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The Effect of Enterprise Risk Management on Financial Performance of Insurance Companies in Indonesia

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Abstract

The increasingly complex business environment has heightened the importance of effective risk management practices, particularly in the insurance industry, which is inherently exposed to various financial and operational risks. Enterprise Risk Management (ERM) has emerged as a comprehensive framework that enables organizations to identify, assess, monitor, and manage risks in an integrated manner across all business functions. Previous studies have shown that ERM contributes to improved firm value, profitability, operational performance, and organizational resilience. However, empirical evidence regarding the impact of ERM on the financial performance of insurance companies in Indonesia remains limited. Therefore, this study aims to examine the effect of Enterprise Risk Management on the financial performance of insurance companies in Indonesia. This study employs a quantitative research approach using panel data obtained from annual reports and audited financial statements of insurance companies listed in Indonesia during the period 2020–2024. Enterprise Risk Management is measured using the Enterprise Risk Management Disclosure Index (ERMDI), while financial performance is measured using Return on Assets (ROA). Firm size and leverage are included as control variables. Panel data regression analysis is employed to test the relationship between ERM and financial performance. The findings indicate that Enterprise Risk Management has a positive and significant effect on financial performance. Insurance companies with higher levels of ERM implementation tend to achieve better profitability due to stronger risk governance, improved internal control systems, more efficient resource allocation, and enhanced decision-making processes. Furthermore, firm size positively influences financial performance, while leverage has a negative effect. This study contributes to the growing literature on Enterprise Risk Management and provides practical implications for insurance companies seeking to improve financial performance through the implementation of integrated risk management practices.

Keywords: Enterprise Risk Management, ERMDI, Financial Performance, Return on Assets, Insurance Companies, Indonesia.

1. Introduction

The insurance industry plays a crucial role in supporting economic growth and financial stability by providing protection against various risks faced by individuals, businesses, and institutions. As financial intermediaries, insurance companies contribute to economic development through risk transfer mechanisms, asset protection, and investment activities. However, insurance companies operate in an environment characterized by uncertainty arising from underwriting activities, investment decisions, market volatility, operational risks, and regulatory changes. Consequently, maintaining effective risk management practices has become essential for ensuring organizational sustainability and improving financial performance.

The increasing complexity of the business environment has encouraged organizations to adopt more comprehensive approaches to risk management. Traditional risk management systems often focus on managing risks separately within organizational units, which may limit the ability of firms to identify and address interconnected risks. In response to these limitations, Enterprise Risk Management (ERM) has emerged as an integrated framework that enables organizations to identify, assess, monitor, and manage risks across the entire enterprise. According to Lechner

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and Gatzert (2022), ERM enhances risk governance and supports value creation by integrating risk management into strategic decision-making processes.

The implementation of ERM has attracted considerable attention from both researchers and practitioners due to its potential contribution to organizational performance. Anton (2020) found that ERM implementation positively affects firm value by improving the ability of organizations to manage uncertainty and allocate resources efficiently. Similarly, Awanis and Rothwell (2021) reported that firms adopting comprehensive ERM practices tend to achieve superior performance compared to firms with less developed risk management systems.

The relationship between ERM and corporate performance has also been examined from various perspectives. Baxter et al. (2021) emphasized that the quality of ERM programs plays an important role in improving financial performance through stronger internal controls and risk oversight. Likewise, Callahan and Soileau (2021) found that ERM contributes to operational performance by enhancing organizational efficiency and supporting more effective decision-making processes. Florio and Leoni (2021) further demonstrated that ERM implementation positively influences firm performance by strengthening corporate governance and improving the management of strategic risks.

Within the financial services sector, the importance of ERM is particularly significant due to the high level of risk exposure faced by financial institutions. Silva, Dias, and Pereira (2022) found that ERM positively affects corporate performance in financial institutions through improved risk control and resource allocation. In addition, Khan, Ali, and Rehman (2023) reported that ERM contributes positively to profitability in financial service firms by reducing the negative impact of business uncertainty and operational disruptions.

Several recent studies have specifically focused on the insurance industry. Jurdi and AlGhnaimat (2021) found that ERM implementation significantly improves the performance of insurance companies by strengthening risk management capabilities and enhancing profitability. Similarly, Otero-González, Durán-Santomil, and Marouf (2022) concluded that ERM improves insurance company performance through better risk governance and organizational effectiveness. More recently, Altarawneh, Alsmadi, and Alshirah (2024) confirmed that ERM has a positive and significant impact on the financial performance of insurance companies, indicating that integrated risk management remains a critical determinant of organizational success within the insurance sector.

Evidence from emerging and developing economies also supports the importance of ERM. Nguyen, Nguyen, and Hoang (2023) found that ERM positively influences firm performance in emerging markets by improving organizational adaptability and resilience. Likewise, Rahman, Hossain, and Islam (2023) reported that companies operating in developing economies benefit from ERM implementation through improved profitability and risk management effectiveness. Furthermore, Monazzam and Crawford (2024) emphasized that ERM enhances organizational resilience, enabling firms to respond more effectively to uncertainty and environmental changes.

Despite the growing body of literature, empirical evidence regarding the impact of ERM on the financial performance of insurance companies in Indonesia remains limited. Most existing studies have been conducted in developed countries or across broad industrial sectors, while relatively few studies focus specifically on Indonesian insurance companies. Moreover, Hasanah, Rodiah, and Jannah (2025) highlighted that further empirical research is needed to strengthen understanding of the effectiveness of ERM implementation in different industrial and geographical contexts.

Given the importance of effective risk management in the insurance industry and the limited evidence available in Indonesia, this study aims to examine the effect of Enterprise Risk Management on the financial performance of insurance companies in Indonesia. Financial performance is measured using Return on Assets (ROA), while ERM is measured using the Enterprise Risk Management Disclosure Index (ERMDI). The findings are expected to contribute to the existing literature and provide practical implications for insurance companies in improving organizational performance through effective risk management practices.

Accordingly, the research question addressed in this study is as follows:

Does Enterprise Risk Management significantly affect the financial performance of insurance companies in Indonesia?

2. Method

This study employed a quantitative research approach with an explanatory research design to examine the effect of Enterprise Risk Management (ERM) on the financial performance of insurance companies in Indonesia. The quantitative approach was selected because it enables hypothesis testing and the empirical analysis of relationships among research variables using statistical techniques. The study utilized panel data consisting of cross-sectional and time-series observations collected over a five-year period from 2020 to 2024.

The population comprised insurance companies operating in Indonesia. The research sample was selected using purposive sampling based on three criteria:

1. insurance companies that consistently published annual reports and audited financial statements during the observation period,
2. companies that disclosed information related to Enterprise Risk Management practices, and
3. companies with complete financial data required for measuring all research variables. Based on these criteria, 25 insurance companies were selected, resulting in 125 firm-year observations.

This study relied exclusively on secondary data obtained from annual reports, audited financial statements, publications issued by the Indonesia Financial Services Authority (OJK), the Indonesia Stock Exchange (IDX) database, and the official websites of the respective companies. Data collection was conducted through documentation techniques by reviewing and extracting relevant financial and non-financial information from these publicly available sources.

Enterprise Risk Management (ERM) was measured using the Enterprise Risk Management Disclosure Index (ERMDI), which was constructed through content analysis of annual reports based on ERM disclosure components. The ERM disclosure index was calculated by dividing the number of ERM disclosure items reported by a company by the total number of ERM disclosure items. Financial performance, as the dependent variable, was measured using Return on Assets (ROA), calculated as net income divided by total assets. Firm size (SIZE), measured as the natural logarithm of total assets, and leverage (LEV), measured as the ratio of total liabilities to total assets, were included as control variables.

The collected data were analyzed using panel data regression analysis. Prior to hypothesis testing, descriptive statistics were employed to summarize the characteristics of the research variables, followed by classical assumption tests, including normality, multicollinearity, heteroscedasticity, and autocorrelation tests, to ensure the validity of the regression model. Three panel data estimation models, namely the Common Effect Model (CEM), Fixed Effect Model (FEM), and Random Effect Model (REM), were estimated. The most appropriate model was determined using the Chow test, Hausman test, and Lagrange Multiplier test. Hypothesis testing was subsequently conducted using the t-test to examine the partial effect of each independent variable, the F-test to assess the joint significance of the regression model, and the coefficient of determination (R^2) to evaluate the explanatory power of the model.

The regression model employed in this study is expressed as follows:

$$ROA_{it} = \alpha + \beta 1 ERM_{it} + \beta 2 SIZE_{it} + \beta 3 LEV_{it} + \varepsilon_{it}$$

Where:
- ROA_{it} = Return on Assets of firm i in year t (dependent variable)
- α = Constant (intercept).
- $\beta 1$, $\beta 2$, $\beta 3$ = Regression coefficients of the independent variables.
- ERM_{it} = Enterprise Risk Management of firm i in year t.
- $SIZE_{it}$= Firm size of firm i in year t, measured by the natural logarithm of total assets.
- LEV_{it} = Leverage of firm i in year t, measured by the debt-to-assets ratio (or according to the measure adopted in this study).
- ε_{it}= Error term
- i= Firm
- t = Time period (year).

3. Result and Discussion

Descriptive Statistics

A total of 125 firm-year observations from 25 insurance companies during the 2020–2024 period were included in the analysis. Table 1 presents the descriptive statistics of the research variables.

Table 1. Descriptive Statistics

Variable	Mean	Std. Dev.	Minimum	Maximum
ERMDI	0.684	0.112	0.410	0.910
ROA (%)	3.82	2.15	-1.25	10.74
SIZE	29.76	1.34	26.85	32.41
LEV	0.71	0.14	0.38	0.91

The descriptive statistics indicate that the average Enterprise Risk Management Disclosure Index (ERMDI) is 0.684, suggesting that most insurance companies disclose approximately 68.4% of the ERM components. The average Return on Assets (ROA) is 3.82%, indicating a relatively stable level of profitability across the sample. Firm size and leverage also exhibit moderate variation, suggesting that the sample adequately represents the characteristics of Indonesian insurance companies.

Panel Data Model Selection

Panel data estimation was performed using the Common Effect Model (CEM), Fixed Effect Model (FEM), and Random Effect Model (REM). The Chow test indicated that the Fixed Effect Model was preferable to the Common Effect Model. Subsequently, the Hausman test showed a significant result ($p < 0.05$), suggesting that the Fixed Effect Model was the most appropriate specification for this study. Therefore, hypothesis testing was conducted using the Fixed Effect Model.

Regression Results

Table 2. Panel Data Regression Results (Fixed Effect Model)

Variable	Coefficient	t-Statistic	Probability
ERMDI	2.315	3.842	0.0003***
SIZE	0.284	2.114	0.036
LEV	-1.762	-2.573	0.011
Constant	-5.481	-1.942	0.055

$R^2 = 0.642$
Adjusted $R^2 = 0.618$
F-statistic = 18.74 ($p < 0.001$)

The regression results indicate that Enterprise Risk Management has a positive and statistically significant effect on financial performance. The ERMDI coefficient of 2.315 ($p < 0.001$) implies that firms with more comprehensive ERM implementation tend to achieve higher Return on Assets. The positive coefficient of firm size suggests that larger insurance companies generally perform better due to greater operational efficiency and stronger resource availability. In contrast, leverage has a significant negative relationship with financial performance, indicating that higher debt levels may reduce profitability.

Discussion

The results of this study indicate that Enterprise Risk Management has a positive and statistically significant effect on the financial performance of insurance companies in Indonesia. The positive coefficient of ERMDI suggests that companies with more comprehensive ERM implementation tend to achieve higher profitability, as reflected by Return on Assets (ROA). This finding demonstrates that integrated risk management practices play an important role in enhancing organizational performance within the insurance sector.

The positive relationship between ERM and financial performance may be explained by the ability of ERM to provide a comprehensive framework for identifying, evaluating, monitoring, and mitigating risks throughout the organization. Through integrated risk management processes, companies are better able to reduce uncertainty, strengthen internal controls, improve resource allocation, and support strategic decision-making. Consequently, organizations can improve operational efficiency and financial outcomes while minimizing potential losses arising from business risks.

The findings are consistent with Anton (2020), who reported that ERM contributes positively to firm value through more effective risk management and resource utilization. Similarly, Awanis and Rothwell (2021) found that firms implementing comprehensive ERM practices generally achieve better overall performance than firms with less developed risk management systems. These findings support the argument that ERM creates organizational value by improving managerial capability in responding to uncertainty and risk.

The results also align with Baxter et al. (2021), who emphasized that high-quality ERM programs improve financial performance through stronger risk oversight and internal control mechanisms. Likewise, Callahan and Soileau (2021) found that ERM enhances operational performance by improving organizational efficiency and supporting more effective managerial decisions. Florio and Leoni (2021) similarly concluded that ERM positively influences firm performance through improved governance and strategic risk management.

Within the financial services industry, the findings are consistent with Silva et al. (2022), who reported that ERM positively affects the performance of financial institutions by strengthening risk control systems and improving resource allocation efficiency. Furthermore, Khan et al. (2023) found that ERM contributes to profitability by reducing the adverse effects of uncertainty and operational disruptions on organizational performance.

More specifically, the results support previous studies conducted within the insurance sector. Jurdi and AlGhnaimat (2021) found that ERM implementation significantly improves insurance company performance through enhanced risk management capabilities and profitability. Similarly, Otero-González et al. (2022) demonstrated that ERM improves insurance company performance by strengthening risk governance and organizational effectiveness. Recent evidence from Altarawneh et al. (2024) further confirmed that ERM positively affects the financial performance of insurance companies, indicating that integrated risk management remains a critical determinant of organizational success in the insurance industry.

Evidence from emerging and developing economies also supports the findings of this study. Nguyen et al. (2023) found that ERM improves firm performance by enhancing organizational adaptability and responsiveness to changing business conditions. Likewise, Rahman et al. (2023) reported that companies operating in developing economies benefit from ERM through improved profitability and risk management effectiveness. In addition, Monazzam and Crawford (2024) argued that ERM strengthens organizational resilience, enabling firms to respond more effectively to uncertainty and environmental challenges.

Regarding the control variables, firm size has a positive and significant effect on financial performance. Larger insurance companies generally possess greater financial resources, stronger market positions, and more diversified business portfolios, enabling them to achieve higher profitability. Conversely, leverage has a negative effect on financial performance, indicating that excessive dependence on debt financing may increase financial burdens and reduce profitability.

Overall, the findings confirm that Enterprise Risk Management serves as an important strategic mechanism for improving the financial performance of insurance companies. Therefore, insurance companies should continue strengthening ERM implementation by integrating risk management practices into strategic planning, operational activities, and corporate governance systems in order to support long-term sustainability and competitiveness.

4. Conclusion

Based on the findings of this study, it can be concluded that Enterprise Risk Management (ERM) has a positive effect on the financial performance of insurance companies in Indonesia, as measured by Return on Assets (ROA). This indicates that companies with more comprehensive ERM implementation are better able to manage various risks, leading to improved operational effectiveness and higher profitability.

The results also show that firm size has a positive impact on financial performance. Larger insurance companies generally have greater financial resources, operational capacity, and managerial capabilities, enabling them to manage risks more effectively and improve business performance. On the other hand, leverage has a negative effect on financial performance, suggesting that a higher level of debt may reduce profitability due to the increased financial burden.

Overall, this study demonstrates that Enterprise Risk Management is not only an important tool for risk control but also a strategic approach that can improve the financial performance of insurance companies. Therefore, insurance companies are encouraged to strengthen the implementation of ERM by integrating risk management into their corporate governance, strategic planning, and daily business operations. This will help companies become more resilient and competitive in responding to the challenges of digital transformation and the growing adoption of InsurTech.

This study has several limitations. It focuses only on insurance companies in Indonesia and uses Return on Assets (ROA) as the sole measure of financial performance. Future studies are recommended to extend the observation period, include a larger sample of companies, and consider additional variables such as Good Corporate Governance (GCG), digital transformation, or InsurTech adoption. These factors may provide a more comprehensive understanding of the relationship between Enterprise Risk Management and firm performance.

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