (David, 2011).

These results are consistent with the studies of Putri & Waluyo (2025) and Mahliza et al. (2024), which found that CAR has a significant positive effect on firm value. However, this finding contradicts the results of Miranti et al. (2024), which showed that capital strategy has no significant effect on firm value, and differs from Ikhsan & Jumono (2022), who found that CAR has no significant direct effect on PBV without ROA mediation. The consistency of the effect of CAR on PBV in this study is presumably due to the characteristics of BUMN banks, which generally have CAR levels far above the regulator's minimum threshold ($>12\%$), so that variations in capital adequacy levels among banks are sufficiently able to differentiate market perceptions of the safety and resilience of each bank against risk. In addition, as state-owned banks that serve as a reference for national financial system stability, investors tend to place considerable weight on capital indicators as a representation of a bank's resilience in facing economic uncertainty, so that strong capital signals are clearly responded to by the market in the form of increased valuation.

Effect of Credit Risk Management (X2) on Firm Value (Y)

Based on the results of the partial test, it is known that the Credit Risk Management variable, proxied by the Non-Performing Loan (NPL) ratio, has no significant effect on Firm Value (PBV) in BUMN banks listed on the Indonesia Stock Exchange during the 2020–2025 period. This is indicated by a probability value of 0.0942, which is greater than the 0.05 threshold, although the coefficient direction shows a negative relationship of -19.30646. Thus,

Hypothesis 2 (H2), which states that credit risk management has a significant effect on firm value, is rejected. This finding is less consistent with Signaling Theory, which states that a high NPL level should provide a negative signal to investors regarding asset quality and the effectiveness of the bank's risk management, thereby reducing market confidence and firm value (Arhinful et al., 2025). Within this theoretical framework, the lower the non-performing loan ratio, the more credible the signal conveyed by management regarding the quality of credit risk management to the market. These results are consistent with the studies of Haryanto & Susanto (2023), Sochib et al. (2023), and Ikhsan & Jumono (2022), which also found that NPL has no significant direct effect on firm value. However, this finding contradicts the results of Lestari et al. (2026), Wiadnyani & Artini (2023), and Mahliza et al. (2024, in simultaneous testing), which found that NPL has a significant effect on firm value. The insignificance of the effect of NPL on PBV in this study is presumably due to the low variation and level of NPL among BUMN banks, which are generally in the good to very good category (ranging from 0.96% to 4.37%) throughout the study period, so that the range of credit risk differences among banks is relatively narrow and insufficient to produce significant differences in market perception. In addition, as state-owned banks that receive implicit government support (implicit government guarantee), investors likely assess the risk of BUMN bank failure due to non-performing loans as relatively lower compared to private banks, so that fluctuations in NPL are not necessarily responded to significantly in market valuation. Another possibility is a time lag between the increase in credit risk and its impact on market expectations, in which investors tend to pay more attention to profitability and capital indicators as the primary signals compared to the non-performing loan ratio in assessing the prospects of BUMN banks during the 2020–2025 period.

CONCLUSION

Based on the analysis conducted on BUMN (State-Owned Enterprise) banks listed on the Indonesia Stock Exchange during the 2020–2025 period, several important conclusions were obtained regarding the effect of Capital Strategy (CAR) and Credit Risk Management (NPL) on Firm Value as measured by Price to Book Value (PBV):

1. Capital Strategy, proxied by the Capital Adequacy Ratio (CAR), is proven to have a significant positive partial effect on Firm Value. This indicates that the higher a bank's capital adequacy level, the greater investor confidence in the bank's stability and prospects, which is then reflected in the market through an increase in PBV valuation. Thus, the first hypothesis (H1) in this study is accepted.
2. Credit Risk Management, proxied by the Non-Performing Loan (NPL) ratio, does not have a significant partial effect on Firm Value. Although the direction of the relationship shows a negative tendency, this effect is not statistically strong enough to be considered a direct contributor to PBV. This indicates that the credit risk level of BUMN banks, which is generally in the good to very good category, has not yet been fully and significantly responded to by the market during the study period. Thus, the second hypothesis (H2) is not accepted.
3. Capital Strategy (CAR) and Credit Risk Management (NPL) are proven to have a significant simultaneous effect on Firm Value. This result indicates that both aspects jointly serve as important factors that help determine market perceptions of BUMN bank valuations, although their combined ability to explain the variation in firm value is moderate (R^2 of 28.52%), meaning that most of the variation in firm value is still influenced by other factors outside the research model. Therefore, the third hypothesis (H3) is accepted.

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