THE EFFECT OF RISK GOVERNANCE ON BANK PERFORMANCE: EVIDENCE FROM INDONESIAN BANKS

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ABSTRACT

This study investigates the impact of risk governance on banking performance in Indonesia using a quantitative approach. Panel data regression is applied to 235 bank-year observations from 47 commercial banks over the 2018–2022 period, with the sample selected through purposive sampling based on data availability and governance disclosures. Bank performance is measured using Return on Assets (ROA) and Return on Equity (ROE), while risk governance is proxied by the Risk Governance Index (RGOV), constructed from risk governance disclosures in annual reports. The empirical findings demonstrate that risk governance has a positive and statistically significant effect on both ROA and ROE, thereby supporting the proposed hypotheses. These results indicate that banks with stronger risk governance frameworks tend to achieve more efficient asset utilization and generate higher returns for shareholders, even after controlling for bank-specific characteristics and time effects. This evidence underscores the importance of robust risk oversight mechanisms in enhancing managerial discipline and operational effectiveness. The study contributes to the corporate governance literature by providing empirical evidence from an emerging market context, particularly within the Indonesian banking sector. From a practical standpoint, the findings suggest that bank management and regulators—such as Otoritas Jasa Keuangan and Bank Indonesia should prioritize the strengthening of risk governance structures to promote sustainable performance, financial stability, and long-term resilience in banking institutions.

Keywords: *Risk Governance Index; Bank Performance; Agency Theory*

Received : 16-12-2025
Revised : 05-03-2026
Approved : 08-03-2026
Published : 10-03-2026

INTRODUCTION

The banking sector plays a central role in supporting economic growth and maintaining financial system stability, particularly in emerging economies such as Indonesia (Karyani et al., 2020; Nguyen & Dang, 2022). Banks function as financial intermediaries that manage public funds and allocate capital to productive sectors, making their performance a critical concern for regulators, investors, and other stakeholders. Bank performance is typically assessed based on how efficiently it utilizes its available resources (Candy et al., 2024). A strong and profitable banking sector not only supports economic growth but also strengthens the financial system's ability to withstand economic shocks, thereby promoting overall stability (Suprapto & Candy, 2018).

In recent years, the Indonesian banking industry has experienced increasing regulatory pressure and structural changes aimed at strengthening governance quality to ensure sustainable performance and institutional resilience (Kurniawan & Hanggraeni, 2024). These developments highlight the importance of governance mechanisms in supporting banks' ability to operate efficiently and generate stable financial outcomes. Weaknesses in the risk governance structures and excessive risk-taking by banks have been identified as the major contributors to the most recent financial crises (Abid et al., 2021).

Alongside these developments, corporate governance has gained increasing attention as a key determinant of bank performance (Jallali & Zoghlami, 2022). Effective governance mechanisms are expected to enhance transparency, accountability, and managerial discipline within banking institutions. Among various governance dimensions, risk governance has emerged as an essential component of modern banking governance frameworks (Abid et al., 2021; Babakatun & Mustapha, 2023). Risk governance refers to the structures, roles, and processes through which boards and senior management oversee risk, related decisions and ensure that organizational objectives are pursued in a controlled and accountable manner (Jensen & Meckling, 1976; Kacem & El Harbi, 2023). In the banking context, strong risk governance structures are believed to improve internal oversight and support more effective strategic decision, making.

Despite its growing importance, empirical evidence on the relationship between risk governance and bank performance remains mixed. Several studies document a positive association between risk governance mechanisms and bank profitability, suggesting that stronger governance enhances performance through better monitoring and improved decision quality (Nahar et al., 2020; Zhang et al., 2021). Conversely, other studies report weak or insignificant effects, indicating that governance mechanisms do not always translate directly into higher financial performance and may depend on institutional or contextual factors (Nahar, et al., 2016; Haddad & Alali ,2021). These inconsistent findings suggest that the governance–performance relationship is complex and warrants further empirical investigation.

Indonesia provides a particularly relevant setting for examining the effect of risk governance on bank performance. The Indonesian banking sector is characterized by heterogeneous governance practices, diverse ownership structures, and continuous regulatory reforms led by the Financial Services Authority (OJK)(Kurniawan & Hanggraeni, 2024). Although governance standards have been strengthened over time, empirical studies that specifically examine how risk governance structures influence bank performance in Indonesia remain relatively limited. Most existing studies focus on cross, country samples or broader ASEAN contexts, leaving a gap in country, specific evidence for Indonesia (Nguyen & Dang, 2022).

This study addresses this gap by examining the effect of risk governance on bank performance using a comprehensive Risk Governance Index (RGOV) constructed from publicly disclosed governance attributes in Indonesian banks. Unlike prior studies that focus on individual governance mechanisms, this study adopts an index, based approach that captures multiple dimensions of risk governance, including board characteristics, committee structures, and chief risk officer attributes. By focusing exclusively on the governance–performance linkage within a single emerging market, this study offers a more focused and context, specific perspective on the role of risk governance in banking performance.

To the best of the researchers' knowledge, this study is among the first to explore the effect of the Risk Governance Index on the relationship to bank performance within the Indonesian banking sector. Previous research has largely overlooked this aspect, particularly when utilizing a sample of ASEAN banks, making this study a valuable addition to the existing literature (Karyani et al., 2020; Nguyen & Dang, 2022). As a result, further empirical testing is required to deepen the understanding of risk governance practices in this region. Our findings underscore the importance of the Risk Governance Index in overseeing risk management practices within the banking sector, an area that has been underexplored in prior studies.

This study aims to analyze the role and effectiveness of risk governance mechanisms in influencing bank performance, particularly in the context of strengthening oversight and risk control practices within banking institutions. By examining effect of risk governance in the relationship to bank performance, this research offers a more comprehensive perspective on how these mechanisms collectively influence bank performance, providing a more thorough view of their importance in ensuring financial stability (Abid et al., 2021; Kurniawan & Hanggraeni, 2024; Harb et al., 2023).

LITERATURE REVIEW, RESEARCH FRAMEWORK, AND HYPOTHESES

Agency Theory

Agency theory describes the relationship between owners (principals) and manager (agents), in which the owners entrust managers with the authority to run the company (Jensen & Meckling, 1976). Differences in objectives and access to information between these parties may create potential conflicts, because managers may not always act in ways that maximize firm value (Jallali & Zoghlami, 2022; Kacem & El Harbi, 2023). Within the banking sector, this condition highlights the need for strong governance mechanisms so that managerial decisions remain consistent with the interests of shareholders (Boadi et al., 2023). Differences in objectives and information asymmetry may lead managers to pursue personal interests, resulting in agency problems that can weaken firm performance (Jensen & Meckling, 1976). These issues are particularly relevant in the banking sector due to complex operations and limited shareholder oversight.

To mitigate such conflicts, corporate governance mechanisms play a critical role. Risk governance, as a key governance dimension, enhances oversight and accountability at the board and management levels through structured frameworks and monitoring mechanisms (Nahar, et al., 2016; Nguyen & Dang, 2022). According to Boadi et al., (2023) agency theory suggests that effective risk governance helps align managerial interests with organizational goals, enhances decision-making quality, and ultimately strengthens bank performance. Consequently, banks with robust risk governance structures are expected to achieve superior performance outcomes (Babakatun & Mustapha, 2023).

Risk Governance Index and Bank Performance

Effective risk governance plays a crucial role in ensuring that banks are able to identify, monitor, and control various sources of risk that may threaten their financial performance (Kurniawan & Hanggraeni, 2024; Nguyen & Dang, 2022).From the perspective of agency theory, well established risk governance mechanisms such as active board oversight, specialized risk committees, and clear risk management responsibilities help mitigate agency conflicts between managers and shareholders by limiting excessive risk, taking and improving the quality of managerial decision making (Jensen & Meckling, 1976). As a result, banks with stronger risk governance structures are expected to utilize their assets more efficiently and generate more stable profits.

Prior empirical studies provide evidence that risk governance is positively associated with bank performance. Karyani et al. (2020) and Kacem & El Harbi (2023) document that banks with more comprehensive risk governance frameworks tend to exhibit higher profitability and improved financial outcomes. Similarly, Boadi et al. (2023) show that board expertise enhances the effectiveness of risk governance, thereby strengthening its positive impact on bank performance. These findings suggest that effective risk governance contributes to better resource allocation, enhanced risk monitoring, and improved operational efficiency.

Return on Assets (ROA) is widely used to capture a bank's ability to generate earnings from its asset base (Babakatun & Mustapha, 2023; Boadi et al., 2023). Strong risk governance is expected to improve asset utilization by reducing losses arising from poor credit decisions, liquidity mismatches, and weak internal controls (Abid et al., 2021; Harb et al., 2023). Empirical evidence from emerging markets supports the view that governance and risk oversight mechanisms are positively related to ROA, particularly in environments characterized by higher risk exposure and regulatory constraints (Nahar, et al., 2016; Haddad & Alali ,2021). Therefore, banks with higher Risk Governance Index (RGOV) scores are expected to exhibit superior asset, based profitability. Based on this argument, it is important to empirically examine whether stronger risk governance mechanisms contribute to better bank performance measured by ROA.

H_1: The Risk Governance Index (RGOV) has a significant positive impact on ROA (Bank Performance).

In addition to asset, based performance, shareholders are particularly concerned with returns generated on equity (Jain & Raithatha, 2022). Return on Equity (ROE) reflects the effectiveness of managerial decisions in utilizing shareholders' capital to generate profits (Haddad & Alali, 2021; Kacem & El Harbi, 2023). Strong risk governance can enhance ROE by ensuring that risk, taking activities are aligned with the bank's risk appetite, thereby preventing excessive leverage and reducing the likelihood of financial distress (Kacem & El Harbi, 2023; Jubb et al., 2016). Prior studies indicate that effective risk governance and risk management structures contribute to higher shareholder returns by promoting prudent risk, taking and improving financial discipline (Abid et al., 2021; Harb et al., 2023).

Evidence from both developed and emerging markets suggests that governance mechanisms related to risk oversight are positively associated with ROE, although the strength of the relationship may vary across institutional contexts (Nguyen & Dang, 2022; Jallali & Zoghlami, 2022). In the Indonesian banking sector, where risk exposure remains relatively high and governance quality varies across banks, effective risk governance is expected to play an important role in enhancing equity, based performance. Therefore,

this study further investigates the relationship between the Risk Governance Index (RGOV) and bank performance as measured by ROE.

H_2: The Risk Governance Index (RGOV) has a significant positive impact on ROE (Bank Performance).

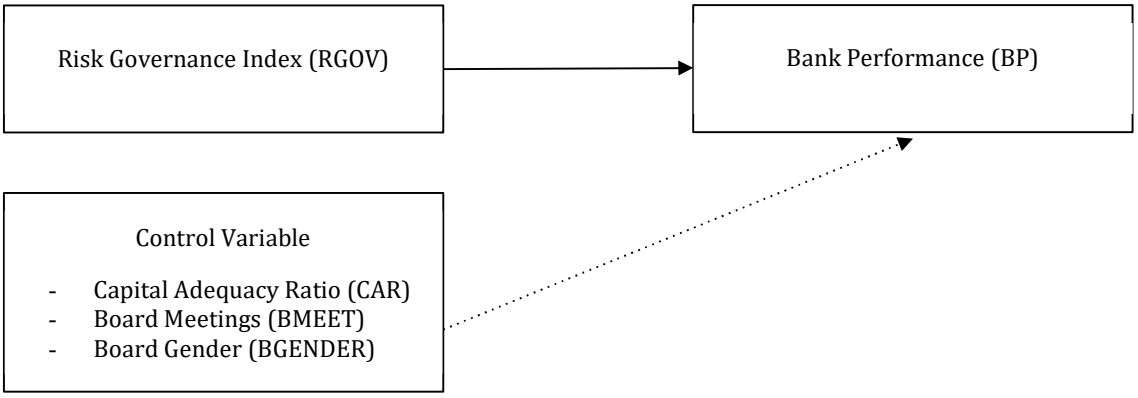

Figure 1
Research Model

METHOD

Sample taken with the number of 47 banks, listed on the Financial Services Authority (OJK). This study focuses on banks that operating in Indonesia. Indonesia is chosen due to its strategic role in the ASEAN financial system and its representation of an emerging banking sector (Kurniawan & Hanggraeni, 2024; Karyani et al., 2020; Muqorobin et al., 2024). Risk Governance and Bank Performance are the two primary variables that are taken into consideration in this research, with spans the years 2018-2022. These variables are interrelated have impact on the performance of the banking industry.

Return on Assets (ROA) and Return on Equity (ROE) are two often used financial measures that show how well a bank is doing. ROA is calculated as net income divided by total assets and reflects a bank's ability to generate profits from its asset base. ROE is the return on equity, which is the net income divided by the total equity (Haddad & Alali, 2021; Jallali & Zoghlami, 2022). It shows how much money shareholders make. People who study banks often use these indicators to figure out how profitable they are and how well their managers are doing (Boadi et al., 2023; Kacem & El Harbi, 2023; Zhang et al., 2021).

The Risk Governance Index (RGOV) is the independent variable in this research. It measures how strong and good the risk governance mechanisms are in banks. The risk governance index used for each bank in this study is calculated as the sum of the scores of all indicators for each bank in each year (Boadi et al., 2023). To adapt to Indonesia's two-tier board system, this study incorporates 'Board chair duality' as a component, a more suitable measure than the traditional CEO duality concept. This study categorizes the variables into independent and dependent variables and includes several control variables to strengthen the analytical rigor. The definitions and measurement approaches for all variables are grounded in well-established prior literature to ensure consistency, reliability, and validity. This research design enables a systematic evaluation of the impact of the risk governance index on bank performance.

The control variables incorporated in the analysis comprise the Capital Adequacy Ratio (CAR), board meeting frequency, and board gender diversity. CAR serves as an indicator of a bank's ability to absorb potential losses and maintain financial stability.

Board meeting frequency captures the intensity of board oversight and the effectiveness of governance practices, while board gender diversity reflects the extent to which gender composition at the board level may influence bank performance

This study seeks to provide empirical insights into the factors influencing bank performance within Indonesia's regulated banking sector, with a particular focus on banks registered with the Financial Services Authority (Otoritas Jasa Keuangan, OJK). A purposive sampling technique is employed to select banks that meet specific criteria aligned with the objectives of the study (Karyani et al., 2020; Zhang et al., 2021). This approach enables a focused examination of institutions that are most relevant for analyzing the relationship between board expertise and bank performance, thereby enhancing the explanatory power of the findings.

The study utilizes secondary data obtained from the annual reports of the sampled banks. These reports provide comprehensive information on financial conditions and performance indicators, including data used to construct the Risk Governance Index as well as key measures of bank performance, such as Return on Assets (ROA) and Return on Equity (ROE).

To ensure data reliability and authenticity, all annual reports were collected from the official websites of the respective banks or relevant regulatory authorities. The study relies exclusively on publicly available information and does not involve confidential or proprietary data. All data sources are appropriately cited to ensure transparency and uphold academic integrity.

Data analysis in this study was conducted using the Ordinary Least Squares (OLS) method to test the relationship between the variables studied. The OLS method was chosen because it is a regression approach commonly used in quantitative research to estimate the linear relationship between independent and dependent variables (Kurniawan & Hanggraeni, 2024; Nguyen & Dang, 2022). OLS has the advantage of providing unbiased and efficient estimates if classical assumptions are met, such as normality, homoscedasticity, and absence of multicollinearity. The use of this method is expected to produce valid and reliable findings in answering research questions.

This research used a panel data regression model with year fixed effects to analyze the impact of risk governance on bank performance. Return on Assets (ROA) and Return on Equity (ROE) are used to assess how well a bank is doing. The regression model is set up like this:

Model 1 Risk Governance→ Return on Assets (H1)

$$ROA_{it} = \propto +\beta 1 RGOV_{it} + CAR_{it} + BMEET_{it} + BGENDER_{it} + YEARFE_{it} + \varepsilon_{it}$$

Model 2 Risk Governance → Return on Equity (H2)

$$ROE_{it} = \propto +\beta 1 RGOV_{it} + CAR_{it} + BMEET_{it} + BGENDER_{it} + YEARFE_{it} + \varepsilon_{it}$$

Where
ROA= Return on Assets,
ROE= Return on Equity,
RGOV= Risk Governance Index, and controls as defined.

RESULTS AND DISCUSSION

Descriptive Statistics

A foundational understanding of the variables employed is crucial. Table 1 provides detailed descriptive statistics for the period 2018-2022 across 47 bank observations for Indonesian banks. These statistics summarize the central tendency, dispersion, and range for key bank performance, and bank risk governance variables.

Table 1
Descriptive Statistics

	Mean	Median	Std. Dev.	Minimum	Maximum
ROA	0.004	0.006	0.028	, 0.182	0.108
ROE	0.023	0.036	0.140	, 1.239	0.260
RGOV	10.209	9.000	2.947	4.000	18.000
CAR	36.669	24.180	45.651	9.000	390.500
BMEET	32.434	26.000	33.609	3.000	282.000
BGENDER	0.185	0.170	0.205	0.000	1.800

Source: Data processed by researchers, 2025

Table 1 presents the descriptive statistics of the variables used in this study. The average return on assets (ROA) is 0.004, with a median value of 0.006 and a standard deviation of 0.028. The minimum and maximum values indicate that profitability differs across banks during the observation period. Return on equity (ROE) has a mean of 0.023 and a median of 0.036, with a standard deviation of 0.140, showing higher dispersion compared to ROA. The Risk Governance Index (RGOV) has a mean value of 10.209 and a median of 9.000. The observed range suggests variation in the implementation of risk governance practices among banks. Capital adequacy (CAR) records a mean of 36.669 and a median of 24.180, with a wide range between minimum and maximum values. Board meeting frequency (BMEET) has an average of 32.434 meetings per year, while the median is 26 meetings. Board gender diversity (BGENDER) has a mean of 0.185, indicating limited female representation on bank boards. These statistics provide an overview of the distribution of performance, risk governance, and board characteristics across the sample.

Pearson Correlation

The Pearson correlation analysis examines the relationships between firm performance indicators (ROA and ROE) and board as well as capital characteristics. As detailed in table 2, ROA and ROE are strongly and positively correlated, reflecting that both capture profitability from different perspectives (Abid et al., 2021; Kurniawan & Hanggraeni, 2024; Harb et al., 2023).

Table 2
Pearson Correlation

	ROA	ROE	RGOV	CAR	BMEET	BGENDER
ROA	1.000					
ROE	0.862***	1.000				
	(0.000)					
RGOV	0.125*	0.220***	1.000			
	(0.056)	(0.001)				
CAR	-0.027	-0.050	-0.193***	1.000		
	(0.677)	(0.441)	(0.003)			
BMEET	0.021	0.078	0.571***	-0.126*	1.000	
	(0.754)	(0.235)	(0.000)	(0.054)		
BGENDER	0.106	0.182***	0.079	0.087	0.013	1.000
	(0.105)	(0.005)	(0.229)	(0.183)	(0.841)	

p-values in parentheses
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$
Source: Data processed by researchers, 2025

Table 2 presents the correlation matrix among the study variables. The Risk Governance Index (RGOV) is positively correlated with both return on assets (ROA) ($r = 0.125$, $p < 0.10$) and return on equity (ROE) ($r = 0.220$, $p < 0.01$). These results provide preliminary support for H1 and H2, indicating that stronger risk governance is associated with higher firm profitability.

Among the control variables, board gender diversity is the only variable that shows a significant positive correlation with ROE ($r = 0.182$, $p < 0.01$), while no control variable is significantly correlated with ROA. The remaining correlations are relatively low, suggesting that multicollinearity is unlikely to bias the regression estimates.

Regression

Regression analysis is a statistical method used to examine the relationship between a dependent variable and one or more independent variables. It allows researchers to estimate how changes in explanatory variables influence the outcome variable while controlling for other relevant factors (Montgomery et al., 2021). As reported in Table 3, the regression results present the estimated effects of the Risk Governance Index (RGOV) and the control variables on bank performance.

Table 3
Regression

	(1) ROA	(2) ROE
RGOV	0.002***	0.012***
	(2.75)	(3.63)
CAR	, 0.000	, 0.000
	(, 0.01)	(, 0.38)
BMEET	, 0.000	, 0.000
	(, 0.87)	(, 0.59)
BGENDER	0.012*	0.112***
	(1.85)	(2.93)
_cons	, 0.012	, 0.103***
	(, 1.57)	(, 2.84)
Year FE	Yes	Yes
r2	0.048	0.101
r2_a	0.014	0.069
N	235	235

t statistics in parentheses
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$
Source: Data processed by researchers, 2025

Table 3 presents the regression results examining the impact of the Risk Governance Index (RGOV) on firm performance, measured by return on assets (ROA) and return on equity (ROE). In Model (1), RGOV exhibits a positive and statistically significant coefficient ($\beta = 0.002$, $t = 2.75$, $p < 0.01$), indicating that improvements in risk governance practices are associated with higher asset-based profitability. This finding supports H1, which posits that the Risk Governance Index has a significant positive effect on ROA.

Similarly, in Model (2), RGOV is found to have a positive and significant influence on ROE ($\beta = 0.012$, $t = 3.63$, $p < 0.01$). This result suggests that firms with stronger risk governance frameworks tend to deliver superior returns to shareholders, thereby providing empirical support for H2. Collectively, these findings highlight the role of effective risk governance in enhancing both operational efficiency and shareholder value.

Regarding model explanatory power, the adjusted R^2 values indicate that the independent variables explain approximately 1.4% of the variation in ROA and 6.9% of the variation in ROE.

Although these values are relatively modest, they are consistent with prior empirical research using firm-level panel data, where financial performance is influenced by a wide range of external and firm-specific factors not fully captured in the model. Overall, the results confirm that risk governance remains a statistically and economically meaningful determinant of firm performance, even after controlling for capital adequacy, board meeting frequency, board gender diversity, and year fixed effects.

Robustness with t-test

To enhance the credibility of the empirical results, this study incorporates an independent samples t-test as a robustness analysis. This additional procedure is conducted to verify the stability of the primary findings by examining differences in mean outcomes between the defined groups (Kurniawan & Hanggraeni, 2024; Hair et al., 2022). As reported in Table 4, the t-test results compare the mean values of ROA and the control variables between banks with different levels of the Risk Governance Index (RGOV).

Table 4
t-test (ROA)

	RGOV				
	MEAN0	MEAN1	Coef	t, value	p-value
ROA	0.002	0.007	, 0.005	, 1.279	0.202
CAR	43.656	22.872	20.784***	3.369	0.001
BMEET	23.622	49.835	, 26.214***	, 6.065	0.000
BGENDER	0.180	0.196	, 0.017	, 0.584	0.560

Source: Data processed by researchers, 2025

An independent sample t-test is conducted to examine whether firms with above-average risk governance (High RGOV) exhibit different performance and firm characteristics compared to firms with below-average risk governance (Low RGOV). The coefficient represents the mean difference between the two groups (MEAN0 − MEAN1). The results show that firms with low RGOV have an average ROA of 0.002, whereas firms with high RGOV report a higher average ROA of 0.007. However, the mean difference of −0.005 is not statistically significant ($t = -1.279$, $p = 0.202$). This finding indicates that, at the univariate level, there is no significant difference in asset profitability between firms with high and low risk governance.

In contrast, significant differences are observed for several firm characteristics. Capital adequacy (CAR) is significantly higher for low-RGOV firms than for high-RGOV firms (Coef = 20.784, $p < 0.01$), suggesting differences in capital structure across governance levels. Board meeting frequency (BMEET) is also significantly higher in high-RGOV firms (Coef = −26.214, $p < 0.01$), indicating that firms with stronger risk governance tend to have more active boards. No significant difference is found for board gender composition (BGENDER).

Overall, the t-test results suggest that while higher risk governance is associated with better firm performance in multivariate regression analysis, the univariate comparison does not reveal a statistically significant difference in ROA. This implies that the impact of risk governance on performance becomes more evident after controlling for other firm-specific factors.

To ensure the robustness of the findings, this study applies an independent samples t-test to evaluate whether the documented relationship between risk governance and bank performance is sustained when return on equity (ROE) is employed as an alternative performance measure (Hair et al., 2022). As shown in Table 5, the results of the independent samples t-test indicate the mean differences in ROE between banks with high and low Risk Governance Index scores.

Table 5
t-test (ROE)

	RGOV				
	MEAN0	MEAN1	Coef	t, value	p-value
ROE	0.011	0.048	, 0.037*	, 1.917	0.056
CAR	43.656	22.872	20.784***	3.369	0.001
BMEET	23.622	49.835	, 26.214***	, 6.065	0.000
BGENDER	0.180	0.196	, 0.017	, 0.584	0.560

Source: Data processed by researchers, 2025

The results indicate that firms with low RGOV have an average ROE of 0.011, whereas firms with high RGOV exhibit a substantially higher average ROE of 0.048. The mean difference of −0.037 is statistically significant at the 10% level (t = −1.917, p = 0.056), suggesting that firms with stronger risk governance tend to achieve higher returns to equity holders.

Although the level of significance is relatively weak, this finding provides initial univariate evidence that risk governance quality is associated with shareholder-oriented performance. Consistent with this result, significant differences are observed in firm characteristics related to governance intensity. Capital adequacy (CAR) differs significantly between the two groups ($p < 0.01$), indicating distinct capital structures across RGOV levels. Board meeting frequency (BMEET) is also significantly higher for high-RGOV firms ($p < 0.01$), suggesting stronger board involvement and oversight in firms with better risk governance. No significant difference is found for board gender composition (BGENDER).

The contrasting t-test outcomes for ROA and ROE suggest that risk governance has different implications across performance dimensions. While ROA, which reflects asset utilization efficiency, does not differ significantly between high- and low-RGOV firms, ROE appears more sensitive to variations in risk governance. This indicates that the benefits of stronger risk governance are more directly reflected in equity returns and capital-related performance, rather than in overall asset efficiency at the univariate level. This pattern further supports the use of multivariate regression analysis to capture the conditional effect of risk governance on firm performance.

Discussion

The findings of this study suggest that risk governance (RGOV) is positively associated with improved bank performance. The objective of this study is to examine the effect of risk governance on firm performance, as measured by return on assets (ROA) and return on equity (ROE). The empirical results provide evidence that the influence of risk governance varies across performance dimensions and becomes more evident when firm-specific characteristics are taken into account.

The results further reveal that not all governance, related characteristics exert a direct influence on bank performance. Capital Adequacy Ratio (CAR) does not show a significant relationship with either ROA or ROE after controlling for governance quality and year fixed effects. This suggests that capital levels may primarily reflect regulatory

compliance and prudential requirements rather than serving as a direct driver of profitability, a finding that is consistent with earlier studies in developing economies (Nahar, et al., 2016; Haddad & Alali ,2021).

Similarly, the frequency of board meetings (BMEET) does not exhibit a significant impact on performance. This finding implies that the effectiveness of board oversight depends more on the quality of deliberations and decision, making processes than on the sheer number of meetings held. Prior literature also emphasizes that formal governance activities do not automatically translate into improved performance unless they are accompanied by substantive engagement and effective monitoring (Jubb et al., 2016).

In contrast, board gender diversity (BGENDER) shows a positive and significant relationship with bank performance, particularly with ROE. This suggests that greater female representation on the board may enhance decision, making quality, broaden managerial perspectives, and improve oversight effectiveness. These findings are consistent with studies highlighting the value of board diversity in strengthening governance and improving firm performance in the Indonesian context Boadi et al., 2023; Tania & Hesniati, 2022)

With respect to ROA, the regression results indicate a positive and statistically significant association between the Risk Governance Index (RGOV) and asset-based performance, providing support for Hypothesis 1. This finding suggests that stronger risk governance practices may enhance internal control and risk monitoring processes, which in turn contribute to more efficient utilization of corporate assets. However, the univariate analysis does not reveal a statistically significant difference in ROA between firms with high and low levels of risk governance.

This discrepancy implies that the effect of risk governance on ROA is not sufficiently strong to emerge in a simple mean comparison and is likely conditional on other firm characteristics, such as capital adequacy and board structure. Consequently, the results suggest that the relationship between risk governance and ROA is more complex and is better captured through multivariate regression analysis.

In contrast, the findings for ROE provide more consistent evidence in support of Hypothesis 2. The regression analysis shows that RGOV has a positive and statistically significant effect on ROE, indicating that firms with stronger risk governance frameworks tend to generate higher returns for shareholders. This result is reinforced by the univariate t-test, which shows that firms with above-average risk governance exhibit higher ROE than those with below-average risk governance, although the level of significance is relatively modest. Taken together, these findings suggest that equity-based performance is more sensitive to variations in risk governance quality than asset-based performance.

The different responses of ROA and ROE to risk governance can be explained by the nature of each performance measure. ROA primarily reflects operational efficiency in using assets, whereas ROE is more closely related to capital structure, risk-taking behavior, and the effectiveness of financial decision-making. As a result, improvements in risk governance may more directly affect shareholder returns through enhanced capital allocation and risk control rather than through immediate gains in asset productivity.

Overall, the findings indicate that risk governance plays a meaningful role in shaping firm performance, particularly with respect to equity returns. While its impact on asset-based performance is less apparent in univariate analysis, the multivariate results confirm that risk governance remains a statistically significant determinant of performance after controlling for firm-specific factors. These results provide empirical

support for both Hypothesis 1 and Hypothesis 2, with stronger and more robust evidence observed for the effect of risk governance on ROE.

CONCLUSION AND SUGGESTION

This study examines the effect of risk governance on bank performance in Indonesia during the 2018–2022 period and provides empirical evidence that risk governance plays a significant role in shaping financial outcomes. The results show that stronger risk governance structures are positively and significantly associated with both return on assets and return on equity, indicating that governance quality contributes to improved operational efficiency and enhanced shareholder value. These findings suggest that risk governance is not merely a formal compliance requirement but a meaningful governance mechanism that supports better managerial oversight and performance in the banking sector.

In addition to risk governance, board gender diversity is found to contribute positively to bank performance, while capital adequacy and board meeting frequency do not exhibit a significant direct effect once governance quality and time effects are taken into account. This implies that qualitative aspects of governance, such as board composition and effective risk oversight, may be more influential for performance than structural or quantitative governance characteristics alone.

From a theoretical perspective, this study reinforces agency theory by demonstrating that effective governance mechanisms help mitigate agency problems and improve firm performance in banking institutions. By incorporating risk governance as a central explanatory variable, the findings extend prior corporate governance literature and provide evidence from an emerging market context, where governance practices and institutional environments differ from those in developed economies.

From a practical and policy perspective, the results highlight the importance for bank management and regulators to prioritize the strengthening of risk governance frameworks. Enhancing board effectiveness, improving risk oversight structures, and promoting gender diversity at the board level may support better decision-making and more sustainable profitability. For policymakers, the findings underscore the relevance of robust governance standards as part of broader efforts to strengthen the competitiveness, resilience, and long-term sustainability of the Indonesian banking sector.

Despite these contributions, several limitations should be acknowledged. This study focuses exclusively on Indonesian commercial banks over the 2018–2022 period, which may limit the generalizability of the findings to other countries with different regulatory and institutional settings. In addition, the analysis relies on accounting-based performance measures and index-based governance indicators, which may not fully capture dynamic governance processes or market-based performance outcomes. Future studies may broaden the scope of this research by undertaking cross-country comparisons within ASEAN or other emerging economies to capture differences in regulatory quality, investor protection, and enforcement intensity that may shape the effectiveness of risk governance mechanisms. In addition, subsequent research could apply alternative performance indicators, such as market-based measures (e.g., firm value or stock returns), operational efficiency, or sustainability-related outcomes, to obtain a more comprehensive assessment of corporate performance.

Several additional variables also deserve attention. At the institutional level, regulatory strength, legal enforcement, and governance codes may function as moderating factors. At the firm level, ownership structure, board characteristics (such as

independence, expertise, and diversity), firm complexity, leverage, and environmental uncertainty could influence how risk governance translates into performance outcomes. Examining these factors would help clarify the conditions under which risk governance becomes more or less effective.

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APPENDIX

Description and Measurement of Variables

Variables	Measurement	Definition	Source
Dependent Variable:			
Bank Performance (BP)	Return On Asset	Return on Asset is calculated by dividing a bank's net income by total assets	(Babakatun & Mustapha, 2023; Boadi et al., 2023; Eklemet et al., 2024; Haddad & Alali, 2021; Harb et al., 2023; Jallali & Zoghlami, 2022; Kacem & El Harbi, 2023; Karyani et al., 2020; Nahar, Azim, et al., 2016; Zhang et al., 2021)
	Return On Equity	Return on Equity is calculated by dividing a bank's net income by total Equity	(Haddad & Alali, 2021; Jain & Raithatha, 2022; Jallali & Zoghlami, 2022; Kacem & El Harbi, 2023; Nahar, Jubb, et al., 2016)
Independent Variable:			
Risk Governance Index (RGOV)	Board characteristics Risk committee characteristics Credit committee characteristics Audit committee characteristics Chief risk officers' characteristics	Index consisting of 19 indicators grouped into five components namely, board, risk committee, credit committee, audit committee, and chief risk officer	(Abid et al., 2021; Babakatun & Mustapha, 2023; Boadi et al., 2023; Gull et al., 2023; Jallali & Zoghlami, 2022; Kacem & El Harbi, 2023; Nahar, Azim, et al., 2016; Nahar et al., 2020; Zhang et al., 2021)

Measurement of Risk Governance Index

Measurement of Risk Governance Index	
Variable	Measurement
(1) Board characteristics	
Board Size	This variable is scored "1" if board size of a bank is larger than the mean value of the board size of all banks during the year in a particular country and "0" otherwise
Board chair duality	Board chair duality is scored "1" if board chair is not the CEO (non, executives) and not the chair of any board sub, committee and otherwise "0"
Board meetings	This variable is scored "1" if the members of the board held more meetings in the year than the average of all board meetings of sampled banks in a particular country and "0" otherwise.
Board independence	If most of the members on the board are considered independent, this is score "1" otherwise "0"
(2) Risk committee characteristics	
Risk committee existence	Risk committee existence in a bank in a given year is scored "1" otherwise "0"

Risk committee chair independence	If risk committee chair is independent, score "1" otherwise "0"
Risk committee meeting	Scored "1" if the members of the risk committee met more often during the year than the average of risk committee meeting across all samples in a particular country and otherwise "0"
Risk committee independence	Scored "1" if the majority of members on the risk committee are independent or otherwise "0".
(3) Credit committee characteristics	
Credit committee existence	The existence of the credit committee is scored "1" otherwise "0"
Credit committee chair independence	Score "1" if chair of the credit committee is independent, otherwise "0"
Credit committee meeting	Scored "1" if the members of the credit committee met more often during the year than the average of credit committee meeting across all samples in a particular country and otherwise "0"
Credit committee independence	Scored "1" if the majority of the credit committee members are independent or otherwise "0"
(4) Audit committee characteristics	
Audit committee existence	Audit committee existence is scored "1", otherwise "0".
Audit committee chair independence	Score "1" if audit committee chair is independent, and otherwise "0".
Audit committee meeting	Score "1" if audit committee chair is independent, and otherwise "0".
Audit committee independence	This is scored "1" if a majority of the members of the audit committee are independent or otherwise scored "0".
(5) Chief risk officers' characteristics	
Presence of a chief risk officer	If there is a chief risk officer present in the bank is scored "1" otherwise "0"
CRO independence	If chief risk officer performs an independent function, this is scored "1" otherwise "0"
CRO authority	Score "1" if chief risk officer reports directly to the board or otherwise "0"