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Profitability as a Moderator in the Effect of RGEC-Based Banking Health on Firm Value: Evidence from IDX-Listed Banks (2019–2023)

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ABSTRACT

This study examines the effect of banking health, measured using the RGEC method comprising Risk Profile (Non-Performing Loans/NPL), Good Corporate Governance (GCG), Earnings (BOPO), and Capital (Capital Adequacy Ratio/CAR), on firm value with profitability, represented by Return on Assets (ROA), as a moderating variable. The research is driven by inconsistencies between theoretical expectations and empirical data in Indonesia's banking sector during 2019–2023. It aims to determine the extent to which RGEC components affect firm value and whether ROA strengthens or weakens these relationships. The sample consists of banking companies listed on the Indonesia Stock Exchange (IDX) between 2019 and 2023. A quantitative approach is employed using panel data regression to examine direct effects and Moderated Regression Analysis (MRA) to assess interaction effects. The findings reveal that the impact of NPL, GCG, BOPO, and CAR on firm value (measured by Price to Book Value/PBV) varies across indicators. While ROA significantly influences firm value, its moderating effect is only partially confirmed. These results indicate that profitability does not consistently amplify the influence of RGEC variables on firm value, suggesting the presence of other influencing factors such as macroeconomic conditions or managerial practices. This study emphasizes the importance of strengthening financial performance alongside good governance, effective risk management, and capital efficiency to enhance sustainable firm value. The findings provide practical implications for bank managers and regulators in aligning profitability strategies with efforts to increase market valuation.

Keywords: Risk Profile; Good Corporate Governance; Earnings; Capital; Firm Value; Profitability

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INTRODUCTION

The banking sector plays a pivotal role in supporting national economic development and ensuring financial system stability. As the backbone of financial intermediation, banks in Indonesia are expected to channel funds effectively and maintain trust in times of economic uncertainty, such as the COVID-19 pandemic. However, recent conditions have shown that bank performance, particularly in terms of firm value, is not always aligned with theoretical expectations. Firm value often proxied by Price to Book Value (PBV) represents investor perception of a company's future growth potential and long-term viability.

To assess banking health in Indonesia, the Financial Services Authority (OJK) implements the RGEC (Risk Profile, Good Corporate Governance, Earnings, and Capital) method. This framework evaluates four key dimensions: credit risk through Non-Performing Loans (NPL), governance quality via GCG scores, operational efficiency through BOPO, and capital strength using the Capital Adequacy Ratio (CAR). Each of these components is presumed to influence firm value, but empirical evidence across Indonesian banks from 2019 to 2023 indicates mixed results.

For instance, while declining NPLs theoretically signal reduced credit risk and should enhance firm value, some banks still experienced a decline in PBV. Similarly, improvements in GCG and CAR were not always followed by a corresponding increase in market valuation. Such discrepancies highlight a gap between normative theory and real-world observations. This phenomenon indicates that other factors, possibly profitability, may moderate the effect of RGEC indicators on firm value.

Profitability, measured by Return on Assets (ROA), reflects a bank's efficiency in generating returns from its assets. Prior studies suggest ROA could strengthen or weaken the influence of risk management, governance, and capital on firm valuation. Yet, the role of ROA as a moderating variable remains inconclusive in emerging market contexts. The inconsistency across findings necessitates a deeper investigation into whether profitability conditions reinforce or diminish the impact of RGEC components on firm value.

This study aims to bridge that gap by examining the direct effects of RGEC indicators on firm value and evaluating the moderating role of ROA in IDX-listed banking firms during 2019–2023. This period was chosen due to its relevance in capturing both pre- and post-pandemic dynamics, regulatory shifts, and market uncertainty. By integrating risk, governance, earnings, capital strength, and profitability into a single empirical framework, this study contributes to the growing literature on value creation and performance evaluation in the Indonesian banking industry.

LITERATURE REVIEW

Banking performance and firm value are two critical indicators that reflect the health and sustainability of financial institutions in a developing economy. However, economic fluctuations, especially during 2019–2023, have shown that good financial reports do not always align with market valuation. This discrepancy raises concerns about what factors truly influence firm value in the banking sector and whether profitability can moderate these relationships.

One of the tools used to assess banking health is the RGEC method, established by Indonesia's Financial Services Authority (OJK), which includes Risk Profile, Good Corporate Governance (GCG), Earnings, and Capital. Each of these dimensions carries its own weight in assessing financial soundness and its implication for firm value.

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Risk Profile, proxied by Non-Performing Loans (NPL), indicates how well a bank manages its credit risk. A higher NPL ratio signifies greater risk and is generally expected to reduce firm value. However, Bhaktiar & Fathoni (2024) found that in some instances, NPL even shows a positive significant effect on firm value, which could stem from market perception that banks are still able to manage risk in the long term.

Good Corporate Governance (GCG) is meant to improve transparency and accountability. Yet, Ferriswara *et al.* (2022) found that GCG sometimes exerts a negative effect on Price to Book Value (PBV), likely due to ineffective implementation or symbolic compliance that fails to boost investor trust.

Earnings, measured by BOPO (Operating Expenses to Operating Income), reflects efficiency. When BOPO is high, it usually indicates inefficiency and lower profitability. This condition tends to reduce firm value, as also noted by Wiadnyani & Artini (2023). However, in some periods, BOPO increases were not always followed by PBV declines, suggesting the presence of other intervening factors.

Capital, proxied by Capital Adequacy Ratio (CAR), represents the bank's ability to absorb losses. While higher CAR is seen as a strength, research by Wardani & Nurhayati (2025) indicates that capital strength must be supported by optimal use to truly impact firm value. Profitability, measured by Return on Assets (ROA), reflects the bank's ability to generate income from its assets. It is often proposed as a moderating variable that can strengthen or weaken the impact of RGEC components on firm value. However, findings are inconsistent. Some studies (e.g., Munawwaroh *et al.*, 2021) report that ROA does not significantly moderate the effect of governance or earnings on value, while others (Fitriyani, 2022) suggest a positive interaction. In Marsifa's analysis, even when ROA increased from 1.79 to 2.04, PBV did not increase proportionally, further supporting the hypothesis that ROA alone may not be a consistent moderator.

These conflicting findings and empirical anomalies indicate a gap in understanding the relationship between banking soundness, profitability, and firm value. Thus, this study re-examines the direct effect of RGEC indicators on firm value and the moderating role of profitability, particularly in the context of Indonesian banks listed on the Indonesia Stock Exchange (IDX) during a post-pandemic recovery period.

The research model is illustrated in the following diagram:

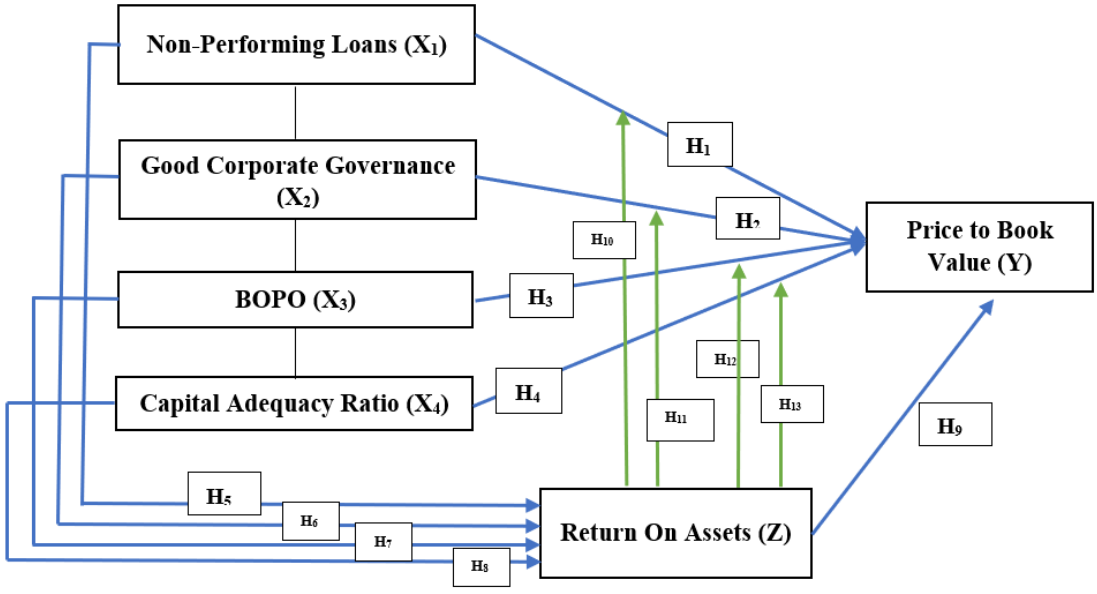

Figure 1. Research Constellation
Source: Own Compilation, 2025

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Research Hypotheses

The formulation of hypotheses in this study is based on relevant theories and empirical evidence explaining the relationships among RGEC components Risk Profile, Good Corporate Governance, Earnings, and Capital and firm value, with profitability (ROA) as a moderating variable.

Risk Profile (NPL) and Firm Value (PBV)

According to *risk-based supervision theory*, the level of credit risk within a bank, as reflected by Non-Performing Loans (NPL), affects investor perception and ultimately firm value. High NPL ratios indicate poor asset quality and ineffective risk management, which can erode market confidence and reduce the bank's valuation. Conversely, lower NPL levels demonstrate prudent lending practices and stronger credit performance, signaling better stability to investors. Empirical studies in Indonesia have consistently found that NPL negatively affects firm value (Ikhsan & Jumono, 2022; Wiadnyani & Artini, 2023).

Hypothesis 1 (H1): *Risk Profile (NPL) has a negative effect on firm value (PBV).*

Good Corporate Governance (GCG) and Firm Value (PBV)

Based on *agency theory* and *signaling theory*, the implementation of Good Corporate Governance (GCG) enhances transparency, accountability, and alignment of managerial actions with shareholder interests. Effective governance helps reduce information asymmetry and builds investor trust, which increases firm value. However, weak governance practices or those implemented only symbolically may fail to produce this positive impact. Previous research presents mixed findings: some studies reported positive and significant effects of GCG on firm value, while others found the relationship to be weak or insignificant (Ferriswara *et al.*, 2022; Wardani & Nurhayati, 2025).

Hypothesis 2 (H2): *Good Corporate Governance (GCG) has a positive effect on firm value (PBV).*

Earnings (BOPO) and Firm Value (PBV)

The *efficiency theory* suggests that operational efficiency plays a crucial role in determining firm performance and market valuation. The BOPO ratio (Operating Expenses to Operating Income) measures a bank's ability to manage costs relative to its revenues. A high BOPO ratio indicates operational inefficiency, which reduces profitability and investor confidence, leading to a decline in firm value. In contrast, a low BOPO ratio reflects effective cost control and optimal resource utilization, both of which can enhance firm value. Empirical evidence supports the negative association between BOPO and firm value (Wiadnyani & Artini, 2023; Anggreningsih & Negara, 2021).

Hypothesis 3 (H3): *Earnings (BOPO) have a negative effect on firm value (PBV).*

Capital (CAR) and Firm Value (PBV)

According to the *resource-based view* and *capital structure theory*, capital serves as a strategic resource that strengthens a bank's resilience against financial shocks and enhances its capacity for growth. A higher Capital Adequacy Ratio (CAR) signals the bank's ability to absorb potential losses, thereby boosting investor confidence and supporting higher firm value. Nonetheless, excessive capital that is not efficiently utilized may reduce returns and weaken this relationship. Prior studies indicate that CAR generally has a positive, though sometimes insignificant, impact on firm value (Ikhsan & Jumono, 2022; Wardani & Nurhayati, 2025).

Hypothesis 4 (H4): *Capital (CAR) has a positive effect on firm value (PBV).*

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Risk Profile (NPL) and Profitability (ROA)
According to *risk-based supervision theory*, Non-Performing Loans (NPL) represent the level of credit risk that directly impacts a bank's financial performance. Higher NPL ratios indicate poor asset quality and inefficient risk management, which lead to increased loan loss provisions and reduced income. As a result, profitability tends to decline as the bank bears greater credit costs. Previous studies confirm that NPL has a negative and significant influence on profitability, reflecting that an increase in non-performing loans lowers the bank's Return on Assets (Setiyono *et al.*, 2021; Wiadnyani & Artini, 2023).
Hypothesis 5 (H5): *Risk Profile (NPL) has a negative effect on profitability (ROA).*

Good Corporate Governance (GCG) and Profitability (ROA)
Based on *agency theory* and *stakeholder theory*, the implementation of Good Corporate Governance (GCG) ensures that management actions are consistent with the interests of stakeholders and shareholders. Strong governance structures promote accountability, transparency, and efficiency in operational decision-making, which ultimately enhance profitability. Banks that apply GCG effectively can minimize agency costs and operational risks, thereby improving their Return on Assets. Empirical findings show that GCG has a positive influence on profitability (Wardani & Nurhayati, 2025; Ferriswara *et al.*, 2022).
Hypothesis 6 (H6): *Good Corporate Governance (GCG) has a positive effect on profitability (ROA).*

Earnings (BOPO) and Profitability (ROA)
The BOPO ratio (Operating Expenses to Operating Income) reflects the efficiency of bank operations. According to *efficiency theory*, higher operational costs relative to income indicate inefficiency, which directly lowers profitability. A higher BOPO ratio reduces the bank's ability to generate returns because excessive costs erode net income. Conversely, a lower BOPO ratio reflects effective cost control and operational productivity that improve the bank's profitability. Several empirical studies found that BOPO negatively and significantly affects ROA (Munawwaroh *et al.*, 2021; Anggreningsih & Negara, 2021).
Hypothesis 7 (H7): *Earnings (BOPO) have a negative effect on profitability (ROA).*

Capital (CAR) and Profitability (ROA)
According to the *capital structure theory* and *resource-based view*, capital serves as a financial cushion that enhances a bank's stability and capacity to generate income. A higher Capital Adequacy Ratio (CAR) allows banks to take on more productive assets and absorb potential losses, supporting sustainable profitability. Adequate capital levels increase investor confidence and provide flexibility for expansion and innovation. Empirical evidence in the banking sector shows that CAR has a positive impact on profitability, although in some cases the effect is not statistically strong (Ikhsan & Jumono, 2022; Setiyono *et al.*, 2021).
Hypothesis 8 (H8): *Capital (CAR) has a positive effect on profitability (ROA).*

Profitability (ROA) and Firm Value (PBV)
Based on *signaling theory*, profitability serves as an important signal to investors regarding a firm's performance, financial health, and future prospects. A higher Return on Assets (ROA) reflects better management efficiency and stable financial conditions,

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which can increase investor trust and elevate firm value. Conversely, lower profitability may lead investors to perceive the firm as underperforming, reducing its market valuation. Empirical studies found that ROA positively and significantly affects firm value (Fitriyani, 2022; Zulfikar & Pertiwi, 2020).
Hypothesis 9 (H9): *Profitability (ROA) has a positive effect on firm value (PBV).*

The Moderating Role of Profitability (ROA) on the Relationship Between NPL and Firm Value
Profitability can moderate the effect of credit risk (NPL) on firm value. According to *contingency theory*, the impact of NPL on firm value depends on a firm's ability to generate consistent profits. Banks with higher profitability are better able to absorb potential losses from non-performing loans, reducing their negative effect on firm value. In contrast, when profitability is low, rising NPLs may significantly erode market confidence. Prior research supports this moderating effect, suggesting that ROA weakens the adverse influence of NPL on firm value (Fitriyani, 2022).
Hypothesis 10 (H10): *Profitability (ROA) moderates the relationship between Risk Profile (NPL) and firm value (PBV).*

The Moderating Role of Profitability (ROA) on the Relationship Between GCG and Firm Value
Profitability also moderates the relationship between Good Corporate Governance (GCG) and firm value. Based on *agency theory*, the benefits of effective governance are more pronounced in firms with higher profitability, as profits allow managers to implement governance mechanisms that strengthen transparency and control. Profitability thus reinforces the positive signaling effect of good governance on investors. Empirical studies have found that ROA strengthens the influence of GCG on firm value (Munawwaroh *et al.*, 2021).
Hypothesis 11 (H11): *Profitability (ROA) moderates the relationship between Good Corporate Governance (GCG) and firm value (PBV).*

The Moderating Role of Profitability (ROA) on the Relationship Between BOPO and Firm Value
According to *efficiency theory*, profitability reflects a firm's ability to maintain efficiency amid operational challenges. Profitability can reduce the negative impact of high BOPO ratios on firm value because profitable firms are perceived as capable of sustaining operations even under higher cost pressures. Conversely, when profitability is low, the negative effect of BOPO on firm value becomes more pronounced. Empirical results show that ROA can mitigate the adverse influence of inefficiency (BOPO) on firm value (Fitriyani, 2022; Munawwaroh *et al.*, 2021).
Hypothesis 12 (H12): *Profitability (ROA) moderates the relationship between Earnings (BOPO) and firm value (PBV).*

The Moderating Role of Profitability (ROA) on the Relationship Between CAR and Firm Value
Profitability can also moderate the effect of Capital Adequacy Ratio (CAR) on firm value. According to the *capital structure theory*, firms with higher profitability can utilize capital more efficiently, enhancing their ability to generate higher market valuation. Profitability amplifies the positive impact of capital strength on investor perception, indicating sound management and financial stability. Empirical findings suggest that profitability enhances the effect of CAR on firm value (Wardani & Nurhayati, 2025).

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Hypothesis 13 (H13): *Profitability (ROA) moderates the relationship between Capital (CAR) and firm value (PBV).*

RESEARCH METHOD

This study was conducted on banking companies listed on the Indonesia Stock Exchange (IDX) from 2019 to 2023. The banking sector was selected due to its strategic role in Indonesia's financial system and its relevance to the RGEC-based bank soundness assessment implemented by the Financial Services Authority (OJK). A quantitative approach with a causal-associative design was used to examine the effects of Risk Profile (NPL), Good Corporate Governance (GCG), Earnings (BOPO), and Capital (CAR) on firm value (PBV), with profitability (ROA) serving as a moderating variable.

The research population included all commercial banks listed on the IDX during the 2019–2023 period. Using purposive sampling, banks were selected based on the availability and consistency of annual reports, GCG self-assessment disclosures, and financial performance data. The final sample consisted of 10 state-owned banks, resulting in 50 firm-year observations (10 banks over 5 years). Secondary data were obtained from the official websites of each company and the IDX, including audited annual reports and OJK-mandated disclosures.

Risk Profile was measured using the Non-Performing Loans (NPL) ratio. GCG was measured through composite scores from self-assessments reported in accordance with OJK Circular Letter No. 13/SEOJK.03/2017. Earnings were measured by the BOPO ratio, while Capital was proxied by the Capital Adequacy Ratio (CAR). Firm value was measured by Price to Book Value (PBV), and profitability was measured using Return on Assets (ROA).

Data collection was conducted through document analysis. The data were analyzed using EViews 12 software. Statistical methods included descriptive analysis, classical assumption tests (normality, multicollinearity, autocorrelation, heteroscedasticity), panel data regression (with model selection through Chow test, Hausman test, and Lagrange Multiplier test), and Moderated Regression Analysis (MRA) to examine the moderating role of ROA. Table 1 below presents the operational definitions and measurements of each research variable.

Table 1. Operationalization of research variables

Variable	Type of Variable	Indicators	Measurement Scale	Scale Type
Profitability (Z)	Moderating	Return on Assets (ROA)	$\frac{Net\ Income}{Total\ Assets}\ x\ 100\%$ Stevani & Sudirgo (2019)	Ratio
Firm Value (Y)	Dependent	Price to Book Value (PBV)	$\frac{Market\ Price\ per\ Share}{Book\ Value\ per\ Share}\ x\ 100\%$ (Robert Ang, 1997)	Ratio
Risk Profile (X1)	Independent	*Non-Performing Loan* (NPL)	$\frac{Non-Performing\ Loan}{Total\ Loan} x\ 100$ Yulianah & Seno Aji (2021)	Ratio
Good Corporate Governance (GCG) (X2)	Independent	Composite score based on bank's self-assessment	Self-assessment scores stated as decimal values (e.g., 1.83; 1.96), based on OJK Circular Letter No. 13/SEOJK.03/2017	Interval

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Earnings (X3)	Independent	Operating Expenses to Operating Income	$\frac{Operating\ Expenses}{Operating\ Income}\ x\ 100\%$ Anggreningsih & Negara (2021)	Ratio
Capital (X4)	Independent	*Capital Adequacy Ratio (CAR)*	$\frac{Capital}{Risk - Weighted\ Assets}\ x\ 100\%$ Setiyono *et al.* (2021)	Ratio

Source: Own compilation (2025)

Data Analysis Technique

This study applies quantitative data analysis using panel data regression techniques supported by SPSS and EViews software. The analysis process consists of several sequential steps to ensure the validity and reliability of the empirical model.

1. Descriptive Statistical Analysis
   This step provides an overview of each variable (NPL, GCG, BOPO, CAR, ROA, and PBV) by calculating their mean, minimum, maximum, and standard deviation values. The goal is to summarize the characteristics of the sample data.
2. Classical Assumption Testing
   Before regression analysis, classical assumptions are tested to ensure model validity. These include:
   Normality test (e.g., using histogram and skewness-kurtosis values)
   Multicollinearity test (Variance Inflation Factor, VIF)
   Autocorrelation test (Durbin-Watson test)
   Heteroscedasticity test (e.g., Glejser test)
3. Panel Regression Model Selection
   To determine the most appropriate model for analysis, three types of panel regression models are compared:
   Common Effect Model (CEM)
   Fixed Effect Model (FEM)
   Random Effect Model (REM)
   The Chow test, Hausman test, and Lagrange Multiplier test are used to decide which model best fits the data.
4. Panel Data Regression Analysis
   This method is used to test the direct influence of the independent variables Risk Profile (NPL), Good Corporate Governance (GCG), Earnings (BOPO), and Capital (CAR) on firm value (PBV).
5. Moderated Regression Analysis (MRA)
   To examine the role of profitability (ROA) as a moderating variable (hypotheses H8 to H10), the Moderated Regression Analysis (MRA) method is applied. This involves including interaction terms between ROA and the independent variables (NPL × ROA, GCG × ROA, BOPO × ROA, CAR× ROA) in the regression model.
6. Hypothesis Testing
   Each hypothesis is tested using t-statistics and p-values, with a significance level of 5% ($\alpha = 0.05$). The results determine whether the independent variables and interaction terms have significant effects on the dependent variable.

The final model is assessed based on goodness-of-fit indicators and explanatory power (e.g., Adjusted R-squared), ensuring the robustness of the conclusions drawn from the data.

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RESEARCH RESULTS

Results of Descriptive Statistical Test

Table 2. Descriptive statistical test result

Statistic	PBV	NPL	GCG	BOPO	CAR	ROA
Mean	1.806655	1.258203	1.041820	0.761800	0.229000	0.020760
Median	1.502022	1.301921	1.104689	0.770000	0.220000	0.020000
Maximum	5.536793	1.809847	1.213319	0.990000	0.390000	0.040000
Minimum	0.116352	0.612460	0.575650	0.440000	0.110000	0.000000
Std. Dev.	0.966943	0.298588	0.171449	0.143366	0.057791	0.012257
Skewness	1.324964	-0.180545	-1.787424	-0.266380	0.558188	-0.042291
Kurtosis	5.190624	2.194186	5.032801	2.295555	3.716419	1.846487
Jarque-Bera	24.62698	1.624420	35.23295	1.625158	3.665730	2.786974
Probability	0.000004	0.443876	0.000000	0.443712	0.159955	0.248208
Sum	90.32775	62.91014	52.09098	38.09000	11.45000	1.038000
Sum Sq. Dev.	45.81395	4.368591	1.440336	1.007138	0.163650	0.007361
Observations	50	50	50	50	50	50

Source: Own compilation (2025)

Based on Table 2, the average value of Price to Book Value (PBV) was 1.81, indicating that most banks had a market value above book value. The mean Non-Performing Loan (NPL) was 1.25, suggesting a moderate level of credit risk. Good Corporate Governance (GCG) had a mean score of 1.04, reflecting fair governance practices. BOPO averaged 0.76, implying moderate operational efficiency. Capital Adequacy Ratio (CAR) was 0.23, indicating sufficient capital reserves. Return on Assets (ROA) averaged 0.02 or 2%, denoting relatively low profitability. The Jarque-Bera test showed that NPL, BOPO, CAR, and ROA were normally distributed ($p > 0.05$), while PBV and GCG were not.

Results of Classical Assumption Test

To ensure the validity of the regression model, classical assumption tests were conducted. The normality test using the Jarque-Bera method yielded a statistic of 3.128853 with a probability value of 0.209208, indicating that the residuals are normally distributed ($p > 0.05$). The Durbin-Watson statistic was 2.2898, suggesting that there is no autocorrelation among residuals. The multicollinearity test showed that all Variance Inflation Factor (VIF) values were below 10, indicating no multicollinearity among the independent variables. Moreover, the Glejser test for heteroscedasticity returned significance values greater than 0.05 for all independent variables, confirming homoskedasticity. These results collectively demonstrate that the regression model satisfies the classical assumptions and is suitable for further econometric analysis.

Panel Regression Model Selection

To determine the most appropriate panel regression model, a series of diagnostic tests were conducted on three estimated models. Model 1 assessed the influence of Risk Profile (Non-Performing Loans/NPL), Good Corporate Governance (GCG), Earnings (BOPO), and Capital (Capital Adequacy Ratio/CAR) on firm value, as measured by Price to Book Value (PBV). The Chow test produced a p-value of 0.0004, which is below the 0.05 significance level, indicating that the Common Effect Model (CEM) should be rejected in favor of the Fixed Effect Model (FEM). However, the subsequent Hausman test yielded a p-value of 0.9538, suggesting no statistically significant difference between FEM and

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the Random Effect Model (REM). As a result, the REM was selected as the most appropriate model for Model 1.

The same model selection procedure was applied to Model 2, which analyzes the effect of RGEC components on profitability (Return on Assets/ROA), and Model 3, which examines the effect of ROA on firm value (PBV). In both cases, the results similarly indicated that the REM was the most suitable specification.

For the Moderated Regression Analysis (MRA), the Chow test results indicated that the Common Effect Model (CEM) was the most appropriate. Accordingly, the Hausman and Lagrange Multiplier (LM) tests were not necessary. These outcomes confirm that the REM was employed for Models 1 through 3, while the CEM was used for the moderation analysis, in accordance with the structure and characteristics of the panel data in this study.

Regression Results and Hypothesis Testing

Table 3. Regression and hypothesis testing result

Model 1: NPL, GCG, BOPO, CAR > PBV					t_{table}
Variable	Coefficient	Prob	t-statistic	R-Squared	
NPL	0,937627	0,0208	2.395831		df = 50 – 6 – 1 = 43
GCG	-2,502285	0,0000	-4.698437		
BOPO	-5,812979	0,0000	-6.689757		t table = 1,681
CAR	1,064740	0,5411	0.615897		

Model 2: NPL, GCG, BOPO, CAR > ROA					t_{table}
Variable	Ttable	Prob	t-statistic	R-Squared	
NPL	-0,007831	0,0145	-2.544314		
GCG	0,001160	0,7833	0.276671		
BOPO	-0,066441	0,0000	-9.712355		df = 50 – 6 – 1 = 43
CAR	-0,004177	0,7603	-0.307003		
Model 3: ROA > PBV					t table = 1,681
Variable	Coefficient	Prob	t-statistic	R-Squared	
ROA	48,18842	0,0000	4.747358		

Source: Eviews 12 (2025)

Based on Table 3, the regression analysis was conducted using three models to evaluate the effects of Risk Profile (NPL), Good Corporate Governance (GCG), Earnings (BOPO), and Capital (CAR) on firm value (proxied by Price to Book Value/PBV) and profitability (ROA), as well as the direct effect of ROA on firm value. All hypotheses were tested at a 5% significance level, with a critical t-value of 1.681 (df = 43).

In Model 1, the findings indicate that NPL, GCG, and BOPO significantly affect firm value. NPL exhibits a positive coefficient of 0.9376 with a t-statistic of 2.396 (p = 0.0208), suggesting that higher levels of NPL when managed through appropriate risk mitigation strategies such as credit restructuring can contribute positively to firm value. Meanwhile, GCG demonstrates a significant negative effect (coefficient = –2.5023; t = –4.698; p = 0.0000), possibly reflecting the ineffectiveness of formalistic governance practices in enhancing market perception. BOPO also shows a strong negative and significant impact, with a coefficient of –5.8130 and a t-statistic of –6.690 (p = 0.0000), indicating that operational inefficiencies diminish firm value. On the other hand, CAR

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presents a positive but statistically insignificant coefficient (1.0647; t = 0.616; p = 0.5411), implying that capital strength alone does not guarantee higher valuation in this context. Although the R-squared value is not stated in the table, the statistical significance of key variables supports hypotheses H1, H2, and H3. These findings suggest that credit risk, governance quality, and cost efficiency are essential determinants of firm value, while capital adequacy appears to have a limited direct influence.

Model 2 explores the effects of the same RGEC components on profitability (ROA). The results show that both NPL and BOPO significantly influence profitability. NPL carries a negative coefficient of –0.0078 (t = –2.544; p = 0.0145), indicating that higher credit risk erodes earnings. BOPO, likewise, exerts a substantial negative effect on ROA, with a coefficient of –0.0664 and a t-statistic of –9.713 (p = 0.0000), reinforcing the role of operational efficiency in profitability. However, both GCG (coefficient = 0.0012; p = 0.7833) and CAR (coefficient = –0.0042; p = 0.7603) do not exhibit significant effects. These results suggest that only certain elements of RGEC, particularly those tied to risk and efficiency, have a direct impact on profitability. Accordingly, H4 and H6 are supported, while H5 and H7 are not. Thus, only select RGEC indicators, especially those related to asset quality and cost control, demonstrate a meaningful relationship with financial performance.

In Model 3, the analysis confirms that profitability (ROA) has a robust and statistically significant effect on firm value. ROA records a coefficient of 48.1884 with a t-statistic of 4.747 (p = 0.0000), exceeding the critical threshold. This result is in line with signaling theory, indicating that more profitable firms are perceived more favorably by investors and, as a result, attain higher market valuation. Overall, the findings validate hypothesis H8 and underscore the importance of profitability as a strategic driver of firm value in the banking sector.

Moderated Regression Analysis (MRA) Test

Table 4. Moderated Regression Analysis (MRA) result

Variable	Coefficient	Prob	Adjusted R^2
X1Z	−0,737950	0,0000	0,985750
X2Z	−0,560328	0,0002	
X3Z	−0,124753	0,1749	
X4Z	0,808473	0,0000	

Source: Eviews 12 (2025)

Based on Table 4, the results of the Moderated Regression Analysis (MRA) demonstrate that the interaction terms between the RGEC components and profitability (ROA) exhibit mixed effects. The interaction between NPL and ROA (X1Z) has a negative and statistically significant coefficient of –0.7380 (p = 0.0000), indicating that ROA weakens the positive influence of NPL on firm value. Likewise, the interaction between GCG and ROA (X2Z) is also negative and significant, with a coefficient of –0.5603 (p = 0.0002), suggesting that profitability reduces the effect of governance mechanisms on firm valuation. Conversely, the interaction term between BOPO and ROA (X3Z) produces a coefficient of –0.1248 and is statistically insignificant (p = 0.1749), implying that ROA does not moderate the relationship between operational efficiency and firm value. Meanwhile, the interaction between CAR and ROA (X4Z) yields a positive and significant coefficient of 0.8085 (p = 0.0000), indicating that ROA enhances the positive impact of capital adequacy on firm value. These findings suggest that ROA functions as

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a partial moderator in the relationship between RGEC components and firm value. The model demonstrates high explanatory power, with an Adjusted R^2 value of 0.9857.

DISCUSSION

Empirical findings reveal that the effect of banking health indicators measured through the RGEC framework on firm value is multidimensional and partially divergent from theoretical expectations. The positive and significant relationship between Non-Performing Loans (NPL) and firm value challenges traditional risk assessment logic, which typically associates high NPL ratios with deteriorating asset quality and lower investor confidence. From the perspective of signaling theory (Spence, 1973), this outcome may indicate that investors interpret well-managed credit risk as a sign of managerial capability, particularly when accompanied by transparent restructuring strategies or effective provisioning.

A contrasting pattern is observed in the case of Good Corporate Governance (GCG), which exhibits a significant negative effect on firm value. Rather than enhancing market trust, the implementation of GCG in some banks appears insufficient or symbolic in nature. This supports arguments within agency theory that emphasize the ineffectiveness of governance mechanisms when they fail to align managerial incentives with shareholder interests (Ferriswara *et al.*, 2022). Weak enforcement or lack of transparency in governance practices may contribute to investor skepticism, resulting in a lower valuation despite formal compliance.

The analysis also identifies BOPO (Operating Expenses to Operating Income) as a critical determinant with consistent negative impacts on both firm value and profitability. This reinforces the centrality of operational efficiency in banking performance. High BOPO ratios signal inefficiency and resource misallocation, ultimately penalized by market participants. These findings align with previous research (Wiadnyani & Artini, 2023) and underscore the importance of cost control as a key managerial responsibility under the agency theory framework.

In the case of Capital Adequacy Ratio (CAR), results indicate no significant influence on either profitability or firm value. Despite its regulatory importance, capital adequacy alone appears insufficient to generate higher investor valuation unless paired with strategic capital deployment. This aligns with the resource-based view (Barney, 1991), suggesting that available resources only create value when they are rare, valuable, and exploited efficiently.

Profitability, as proxied by Return on Assets (ROA), demonstrates a strong and positive direct effect on firm value, providing support for signaling theory. Higher ROA reflects better asset utilization and managerial performance, signaling strong future prospects to the market. However, its role as a moderating variable is more nuanced. While ROA strengthens the effect of CAR on firm value, it weakens the relationship between both NPL and GCG and shows no moderating effect on BOPO. These mixed results highlight that profitability does not uniformly amplify the impact of RGEC components.

The partial nature of ROA's moderating role reflects the tenets of contingency theory (Donaldson, 2001), which posits that the influence of internal strategies on outcomes depends on external and organizational context. In this study, profitability appears to act more as an independent performance driver rather than a consistent enhancer of the RGEC-firm value relationship. Such findings suggest that banking sector performance, particularly in emerging markets, is shaped not only by internal financial

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metrics but also by investor interpretation, institutional quality, and macroeconomic conditions.

CONCLUSIONS

This study examines the impact of banking health measured using the RGEC framework comprising Risk Profile (NPL), Good Corporate Governance (GCG), Earnings (BOPO), and Capital (CAR) on firm value, with profitability (ROA) as a moderating variable. Using panel data from banking companies listed on the Indonesia Stock Exchange (IDX) during 2019–2023, the analysis reveals that the effects of RGEC components on firm value are heterogeneous and context-dependent. The regression results indicate that NPL has a positive and significant effect on firm value, suggesting that effective risk management may offset the negative connotations of high credit risk. In contrast, GCG and BOPO show significant negative effects, implying that ineffective governance practices and low operational efficiency reduce firm value. CAR, while theoretically important, does not have a significant direct influence on valuation.

Regarding profitability, ROA is positively and significantly associated with firm value, supporting the notion that profitability serves as a key signal of firm strength and market potential. However, the moderation analysis reveals that ROA only partially moderates the relationship between RGEC indicators and firm value. ROA strengthens the effect of CAR but weakens the effects of NPL and GCG, and shows no moderating effect on BOPO. These findings suggest that profitability does not consistently amplify the influence of banking health indicators on firm value.

Overall, this study underscores that profitability, while important, is not sufficient on its own to enhance firm valuation unless accompanied by improvements in governance quality, risk control, and operational efficiency. The results offer practical implications for bank managers and regulators to align profitability strategies with the broader dimensions of sound banking practices to sustain long-term firm value. Future research could apply the RGEC framework to specific banking groups such as Islamic banks, digital banks, or foreign-owned banks to examine whether risk, governance, and capital structures behave differently across categories. Incorporating macroeconomic factors and longer time horizons may also help capture broader trends. Additional moderators like board composition or ESG disclosure could offer deeper insights.

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