Management Risk Appetite as an Determinant of Bank Value and Performance: Theoretical Perspective and Empirical Evidence from Indonesia

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ABSTRACT

This study examines the influence of the Management Risk Appetite Index (MRPI) on the value and financial performance of banks in Indonesia during the 2019–2023 period. The MRPI is constructed based on nine key indicators, covering both company-level dimensions—such as capital adequacy, credit risk, market risk, operational risk, and non-performing loans—and individual-level dimensions, including board size, gender diversity, academic qualifications, and the number of independent commissioners. The findings reveal that a higher MRPI is positively associated with firm value, indicating that banks with greater risk appetite tend to be more attractive in the eyes of the market. However, the effect on financial performance is mixed. While certain aspects of performance benefit from increased risk appetite, others, particularly related to efficiency and profitability, may experience negative impacts. This suggests a higher risk appetite does not automatically translate into stronger financial performance. The study also highlights the significant effects of the COVID-19 pandemic on banking operations, showing that the crisis influenced various performance indicators differently. Additionally, control variables such as bank size and age demonstrate consistent yet varying impacts on both value and performance, depending on the specific metric used. These results underline the importance of aligning risk appetite with governance structures and strategic objectives. For bank owners, regulators, and stakeholders, this implies the need for thoughtful selection of board members and commissioners, considering factors such as education, gender diversity, independence, and experience in risk management to support balanced and sustainable growth.

KEYWORDS	*Management Risk Appetite, Banking Value, Banking Performance, Banking Risk, Risk Management*

INTRODUCTION

The banking sector continues to expand in line with the dynamics of both the global and domestic economies while simultaneously facing complex risk challenges (Chaisse & Dimitropoulos, 2023; de Boer et al., 2021; Duggan et al., 2022). Events such as the economic crises of 1998 and 2008, as well as the COVID-

19 pandemic in 2020, have demonstrated how uncertainty can significantly impact banking stability. To mitigate these risks, various international regulatory frameworks, including Basel I, II, and III, have been established and subsequently adapted into national regulations by the Financial Services Authority (OJK), such as *POJK* No. 18/*POJK*.03/2016 on the Implementation of Risk Management for Commercial Banks. A crucial element in banking risk management is risk appetite, which represents the level of risk a bank is willing to accept in its operations (Chen, 2023; Pandey & Joshi, 2023; Rehman et al., 2019; Siddique et al., 2022; Zhao, 2024). This risk appetite is shaped by governance factors, including leadership structure and the academic background of directors, as well as financial aspects such as capital ratios and credit quality (Amira et al., 2023; Arhenful et al., 2023; Berisha et al., 2023; Bhatt et al., 2023).

In the context of governance, factors such as the number of directors and commissioners, the proportion of independent commissioners, academic background, and gender diversity contribute to the formation of a bank's risk appetite. Banks with a larger number of directors and commissioners can have tighter risk oversight but also face challenges in decision-making. In addition, directors with a background in finance and risk management tend to be more cautious in setting risk appetite (Desy et al., 2022; Gunawan & Laturette, 2021; Nasih et al., 2019; Robin & Amran, 2016; Soewignyo & Soewignyo, 2015). Gender diversity also has an influence, with research showing that banks with a higher proportion of women tend to have more conservative risk policies. In addition, financial factors such as Risk-Weighted Assets (RWA) and Capital Adequacy Ratio (CAR) also determine the extent to which a bank can tolerate risk. Banks with high CAR have a greater capacity to absorb risk, while banks with high Non-Performing Loans (NPL) tend to be more cautious in their credit policies.

Previous studies, such as those by Yuxi Jin (2024) and Waweru & Njuguna (2008), emphasized the importance of risk management in banking, particularly during periods of economic uncertainty. However, while these studies examined the effects of regulatory frameworks and individual governance factors like leadership structure and risk management expertise, they did not comprehensively link these factors to financial performance outcomes in emerging markets. Jin's research specifically employed the Management Risk Perception Index (MRPI) to assess risk appetite but lacked an empirical focus on how this index impacts actual banking performance metrics, such as return on assets (ROA) or return on equity (ROE). This study fills this gap by integrating both governance-related factors and financial ratios like the Capital Adequacy Ratio (CAR) and Non-Performing Loans (NPL), examining their collective influence on banking performance in Indonesia, a rapidly developing market with unique financial dynamics.

This study aims to analyze how risk appetite influences banking performance and value in Indonesia in the period 2019–2023. Referring to Yuxi Jin's research (2024), risk appetite is measured using the Management Risk Perception Index (MRPI), which integrates two main dimensions: individual and company. The individual dimension includes governance factors such as the number of directors and commissioners, the proportion of independent commissioners, academic and gender diversity, while the company dimension includes CAR, credit risk RWA, market risk RWA, operational risk RWA, and NPL. This study is expected to provide insight for regulators and banking industry players in balancing the growth of company value with operational stability through optimal risk appetite management.

RESEARCH METHOD

This study uses an objective quantitative approach, with a population and sample that have been determined based on certain characteristics. Descriptive methods are applied to collect, analyze, and present data to provide a comprehensive picture of the phenomenon being studied. The population in this study includes all Commercial Banks in Indonesia, which, according to BPS data in 2023, amounted to 105 banks divided into six groups, including State-Owned Banks, Regional Development Banks, National Private Banks, and Foreign Bank Branch Offices. From this population, this study focuses on 40 Conventional Commercial Banks listed on the Indonesia Stock Exchange (IDX) during the period 2019 to 2023. The sample selection was carried out by considering the exception of banks that had just merged or IPO during that period.

In this study, the hypothesis proposed is that Management Risk Appetite (MRP) has a positive influence on banking value and performance. The regression model used in this study reflects the influence of MRP on various banking performance variables, namely Tobin's Q, Return on Assets (ROA), Return on Equity (ROE), Net Interest Margin (NIM), and Operating Costs to Operating Income (BOPO). The main independent variable used is MRPINDEX, which consists of two main dimensions, namely the Company Dimension and the Individual Dimension. In addition, this study also includes dummy variables to capture the impact of the COVID-19 pandemic and control variables in the form of bank size as measured by the logarithm of total assets, and bank age calculated from the length of its operations.

$$Y_{it} = \beta_0 + \beta_1 \cdot MRPINDEX_{it} + \beta_2 \cdot Dummy + \beta_3 \cdot \ln(Bank\ Size_{it}) + \beta_4 \cdot Bank\ Age_{it}$$

The dependent variables in this study include banking values measured using Tobin's Q (Y_Tobin), as well as banking profitability indicators such as ROA, ROE,

NIM, and BOPO (Y_ROA/ROE/NIM/BOPO). Meanwhile, the independent variable in the form of MRPINDEX is formed based on nine indicators divided into two dimensions. The Individual Dimension includes the number of members of the board of directors and commissioners (Board Size), the number of independent commissioners, the level of academic of directors and commissioners measured by the percentage of individuals with a master's degree or above, and the gender structure that looks at the number of men in the ranks of directors and commissioners. On the other hand, the Company Dimension includes the capital adequacy ratio (CAR), operational risk-weighted assets, credit risk-weighted assets, market risk-weighted assets, and the non-performing loan ratio (NPL). This index aims to measure the level of banking Risk Appetite in Indonesia by considering various managerial and risk aspects.

The data used in this study are secondary data obtained from the bank's annual report for the period 2019 to 2023 which are available on the company's official website and the Indonesia Stock Exchange (IDX). The data analysis technique used is panel data regression, which involves three main approaches, namely the Common Effects Model, Fixed Effects Model (FEM), and Random Effects Model (REM). To ensure the reliability of the model, this study also conducted a series of classical assumption tests, including the normality test to test the residual distribution, the heteroscedasticity test to evaluate the equality of residual variances, the multicollinearity test to ensure there is no high correlation between independent variables, and the autocorrelation test to detect residual correlations between periods. In addition, a model suitability test (Goodness of Fit) was also carried out to measure the extent to which the regression model used is in accordance with the observed data. With the methodology applied, this study is expected to provide a deeper understanding of the influence of Management Risk Appetite on the value and performance of banking in Indonesia. The results of this study are expected to provide insight for stakeholders, including regulators, investors, and bank management, in formulating more effective banking policies and strategies.

RESULT AND DISCUSSION

From table 1, the descriptive statistical results in this study provide an overview of the variables used in the analysis. In terms of banking performance, the average Return on Assets (ROA) was recorded at 0.01 with a minimum value of -0.159 and a maximum of 0.05, while Return on Equity (ROE) had an average of 0.02 with a variation of -0.954 to 0.27. The operational efficiency ratio measured by BOPO showed an average value of 0.93, with a range of 0.438 to 2.88. Net Interest Margin (NIM) which reflects the profitability of the interest difference recorded an average of 0.04, with a minimum value of -0.035 and a maximum of

0.18. Meanwhile, the company value represented by Tobin's Q had an average of 1.33, with a data distribution ranging from 0.22 to 21.64. In terms of the characteristics of the board of directors, the board size has an average of 11 members with a minimum of 2 and a maximum of 23. The proportion of Independent Commissioners is recorded at an average of 60%, while the level of higher education (Master's degree and above) in the board reaches an average of 57%. In terms of gender, the percentage of men in the board ranks reaches an average of 85%.

In the corporate dimension, the Capital Adequacy Ratio (CAR) averaged 0.33 with a variation of 0.09 to 1.70, indicating differences in capital adequacy levels between banks. Operational risk (OpRisk) had an average of 0.12, while credit risk (CreditRisk) reached 0.87 with a range of 0.44 to 0.99. Market risk (MarketRisk) had a much smaller average of 0.01, with the highest value of 0.17. Meanwhile, the Non-Performing Loan (NPL) ratio showed an average of 0.03 with a maximum of 0.22, reflecting the level of non-performing loans in the banking industry. The control variables in this study include bank size and age. Bank size, as measured by the logarithm of total assets, has an average of 17.73, with the lowest value of 14.09 and the highest of 21.50. Meanwhile, the average bank age reaches 48.55 years, with the youngest bank being 4 years old and the oldest operating for 128 years.

The regression results (Table 3) demonstrate a contrasting relationship between the Management Risk Appetite Index (MRPI) and two key aspects of banking: firm value and financial performance. In the first model, Tobin's Q is used as a proxy for firm value. The findings reveal that MRPI has a positive and significant effect, suggesting that banks with a higher risk appetite tend to be more highly valued in the market. This supports the notion that investors perceive risk-taking, when accompanied by strategic foresight, as a signal of growth potential, thereby driving up market valuation. However, both bank size and age exhibit negative relationships with Tobin's Q, implying that larger and older banks may face challenges in maintaining investor optimism—possibly due to structural rigidity or reduced agility.

In contrast, the second model which focuses on bank performance (measured through ROA, ROE, NIM, and BOPO) presents a more complex narrative. MRPI shows a negative and significant effect on ROA, indicating a decline in asset efficiency as risk appetite increases. This is consistent with the idea that higher risk exposure can compromise profitability if not managed prudently. Interestingly, MRPI has a positive and significant effect on ROE, suggesting that while asset efficiency may suffer, appropriate financing strategies can still enhance returns to shareholders.

Meanwhile, MRPI has no significant effect on NIM, indicating that managerial risk appetite does not directly influence the bank's ability to generate interest income from productive assets. However, it does have a positive and significant impact on BOPO, reflecting rising operational costs associated with more aggressive risk strategies. This highlights the cost burden of risk-taking behavior, which may include increased spending on systems, compliance, or failed risk ventures.

Overall, the findings reveal a trade-off: a higher risk appetite can boost external valuation (market value) but may undermine internal performance indicators, particularly those related to operational efficiency. These results underline the importance of aligning risk appetite with robust internal control mechanisms. While risk-taking is essential for value creation, it must be carefully calibrated to avoid eroding financial health. This balance is at the heart of modern risk governance frameworks such as COSO (2017) and ISO 31000:2018, which emphasize that risk appetite should be integrated into strategic decision-making, ensuring both value creation and long-term sustainability.

Table 1. Research Variables

Variable	Description	Source
Dependent		
Tobin's Q	Financial ratio that measures a firm's market valuation relative to the replacement costs of its assets	Calculated by the author
Performance (ROA)	Ratio of Return on Assets	Annual published financial reports
Performance (ROE)	Ratio of Return on Equity	Annual published financial reports
Performance (NIM)	Net Interest Margin	Annual published financial reports
Performance (BOPO)	Total operating costs divided by total operating income	Annual published financial reports
Independent (annual published financial reports)		
1. Board Size	Number of board of directors and commissioners	Annual published financial reports
2. Commissioner Independent	Number of independent commissioners	Annual published financial reports
3. Academic Qualification	Percentage of Directors and Commissioners who have a Master's Degree or above	Annual published financial reports
4. Gender	Number of Male Directors and Commissioners	Annual published financial reports
5. Capital Adequacy Ratio/CAR	Capital divided by risk management weighted assets	Annual published financial reports
6. Operational Risk	Total assets weighted by Operational Risk	Annual published financial reports
7. Credit Risk	Total assets weighted by Credit Risk	Annual published financial reports

Variable	Description	Source
8. Market Risk	Total assets weighted by Market Risk	Annual published financial reports
MRPI - 9. Non Performing Loan/NPL	The number of credits in the collectability category 1,2,3 compared to total credits	Annual published financial reports
Control		
Bank Size	Logarithm of total assets	Annual published financial reports
Bank Age	Length is measured by the year the bank was founded	Annual published financial reports
Dummy	The year of impact of Covid-19 (value 1 for 2020–2022, value 0 for 2019 and 2023)	Annual published financial reports

Table 2. Descriptive statistics

Variables	Mean	Median	Minimum	Maximum	Count
ROA	0,01	0,01	-0,159	0,05	200
ROE	0,02	0,04	-0,954	0,27	200
BOPO	0,93	0,89	0,438	2,88	200
NIM	0,04	0,04	-0,035	0,18	200
Tobin	1,33	0,99	0,22	21,64	200
Board. Size	11	10	2	23	200
Independent Commissioner	0,60	0,60	0,00	1,00	200
Academic Qualification	0,57	0,55	0	1	200
Gender	0,85	0,88	0,25	1	200
CAR	0,33	0,25	0,09	1,70	200
OpRisk	0,12	0,11	0,00	0,56	200
CreditRisk	0,87	0,88	0,44	0,99	200
Market Risk	0,01	0,00	0,00	0,17	200
NPL	0,03	0,03	0,00	0,22	200
Bank.Size	17,73	17,18	14,09	21,50	200
Bank.Age	48,55	48,00	4	128	200

Table 3. Results of Regression

Y_TOBIN

Coefficients

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	11.365330	2.467199	4.606572	0.0000
MRPINDEX	0.189472	0.053681	3.530901	0.0006
DUMMY	0.051248	0.026920	1.904330	0.0594
BANK_SIZE	-0.511205	0.142528	-3.585434	0.0005
UMUR_BANK	-0.015878	0.007014	-2.263651	0.0255
Y_TOBIN(-1)	-0.121006	0.153718	-0.781341	0.4362

Weighted Statistics

Metric	Value
R-squared	0.731777
Adjusted R-squared	0.629152
S.E. of regression	0.640907
F-statistic	7.130612
Prob(F-statistic)	0.000000
Mean dependent var	4.054171
S.D. dependent var	3.508360

Sum squared resid		47.118220		
Durbin-Watson stat		2.361701		

ROA

Coefficients

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.262967	0.013869	-18.961080	0.0000
MRPINDEX	-0.000833	0.000150	-5.543160	0.0000
DUMMY	-0.000656	0.000499	-1.315452	0.1910
BANK_SIZE	0.010335	0.000618	16.721160	0.0000
UMUR_BANK	0.001724	0.000155	11.111140	0.0000
ROA(-1)	0.141515	0.075525	1.873752	0.0635

Weighted Statistics

Metric	Value			
R-squared	0.931810			
Adjusted R-squared	0.905719			
S.E. of regression	0.017094			
F-statistic	35.718480			
Prob(F-statistic)	0.000000			
Mean dependent var	0.052828			
S.D. dependent var	0.081070			
Sum squared resid	0.038682			
Durbin-Watson stat	2.066239			

ROE

Coefficients

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.696793	0.093146	-7.401990	0.0000
MRPINDEX	0.007624	0.001489	5.120765	0.0000
DUMMY	0.091377	0.003158	6.116650	0.0000
BANK_SIZE	-0.011336	0.008066	-1.405442	0.1626
UMUR_BANK	0.018346	0.000989	18.554180	0.0000
ROE(-1)	0.182654	0.067395	2.711098	0.0078

Weighted Statistics

Metric	Value			
R-squared	0.944559			
Adjusted R-squared	0.923346			
S.E. of regression	0.105076			
F-statistic	44.528000			
Prob(F-statistic)	0.000000			
Mean dependent var	0.285273			
S.D. dependent var	0.496378			
Sum squared resid	1.269765			
Durbin-Watson stat	1.878529			

NIM

Coefficients

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.230687	0.043733	-5.274440	0.0000
MRPINDEX	0.001761	0.001205	1.460761	0.1468
DUMMY	0.006081	0.001263	4.815796	0.0000
BANK_SIZE	0.005562	0.003543	1.570118	0.1191
UMUR_BANK	0.003100	0.000655	4.733222	0.0000
NIM(-1)	0.442638	0.183281	2.415082	0.0173

Weighted Statistics

Metric	Value			

R-squared		0.944120		
Adjusted R-squared		0.928226		
S.E. of regression		0.008006		
F-statistic		44.218010		
Prob(F-statistic)		0.000000		
Mean dependent var		0.071992		
S.D. dependent var		0.052225		
Sum squared resid		0.009882		
Durbin-Watson stat		2.131611		

BOPO

Coefficients

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	5.832046	0.452413	12.890970	0.0000
MRPINDEX	0.014199	0.006949	2.043273	0.0433
DUMMY	-0.031708	0.007544	-4.203238	0.0001
BANK_SIZE	-0.192683	0.023697	-8.131036	0.0000
UMUR_BANK	-0.031778	0.001730	-18.367340	0.0000
BOPO(-1)	0.106348	0.103059	1.031917	0.3043

Weighted Statistics

Metric	Value
R-squared	0.912523
Adjusted R-squared	0.879054
S.E. of regression	0.214003
F-statistic	27.264400
Prob(F-statistic)	0.000000
Mean dependent var	3.303708
S.D. dependent var	2.479411
Sum squared resid	5.266675
Durbin-Watson stat	1.971346

Across panel EGLS models with cross-section fixed effects and White-robust standard errors, model fit is strong ($R^2 \approx 0.91$–0.95 for ROA/ROE/NIM/BOPO; 0.73 for Tobin's Q) and all F-tests are significant. For firm value (Tobin's Q), the market risk premium index (MRPINDEX) is positively associated with valuation, while bank size and bank age are negatively related; the policy DUMMY is only marginal and the Q lag is not significant. For ROA, MRPINDEX is negative, whereas larger and older banks report higher ROA; the lag is borderline and the DUMMY is insignificant. ROE increases with MRPINDEX, the DUMMY, and bank age, and shows persistence (significant lag), while size is negative but not significant. NIM also exhibits persistence and is higher for older banks and under the DUMMY regime; effects of MRPINDEX and size are insignificant. Cost efficiency (BOPO, lower is better) worsens when MRPINDEX rises, but improves for larger and older banks and under the DUMMY; its lag is not significant and the estimation flags a reduced-rank covariance warning, warranting a multicollinearity check. Overall, bank age consistently strengthens operating performance (ROA/ROE/NIM up, BOPO down) yet coincides with lower market valuations (Q down), while the DUMMY broadly aligns with better margins and efficiency.

CONCLUSION

This study aimed to examine the influence of the Management Risk Appetite Index (MRPI) on firm value and bank performance in Indonesia. The findings reveal that MRPI plays a nuanced role in managerial risk-taking behavior. The research confirms that MRPI positively contributes to firm value, as measured by Tobin's Q, suggesting that the market tends to reward banks with a higher risk appetite, likely due to expectations of greater future growth. However, the findings also demonstrate that MRPI negatively impacts internal financial performance, particularly in terms of Return on Assets (ROA) and operational efficiency (*BOPO*). While Return on Equity (ROE) showed a positive association and Net Interest Margin (NIM) was found to be insignificant, the overall results indicate a trade-off: increased risk appetite enhances market value but does not necessarily translate into improved operational performance. This conclusion underscores that effective risk appetite management is not merely about taking bold risks but about ensuring that such risks are aligned with organizational capacity and internal control mechanisms. Hence, embedding risk appetite within strategic decision-making processes is essential to balancing value creation with long-term performance sustainability. For future research, it is recommended to explore mediating or moderating variables such as governance quality, digital risk infrastructure, or regulatory responsiveness. Comparative studies across different countries or banking systems could also enrich understanding of how MRPI operates under varying financial regimes.

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