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Analysis of Bank-Specific Variables Viewed by Investors: The Impact of Intellectual Capital, Good Corporate Governance, Liquidity, and Solvency on the Value of Banking Firms in Indonesia

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Abstract: Bank-specific attributes may enhance profitability while conveying risks that reduce market valuation. Prior studies offer inconclusive findings and rarely examine net interest margin (NIM) as the mechanism linking intellectual capital (IC), good corporate governance (GCG), the loan-to-deposit ratio (LDR), and the capital adequacy ratio (CAR) to bank value. This study investigates their direct and NIM-mediated effects on price-to-book value (PBV). The sample comprises 26 Indonesian listed banks observed during 2018-2025, yielding 208 balanced panel observations. Both equations were estimated using random-effects Panel EGLS with White period robust covariance; indirect effects were evaluated using the robust Goodman test. IC and LDR positively affect NIM, whereas GCG and CAR do not. GCG and NIM positively affect PBV; IC and CAR are insignificant. LDR has a significant negative direct relationship with PBV, contrary to the hypothesized direction. NIM mediates only the LDR-PBV relationship: its positive indirect effect opposes the negative direct effect. The study's novelty is identifying this competitive mediation, showing that lending intensity improves valuation through interest-margin performance while investors simultaneously discount liquidity and credit risks.

Keyword: Intellectual Capital (IC), Good Corporate Governance (GCG), Loan To Deposit Ratio (LDR), Net Interest Margin (NIM), Price To Book Value (PBV).

INTRODUCTION

Banks create economic value by transforming deposits into credit while maintaining liquidity, solvency, and public confidence. For listed banks, investors synthesize these operating and risk attributes into market valuation. This study therefore uses price-to-book value (PBV), the ratio of market price per share to book value per share, because book equity is particularly informative for financial institutions whose assets and liabilities are predominantly financial (Damodaran, 2012; Indrayono, 2022). A PBV above one indicates

that the market values beyond recorded net assets, whereas a low PBV may reflect concerns about profitability, risk, or growth prospects.

Resource-based theory suggests that valuable and well-organized knowledge resources can strengthen competitive advantage (Barney et al., 2011). In banking, intellectual capital (IC) includes employee expertise, organizational routines, information systems, customer relationships, and the efficient use of employed capital. The Value-Added Intellectual Coefficient (VAIC) captures the efficiency with which these resources create value (Marzo, 2022). IC may improve the management of earning assets and funding costs, although investors may not recognize its value until it produces observable financial outcomes.

Agency theory positions good corporate governance (GCG) as a mechanism for reducing managerial opportunism and information asymmetry (Jensen & Meckling, 1998; Panda & Leepsa, 2017). This study proxies GCG by the proportion of independent commissioners. Independent oversight can enhance reporting credibility, risk control, and investor confidence, although board effectiveness depends on competence and substantive independence rather than numerical representation alone. Governance also supports institutional legitimacy and compliance in Indonesia's highly regulated banking industry (Mahrani & Soewarno, 2018; Velte, 2023).

Liquidity and capital management create potential benefits as well as valuation risks. The loan-to-deposit ratio (LDR) indicates how intensively deposits are converted into interest-earning loans. Within prudent limits, a higher LDR can signal productive intermediation, stronger expected interest income, and improved earnings prospects; signaling theory therefore supports the hypothesized positive relationship between LDR and PBV. The hypothesis is conditional rather than monotonic, however, because an excessively high LDR narrows liquidity buffers and may increase funding, withdrawal, and credit-risk concerns (Connelly et al., 2011; Raavinuthala et al., 2022). The capital adequacy ratio (CAR), in turn, represents loss-absorption capacity. Adequate capital may reinforce confidence, but unusually high capitalization may indicate underutilized resources.

Net interest margin (NIM) captures the ability of a bank to generate net interest income from average earning assets and provides the proposed transmission mechanism. Efficient resources, oversight, lending, and capital allocation may first affect interest-margin performance before being incorporated into PBV. Signaling theory predicts that sustainable NIM conveys information about managerial efficiency, earnings capacity, and future cash flows, although the signal must be assessed together with credit quality, funding structure, and interest-rate exposure (Connelly et al., 2011; Spence, 1973).

Existing evidence remains fragmented. Prior studies separately examine IC and firm value (Sasongko et al., 2019), governance and financial performance (Mahrani & Soewarno, 2018), and capital adequacy with bank growth (Linggadjaya et al., 2025). These studies establish the relevance of individual resource, governance, and prudential dimensions, but do not jointly test VAIC, independent-board representation, LDR, and CAR as antecedents of PBV through NIM in one Indonesian banking model. This omission matters because the same banking decision may create an earnings benefit while producing an opposing risk signal for investors.

Accordingly, this study examines the direct effects of IC, GCG, LDR, and CAR on NIM and PBV; the effect of NIM on PBV; and the indirect effects of the four bank-specific variables on PBV through NIM. Thirteen directional hypotheses correspond to these direct and mediated paths. Using banks listed on the Indonesia Stock Exchange during 2018-2025, the study contributes an integrated mediation framework spanning the pre-pandemic, pandemic, and recovery periods. Its specific novelty is the simultaneous identification of an interest-margin channel and a market-risk channel, allowing the analysis to determine whether mediation is complementary or competitive.

METHOD

This study employs a quantitative approach with an explanatory design to examine the influence of intellectual capital, good corporate governance, liquidity, and solvency on firm value, both directly and indirectly through banking financial performance. The unit of analysis consists of banking companies listed on the Indonesia Stock Exchange (IDX), while the unit of observation comprises firm-year data.

The study utilizes secondary panel data, combining cross-sectional and time-series data. Data were obtained from annual reports, audited financial statements, corporate governance reports, official bank websites, the Indonesia Stock Exchange, and other relevant official sources. The observation period spans eight years, from 2018 to 2025. Given complete data availability, the inclusion of 26 banks over this eight-year period yields a maximum of 208 firm-year observations.

The population comprises banking companies listed on the Indonesia Stock Exchange during 2018–2025. Purposive sampling was used to select banks that were listed no later than the end of 2018, remained listed through 2025, published the required annual financial and governance reports, reported positive earnings under the study's sampling rule, and provided complete data for all variables. This formulation accommodates issuers listed during 2018 while preserving eight annual observations and ticker continuity.

- 1) Banking companies listed no later than the end of 2018 and remained listed through 2025.
- 2) Banking companies that published complete annual financial statements, annual reports, and governance information required for variable measurement.
- 3) Banking companies that reported positive earnings in accordance with the predetermined sampling criteria.

Based on these criteria, 26 banking companies were selected as the research sample. The following table presents the operational definitions of the research variables:

Table 1. Operational Definition of Variables

Variable	Indicator	Measurement	Scale
Intellectual Capital (X1) Tasawar Nawaz & Oliver Ohlrogge (2022)	VAIC™ (Value Added Intellectual Capital)	$VAHU = \left(\frac{\text{Operating Value Added}}{\text{Personel Expenses}} \right) \times 100\%$ $STVA = \left(\frac{\text{Operating Value Added} - \text{Personel Expenses}}{\text{Total Assets}} \right) \times 100\%$ $VACA = \left(\frac{\text{Operating Value Added}}{\text{Total Assets}} \right) \times 100\%$ $VAIC^{\text{TM}} = VAHU + STVA + VACA$	Ratio
Good Corporate Governance (X2) Suhadak, et al (2019)	Independent Commissioner Ratio	$GCG = \frac{\text{Number of Independent Commissioners}}{\text{Total Numbers of Commissioners}} \times 100\%$	Ratio
Liquidity (X3) Oluwaseyi Ebenezer, et al (2019)	Loan to Deposit Ratio	$LDR = \frac{\text{Total Loan Extended}}{\text{Total Deposit Funds}}$	Ratio
Solvency (X4) (Linggadjaya et al., 2025)	Capital Adequacy Ratio	$CAR = \frac{\text{Total Equity}}{\text{Risk - Weighted Assets}}$	Ratio
Financial Performance (Y) (Linggadjaya et al., 2025)	Net Interest Margin	$NIM = \frac{\text{Net Interest Income}}{\text{Average Earning Assets}} \times 100\%$	Ratio
Firm Value (Z) (Damodaran, 2012)	Price to Book Value	$PBV = \frac{\text{Market Price per Share}}{\text{Book Value of Equity per Share}}$	Ratio

Source: Processed data (2026)

The analysis was conducted using panel data regression. The study consists of two sub-structural equations. The first equation tests the effect of the independent variables on NIM as a mediating variable. The second equation tests the effect of the independent variables and NIM on PBV as the dependent variable.

Sub-structural Equation 1

$$NIM_{it} = \alpha_0 + \alpha_1 VAIC_{it} + \alpha_2 ICR_{it} + \alpha_3 LDR_{it} + \alpha_4 CAR_{it} + \varepsilon_{it}$$

Sub-structural Equation 2

$$PBV_{it} = \beta_0 + \beta_1 NIM_{it} + \beta_2 VAIC_{it} + \beta_3 ICR_{it} + \beta_4 LDR_{it} + \beta_5 CAR_{it} + \varepsilon_{it}$$

Where:

- PBV_{it} : firm value of bank i in year t;
 NIM_{it} : financial performance of bank i in year t;
 $VAIC_{it}$: intellectual capital of bank i in year t;
 ICR_{it} : independent commissioner ratio of bank i in year t;
 LDR_{it} : liquidity of bank i in year t;
 CAR_{it} : solvency of bank i in year t;
 α_0, β_0 : constants;
 $\alpha_1 - \alpha_4, \beta_1 - \beta_5$: regression coefficients;
 $\varepsilon_{it}, \varepsilon_{it}$: error term;
 i : banking firm;
 t : year of observation.

Panel data regression estimation can be performed using the Common Effect Model (CEM), Fixed Effect Model (FEM), or Random Effect Model (REM). The best model is determined using the Chow test, Hausman test, and Lagrange Multiplier test.

Table 2. Testing of the Research Regression Model

Test	Models Compared	Probability < 0.05	Probability ≥ 0.05
Chow test	CEM vs. FEM	Select FEM	Select CEM
Hausman test	FEM vs. REM	Select FEM	Select REM
Lagrange Multiplier test	CEM vs. REM	Select REM	Select CEM

Source: Processed data (2026)

Panel-data estimation does not automatically eliminate heteroscedasticity or within-panel serial correlation; model selection and covariance correction address different issues. Multicollinearity is assessed using the correlation matrix among regressors. To make inference less sensitive to heteroscedasticity and within-panel residual correlation, both REM equations are estimated by Panel EGLS with White period robust coefficient covariance. Normality of each observed variable is not imposed because inference concerns model disturbances rather than the marginal distribution of every variable.

The study uses confidence levels of 99%, 95%, and 90%, corresponding to significance levels of 1%, 5%, and 10%. Because all hypotheses specify a theoretical direction before estimation, hypothesis tests are one-tailed. The two-tailed probabilities generated by EViews are divided by two only when the estimated coefficient has the hypothesized sign. Statistical evidence is classified as significant at 1% ($p \leq 0.01$), 5% ($0.01 < p \leq 0.05$), or 10% ($0.05 < p \leq 0.10$).

- 1) A hypothesis is accepted when the one-tailed probability does not exceed the applicable significance level, the t-statistic exceeds the corresponding one-tailed critical value for a positive hypothesis (or is below its negative critical value for a negative hypothesis), and the coefficient has the predicted sign. For the two equations, the approximate critical values are 1.286, 1.652, and 2.345 at the 10%, 5%, and 1% levels, respectively.

- 2) A hypothesis is rejected when the one-tailed probability exceeds 0.10, the t-statistic does not reach the applicable critical value, or the coefficient has a direction contrary to the hypothesis. Thus, a statistically detectable coefficient in the opposite direction does not support a directional hypothesis.

Mediation is examined using the Goodman product-of-coefficients test (Goodman, 1960). For each indirect path, coefficient *a* represents the effect of the independent variable on NIM, coefficient *b* represents the effect of NIM on PBV, and the indirect effect equals *ab*.

Goodman standard error is computed as $S_{ab} = \sqrt{(b^2 \cdot S_a^2) + ((a^2 \cdot S_b^2) - (S_a^2 \cdot S_b^2))}$, and the test statistic is $Z = \frac{a \cdot b}{S_{ab}}$. Decisions use one-tailed probabilities because the mediation hypotheses are directional. The indirect effect, standard error, test statistic, directional confidence bound, significance level, and mediation classification are reported transparently.

Model fit is evaluated using the joint significance test and the coefficient of determination. A probability below 0.05 for the F-statistic indicates that the regressors are jointly related to the dependent variable. *R*² and adjusted *R*² indicate the proportion of variation explained by the specified regressors; they are interpreted as measures of explanatory power rather than as consequences of choosing REM. Low values are acknowledged as evidence that important bank-specific, macroeconomic, and market variables remain outside the model.

RESULT AND DISCUSSION

Result

Table 3. Sample Selection Process

No	Sampling criterion	Number
1	Banking companies in the study population	49
2	Companies not listed by the end of 2018 or not remaining listed through 2025	7
3	Companies excluded under the positive-earnings and complete-data criteria (2018–2025)	16
4	Companies included in the final sample	26
5	Firm-year observations (26 banks × 8 years)	208

Source: Processed data (2026)

Table 4. Research Sample

No	Issuer Code	Company Name
1	BABP	PT Bank MNC Internasional Tbk.
2	BBCA	Bank Central Asia Tbk.
3	BBMD	PT Bank Mestika Dharma Tbk.
4	BBNI	PT Bank Negara Indonesia (Persero) Tbk
5	BBRI	PT Bank Rakyat Indonesia (Persero) Tbk
6	BBTN	PT Bank Tabungan Negara (Persero) Tbk
7	BDMN	PT Bank Danamon Indonesia Tbk
8	BGTG	PT Bank Ganesha Tbk.
9	BINA	PT Bank Ina Perdana Tbk.
10	BJBR	Bank Pembangunan Daerah Jawa Barat dan Banten Tbk
11	BJTM	Bank Pembangunan Daerah Jawa Timur Tbk
12	BMAS	PT Bank Maspion Indonesia Tbk.
13	BMRI	Bank Mandiri (Persero) Tbk.
14	BNBA	Bank Bumi Arta Tbk
15	BNGA	PT Bank CIMB Niaga Tbk
16	BNII	PT Bank Maybank Indonesia Tbk
17	BNLI	Bank Permata Tbk
18	BRIS	PT Bank Syariah Indonesia Tbk (formerly PT Bank BRISyariah Tbk)
19	BSIM	Bank Sinarmas Tbk

No	Issuer Code	Company Name
20	BTPN	PT Bank SMBC Indonesia Tbk (formerly PT Bank BTPN Tbk)
21	DNAR	PT Bank Oke Indonesia Tbk.
22	MAYA	PT Bank Mayapada Internasional Tbk
23	MCOR	PT Bank China Construction Bank Indonesia Tbk
24	MEGA	Bank Mega Tbk
25	NISP	PT Bank OCBC NISP Tbk
26	PNBN	Bank Pan Indonesia Tbk

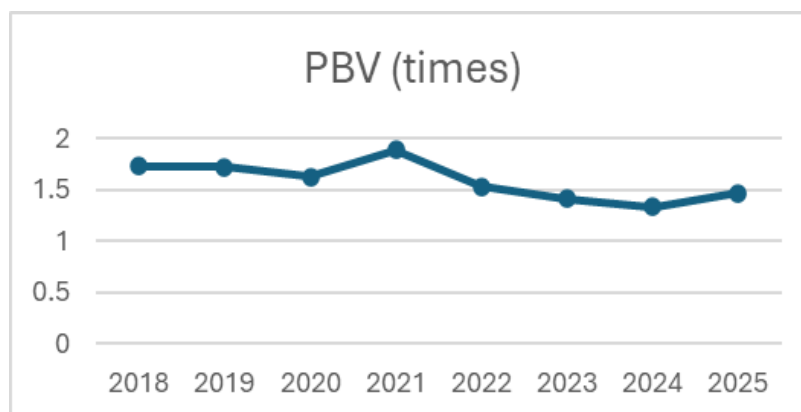
Source: Processed data (2026)

Table 5. Descriptive Statistics

	PBV	NIM	IC	GCG	LDR	CAR
Mean	1,59	4,94	3,42	0,57	0,85	0,29
Median	0,99	4,85	3,36	0,57	0,84	0,25
Maximum	9,43	11,30	9,64	0,80	1,63	1,06
Minimum	0,32	0,47	0,67	0,25	0,26	0,10
Std. Dev.	1,51	1,41	1,36	0,10	0,21	0,14
Skewness	2,33	0,36	0,57	-0,29	0,61	2,37
Kurtosis	9,45	4,84	3,98	3,27	5,22	10,56
Jarque-Bera	547,93	33,90	19,46	3,52	55,69	691,37
Probability	0,00	0,00	0,00	0,17	0,00	0,00
Sum	330,92	1028,12	711,40	118,50	177,49	59,79
SumSq. Dev.	469,43	413,22	381,71	2,00	8,84	4,01
Observations	208	208	208	208	208	208

Source: Processed data (2026)

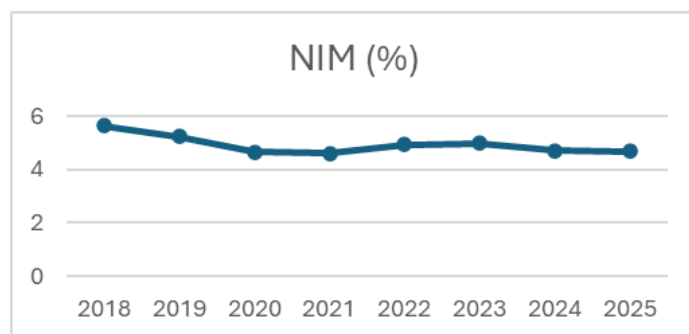
Based on 208 observations across 26 banks during the 2018–2025 period, the average Price-to-Book Value (PBV) ratio was 1.59x, indicating that the market generally valued bank shares above their book value. However, the PBV range of 0.32–9.43x reveals significant disparities in investor valuation. The average Net Interest Margin (NIM) was 4.94%, reflecting the bank’s ability to generate net interest income from productive assets. Intellectual capital, measured by VAIC, averaged 3.42; however, the range of 0.67–9.64 indicates variations in value-creation efficiency among the banks. The average proportion of independent commissioners was 57%, suggesting a relatively robust independent oversight mechanism. The average Loan-to-Deposit Ratio (LDR) was 85%—indicating that, overall, the banks performed their intermediation function in a reasonably balanced manner—despite a wide range of 26–163%. An average Capital Adequacy Ratio (CAR) of 29% points to a relatively strong capital position, although the maximum value of 106% may suggest capital that is not being optimally utilized. The following is a trend analysis of the research data:



Source: Processed data (2026)

Figure 1. PBV Growth Trends of Banks Listed on the IDX (2018–2025)

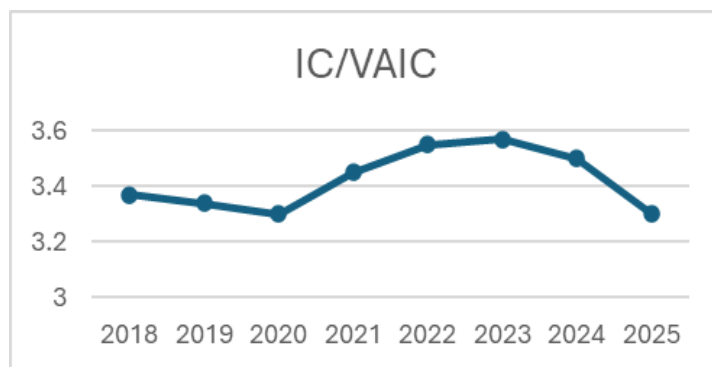
The PBV showed a downward trend over the study period, despite fluctuations and some extreme values. Declines were observed for BABP, BBTN, BDMN, BJBR, BJTM, and BTPN. For instance, BABP's PBV fell from 4.15x in 2018 to 0.64x in 2025, while BDMN's dropped from 1.76x to 0.42x. Conversely, BINA recorded a sharp rise starting in 2021, reaching 8.24x by 2025. This pattern indicates that investor valuation was uneven and heavily influenced by the prospects, risks, profitability, and specific characteristics of each bank.



Source: Processed data (2026)

Figure 2. NIM Growth Trends for Banks Listed on the IDX (2018–2025)

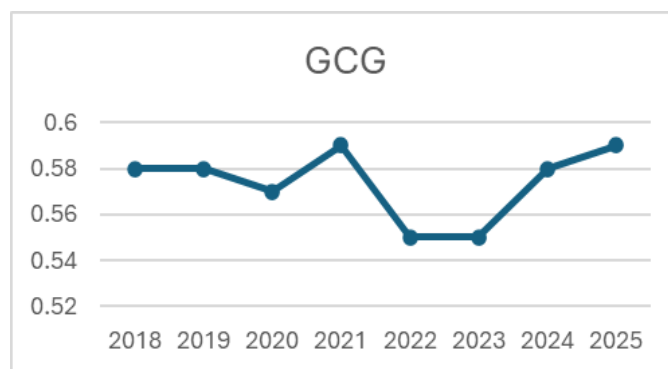
NIMs exhibited a fluctuating pattern. For many banks, NIMs declined during 2020–2021, reflecting pandemic-related pressure on loan demand and interest income. Subsequently, the NIMs of some banks began to recover in 2022–2023 but weakened again in 2024–2025. Notable declines occurred at BBNI (from 5.30% to 3.80%) and BSIM (from 7.61% to 4.33%). BBRI and BBMD managed to maintain relatively high NIMs, whereas MAYA recorded the lowest NIM at 0.47% in 2020 before rising to 2.81% in 2025.



Source: Processed data (2026)

Figure 3. IC Growth Trends for Banks Listed on the IDX (2018–2025)

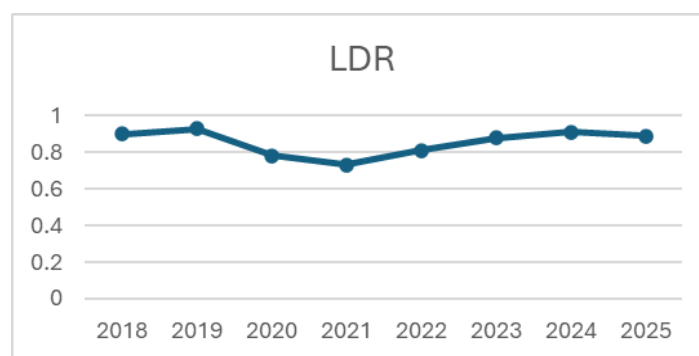
VAIC values remained generally stable with increases observed in several banks, though no uniform pattern emerged. BBKA saw an increase from 4.97 in 2018 to 6.36 in 2025, while BRIS rose from 3.37 to 4.29. Conversely, BSIM and BTPN experienced declines. An extreme IC value of 9.64 was also observed for BMAS in 2024; this warrants further examination to verify that the rise stemmed from value-creation efficiency rather than extraordinary changes in the calculation components. These variations reflect differences in the banks' respective abilities to manage human capital, structural capital, and employed capital.



Source: Processed data (2026)

Figure 4. GCG Growth Trends for Banks Listed on the IDX (2018–2025)

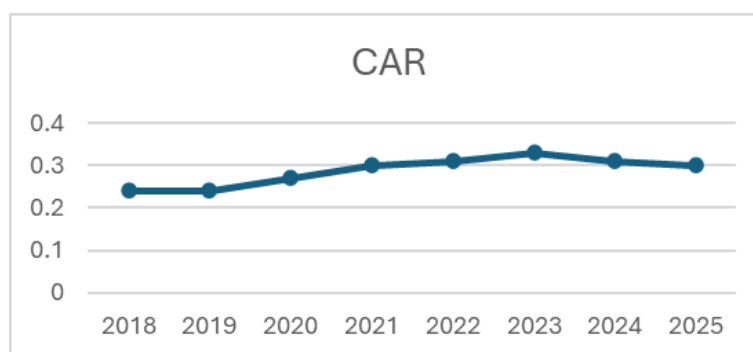
The independent commissioner ratio is a relatively stable variable, as the composition of the board of commissioners generally does not undergo drastic changes from year to year. Most banks maintain the proportion of independent commissioners within the 50–67% range. However, there have been some changes, such as a decrease in BABP’s GCG figure from 67% to 33% and an increase in BJTM’s from 75% to 80%. This stability indicates that GCG variations occur more significantly across different banks than overtime.



Source: Processed data (2026)

Figure 5. LDR Growth Trends for Banks Listed on the IDX (2018–2025)

The LDR showed a decline during 2020–2021 but rose again after 2022. The decline during the pandemic period can be attributed to a slowdown in credit disbursement and increased banking caution. Recovery was observed in BBMD, BMAS, BNBA, and MCOR. However, there were significant disparities; for instance, BSIM’s LDR dropped from 84% to 26%, whereas BMAS’s LDR rose from 101% to 146%. While an increasing LDR can boost potential interest income, an excessively high level also elevates liquidity risk.



Source: Processed data (2026)

Figure 6. CAR Growth Trends for Banks Listed on the IDX (2018–2025)

In general, the Capital Adequacy Ratio (CAR) increased during the pandemic and remained at a relatively high level thereafter. This pattern indicates a strengthening of capital buffers to withstand uncertainty and the risk of losses. Increases were observed in BGTG—rising from 36% in 2018 to 80% in 2025—and BNBA, which rose from 26% to 63%. However, an exceptionally high CAR—such as BGTG’s 106% in 2022—does not necessarily reflect efficiency, as it may indicate that capital is not being optimally utilized to generate productive assets.

Table 6. Panel Model Selection Tests

Test	Result	Decision rule	Conclusion	
			Sub-structural 1	Sub-structural 2
Chow test	Cross-section F probability = 0.000	FEM if $p < 0.05$; otherwise CEM	FEM	FEM
Hausman test	Chi-square probability = 0.640	FEM if $p < 0.05$; otherwise REM	REM	REM
Lagrange Multiplier test	Breusch–Pagan probability = 0.000	REM if $p < 0.05$; otherwise CEM	REM	REM
			REM	REM

Source: Processed data (2026)

The Chow, Hausman, and Lagrange Multiplier tests selected the random-effects model for both sub-structural equations. REM treats unobserved bank-specific effects as random and estimates the model using feasible generalized least squares. Because model selection does not by itself establish that heteroscedasticity or within-panel residual correlation is absent, both equations use White period robust coefficient covariance. The robust covariance changes the standard errors, t-statistics, and probabilities without changing the estimated coefficients.

Table 7. Multicollinearity Test

	NIM	IC	GCG	LDR	CAR
NIM	1,000				
IC	0,239	1,000			
GCG	0,133	0,102	1,000		
LDR	0,199	-0,162	-0,212	1,000	
CAR	0,024	-0,204	-0,076	-0,077	1,000

Source: Processed data (2026)

Based on the correlation matrix, the correlation coefficients among the independent variables—IC, GCG, LDR, and CAR—range from -0.212 to 0.102 . The highest absolute correlation value is found between GCG and LDR (-0.212), followed by IC and CAR (-0.204) and IC and LDR (-0.162). All these values fall well below the 0.80 threshold. Consequently, there is no strong correlation among the independent variables, indicating that the research model is free from multicollinearity issues. This implies that IC, GCG, LDR, and CAR provide relatively distinct empirical information and can each be used to explain changes in NIM without causing regression coefficient instability due to excessive linear relationships. The correlation between NIM and the independent variables is not used as a basis for testing multicollinearity, as NIM serves as the dependent variable in the first equation.

Table 8. Panel Data Regression Results

Sub-structural 1: Dependent variable = NIM				
Variable	Coefficient	Std. Error	t-statistic	One-tailed p-value
C	0.040756	0.008710	4.679422	0.000050***
IC	0.001470	0.001066	1.378359	0.090150*
GCG	0.009225	0.009496	0.971508	0.170300
LDR	0.028386	0.011591	2.449078	0.010850**
CAR	0.002526	0.007447	0.339174	0.368650
R-squared	0.121990	Adjusted R-squared	0.104689	
S.E. of regression	0.006398	Durbin–Watson	1.039377	
F-statistic	7.051152	Prob(F-statistic)	0.000025	
Observations	208	Selected model	REM–White period	
*** $p \leq 0.01$; ** $p \leq 0.05$; * $p \leq 0.10$; † coefficient opposite to the hypothesized direction.				
Sub-structural 2: Dependent variable = PBV				
Variable	Coefficient	Std. Error	t-statistic	One-tailed p-value
C	−0.492831	0.195633	−2.519166	0.009250***
NIM	4.123268	2.012461	2.048869	0.025550**
IC	0.021504	0.017809	1.207504	0.119250
GCG	0.461216	0.252391	1.827386	0.039800**
LDR	−0.749528	0.154968	−4.836654	0.000050†
CAR	−0.156047	0.170856	−0.913324	0.184900†
R-squared	0.112469	Adjusted R-squared	0.090501	
S.E. of regression	0.191906	Durbin–Watson	0.832723	
F-statistic	5.119558	Prob(F-statistic)	0.000192	
Observations	208	Selected model	REM–White period	
*** $p \leq 0.01$; ** $p \leq 0.05$; * $p \leq 0.10$; † coefficient opposite to the hypothesized direction.				

Source: Processed data (2026)

Both equations are jointly significant because their F-statistic probabilities are below 0.05. Nevertheless, their explanatory power is limited. The adjusted R^2 values of 0.105 and 0.091 indicate that the specified regressors explain approximately 10.5% of the variation in NIM and 9.1% of the variation in PBV, respectively. The remaining variation may reflect omitted factors such as bank size, asset quality, operating efficiency, funding costs, credit growth, income diversification, policy interest rates, inflation, and capital-market conditions. The results should therefore be interpreted as evidence about the specified relationships rather than as a comprehensive explanation of NIM or PBV.

IC produced a coefficient of 0.001470 (robust SE = 0.001066; $t = 1.378359$; one-tailed $p = 0.090150$). Its positive sign meets the directional hypothesis and is significant at 10%; therefore, H1 is accepted. A one-unit increase in IC is associated with a 0.147-percentage-point increase in NIM, *ceteris paribus*.

GCG produced a coefficient of 0.009225 (robust SE = 0.009496; $t = 0.971508$; one-tailed $p = 0.170300$). The estimate does not reach the 10% threshold; therefore, H2 is rejected.

LDR produced a coefficient of 0.028386 (robust SE = 0.011591; $t = 2.449078$; one-tailed $p = 0.010850$). The positive estimate is significant at 5%; therefore, H3 is accepted. A one-percentage-point increase in LDR is associated with an approximately 0.0284-percentage-point increase in NIM.

CAR produced a coefficient of 0.002526 (robust SE = 0.007447; $t = 0.339174$; one-tailed $p = 0.368650$). The estimate is not statistically significant; therefore, H4 is rejected.

IC produced a coefficient of 0.021504 (robust SE = 0.017809; $t = 1.207504$; one-tailed $p = 0.119250$). The estimate does not reach the 10% threshold; therefore, H5 is rejected.

GCG produced a coefficient of 0.461216 (robust SE = 0.252391; $t = 1.827386$; one-tailed $p = 0.039800$). The positive estimate is significant at 5%; therefore, H6 is accepted. A

one-percentage-point increase in the independent commissioner ratio is associated with an approximately 0.004612-times increase in PBV.

LDR produced a coefficient of -0.749528 (robust SE = 0.154968; $t = -4.836654$; one-tailed $p = 0.000050$ for the observed negative direction). Although statistically detectable, the coefficient contradicts the hypothesized positive direction; therefore, H7 is rejected. A one-percentage-point increase in LDR is associated with an approximately 0.007495-times decrease in PBV.

CAR produced a coefficient of -0.156047 (robust SE = 0.170856; $t = -0.913324$; one-tailed $p = 0.184900$ for the observed negative direction). The estimate is insignificant and contrary to the hypothesized direction; therefore, H8 is rejected.

NIM produced a coefficient of 4.123268 (robust SE = 2.012461; $t = 2.048869$; one-tailed $p = 0.025550$). The positive estimate is significant at 5%; therefore, H9 is accepted. A one-percentage-point increase in NIM is associated with an approximately 0.041233-times increase in PBV.

The following are the results of the Goodman test to examine the mediator's ability to mediate the independent variable:

Table 9. Goodman Mediation Test

Indirect Path	Indirect Effect	Goodman Z	Std. Error	One-Tailed P-Value	95% One-Sided CI
IC → NIM → PBV	0.006061	1.251	0.004844	0.105	[-0.001907, +∞)
GCG → NIM → PBV	0.038037	0.978	0.038891	0.164	[-0.025933, +∞)
LDR → NIM → PBV	0.117043	1.655	0.070735	0.049**	[0.000695, +∞)
CAR → NIM → PBV	0.010415	0.382	0.027278	0.351	[-0.034453, +∞)

Source: Processed data (2026)

The IC-NIM-PBV indirect effect is 0.006061 (Goodman SE = 0.004844; $z = 1.251$; one-tailed $p = 0.105$; 95% one-sided CI = [-0.001907, +infinity)). Because the probability exceeds 0.10 and the interval includes zero, H10 is rejected.

The GCG-NIM-PBV indirect effect is 0.038037 (Goodman SE = 0.038891; $z = 0.978$; one-tailed $p = 0.164$; 95% one-sided CI = [-0.025933, +infinity)). Because the probability exceeds 0.10 and the interval includes zero, H11 is rejected.

The LDR-NIM-PBV indirect effect is 0.117043 (Goodman SE = 0.070735; $z = 1.655$; one-tailed $p = 0.049$; 95% one-sided CI = [0.000695, +infinity)). The positive indirect effect is significant at 5%; therefore, H12 is accepted.

The CAR-NIM-PBV indirect effect is 0.010415 (Goodman SE = 0.027278; $z = 0.382$; one-tailed $p = 0.351$; 95% one-sided CI = [-0.034453, +infinity)). Because the probability exceeds 0.10 and the interval includes zero, H13 is rejected.

Table 10. Summary of Hypothesis Test Results

H	Path	Coefficient	One-Tailed P-Value	Significance	Decision
H1	IC → NIM (direct)	0.001470	0.090150	10%	Accepted
H2	GCG → NIM (direct)	0.009225	0.170300	>10%	Rejected
H3	LDR → NIM (direct)	0.028386	0.010850	5%	Accepted
H4	CAR → NIM (direct)	0.002526	0.368650	>10%	Rejected
H5	IC → PBV (direct)	0.021504	0.119250	>10%	Rejected
H6	GCG → PBV (direct)	0.461216	0.039800	5%	Accepted
H7	LDR → PBV (direct)	-0.749528	0.000050	Opposite direction	Rejected
H8	CAR → PBV (direct)	-0.156047	0.184900	Opposite direction	Rejected
H9	NIM → PBV (direct)	4.123268	0.025550	5%	Accepted
H10	IC → NIM → PBV (no mediation)	0.006061	0.105	>10%	Rejected

H	Path	Coefficient	One-Tailed P-Value	Significance	Decision
H11	GCG → NIM → PBV (no mediation)	0.038037	0.164	>10%	Rejected
H12	LDR → NIM → PBV (competitive mediation)	0.117043	0.049	5%	Accepted
H13	CAR → NIM → PBV (no mediation)	0.010415	0.351	>10%	Rejected

Source: Processed data (2026)

Discussion

IC has a modest positive association with NIM, supporting the resource-based proposition that knowledge, systems, and capital-employed efficiency can improve the management of earning assets and interest-bearing liabilities. Its significance only at 10%, however, indicates that this contribution is not uniformly strong across banks and years. GCG does not explain NIM, suggesting that independent commissioners primarily influence monitoring and accountability rather than loan pricing, funding costs, or asset-liability composition. Similarly, CAR is a resilience buffer rather than an automatic source of margin: additional capital improves NIM only when management deploys it into productive risk-adjusted assets.

LDR positively affects NIM but negatively affects PBV, revealing the central financial-management trade-off in the findings. Converting a larger share of deposits into loans expands interest-earning assets and can improve the net interest spread. Yet the same lending intensity reduces liquidity flexibility and can heighten investor concerns about withdrawals, funding pressure, asset quality, and expected credit losses. The rejection of H7 therefore does not make the original positive hypothesis theoretically arbitrary; it shows that the hypothesized productive-intermediation signal is dominated in the direct market response by the competing liquidity-risk signal.

GCG and NIM positively affect PBV through different channels. Independent oversight can reduce perceived agency risk, improve reporting credibility, and strengthen confidence in risk governance. NIM provides a more direct earnings signal by reflecting the bank's effectiveness in managing lending yields, funding costs, and earning assets. By contrast, IC is not directly priced by investors, plausibly because VAIC-based benefits are intangible and become value relevant only when converted into visible and persistent outcomes. CAR is likewise not valuation relevant by itself because investors may treat regulatory capital as a necessary safeguard rather than a distinctive source of value creation.

The mediation evidence sharpens these interpretations. NIM does not transmit the effects of IC, GCG, or CAR to PBV, so the economic relevance of these variables should not be assumed to operate through the interest-margin channel. Only the LDR-NIM-PBV pathway is supported. Because its indirect effect is positive while the direct LDR-PBV effect is negative, the pattern constitutes competitive mediation: lending intensity creates an earnings benefit through NIM while simultaneously creating a stronger adverse liquidity-and-credit-risk assessment in the equity market. This opposing-channel result is the study's principal contribution to banking valuation research.

CONCLUSIONS AND RECOMMENDATIONS

This study shows that bank-specific characteristics affect interest-margin performance and market valuation through distinct channels. IC and LDR increase NIM, whereas GCG and CAR do not. GCG and NIM increase PBV; IC and CAR have no direct effect, while LDR has a significant negative direct relationship with PBV and therefore does not support the hypothesized positive direction.

NIM mediates only the relationship between LDR and PBV. The positive indirect effect through NIM and the negative direct effect constitute competitive mediation: greater lending intensity improves the productive use of deposit funding and net interest performance, but investors simultaneously discount the associated liquidity and credit risks. This opposing mechanism is the principal theoretical contribution of the study.

For bank management, the findings imply that credit expansion should be evaluated through both earnings and risk-adjusted valuation consequences. Maintaining a high LDR is not inherently value creating unless the resulting margin is sustainable and supported by adequate liquidity, funding stability, and asset quality. Governance should likewise be strengthened substantively through expertise, independence, and effective risk oversight rather than through board composition alone.

Research Limitations

The adjusted R-squared values of approximately 10.5% for NIM and 9.1% for PBV indicate that substantial variation remains attributable to omitted bank-specific, macroeconomic, and market factors. The sample is limited to 26 listed Indonesian banks, and the 2018-2025 period may not capture longer-term structural relationships. In addition, the independent commissioner ratio measures formal board composition but may not adequately reflect governance effectiveness, competence, or substantive independence. Future research should incorporate bank size, asset quality, operating efficiency, funding costs, income diversification, interest rates, and market conditions; employ broader governance indices; extend the observation horizon; and compare alternative indirect-effect procedures.

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