

**ENTERPRISE RISK MANAGEMENT AND FIRM VALUE: EVIDENCE FROM STATE-OWNED ENTERPRISE IN INDONESIA**

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**Abstract**

This study aims to provide empirical evidence of the influence of enterprise risk management on firm value. This study also uses leverage and profitability as control variables. The research population is State-Owned Enterprises listed on the Indonesia Stock Exchange in 2020-2021. The sampling method used is the purposive sampling method, the number of samples according to the criteria of 40 annual reports. The data analysis tool used in this research is multiple linear regression analysis. The results of this study prove that enterprise risk management has a significant positive effect on firm value while leverage and profitability do not affect firm value.

**Keywords: Enterprise Risk Management, Leverage, Profitability, Firm Value, Indonesia Stock Exchange**

**1. Introduction**

The phenomenon of the stock index performance of State-Owned Enterprises / IDX BUMN20 recorded a decline to double digits, namely 13.78% year to date. The weakening of the State-Owned Enterprises index was depressed by sluggish shares in the infrastructure sector, such as PT Adhi Karya, PT PP, and PT Wijaya Karya. This is because the company has not implemented optimal risk management and the prolonged pandemic has resulted in delayed development expectations. Economic growth occurred because government consumption for handling COVID-19 and household consumption increased dramatically, not yet towards the infrastructure sector (Kontan.co.id dated August 9, 2021).

The increasingly fierce business competition encourages every company to be more transparent in disclosing information. The information disclosed must be understandable, relevant, reliable, and comparable. The more quality and comprehensive the information presented in the company's annual report, the more important the report is for investors (Miihkinen, 2012) and reduces information asymmetry between investors and management (Lajili & Zeghal, 2005). The need for the disclosure of the information is increasing, especially the disclosure of non-financial information (Cole & Jones, 2005). This is necessary because investment activities are activities that contain risks and uncertainties. Disclosure of risk will help investors determine the level of risk they will face and improve the quality of their investment decisions (Solomon, Solomon, Norton, & Joseph, 2000).

Empirically, the influence of enterprise risk management on the value of the company has various results. Dinoyu & Septiani (2020), Iswajuni, Soetedjo, & Manasikana (2018), Anggreni, Suprasto, Ariyanto, & Suaryana (2021), Ismail & Wijaya (2021), Devi, Budiasih, &

Badera (2017), Pamungkas (2019) concluded that enterprise risk management had a positive effect on firm value, while Pamungkas & Maryati (2017), Rivandi (2018), Aditya & Naomi (2017), Fadilah & Afriyenti (2020) concluded that enterprise risk management did not affect firm value.

This research can contribute to the government as a reference in determining policies regarding risk management disclosure of state-owned companies listed on the Indonesia Stock Exchange to increase investor confidence. For corporate management, this research can provide information and understanding of corporate risk management disclosures to help improve risk management disclosure practices in companies and realize good corporate governance.

Based on the description of the background above, the purpose of this study is to determine and analyze the effect of Enterprise Risk Management on Firm Value with several control variables. The results of this study are expected to increase the wealth of knowledge related to Risk Management. Especially for public institutions, so that the results can be used in the preparation of public policies.

## **2. Literature Review**

### **Signaling Theory**

Brigham & Houston (2009) explain Signaling Theory from a corporate perspective, as an action taken by management to provide instructions for investors regarding how management views the company's future opportunities. Signaling Theory explains the importance of information from the company for the investment decisions of shareholders and other stakeholders. Signaling theory also aims to minimize information asymmetry between stakeholders and the company so that the signals given by the company can be responded to positively by stakeholders. Verrecchia (1983) states that companies will disclose the information if the information is expected to increase the value of the company. This shows that Signaling Theory is in line with the importance of ERM information for stakeholders, where ERM can be categorized as information that will increase the value of the company.

### **Firm Value**

According to Gitman (2009) firm value is the value reflected by the stock price of a company. This is based on the main goal of management which is to create value by maximizing wealth for company owners by increasing the company's share price. The act of maximizing wealth must also be followed by considering the wishes of other stakeholders. Several measurements can be used to measure company value including price earning ratio, price to book value, Tobin's Q, and company size which theoretically shows value in the form of company stability information and other measurements. To assess the market response and investors' expectations of the company, Tobin's Q is used as a measurement that represents the value of the company.

### **Enterprise Risk Management.**

Risk is an uncertain outcome because the probability of uncertainty cannot be determined. There are six risk categories, namely: financial risk, operating risk, empowerment risk, information processing, and technology risk, integrity risk, and strategic risk (Linsley & Shrives, 2006). Miihkinen (2012) defines risk disclosure as all information about the risk presented by the company in the annual report. The lack of information about corporate risk in the annual report can threaten the relevance of the report (Cabedo & Tirado, 2004).

ISO 31000 (2018) defines ERM as coordinated activities carried out to manage and control the company related to the risks faced by the company. Initially, ERM was developed to manage risks that occur in financial institutions and insurance companies (Schiller & Prpich, 2014). However, over time, the scope of risk has expanded beyond just financial risk. Operational risk, technology risk, and various other risks make the company aware to develop its goal not only to maximize the company's performance but also the foundation for sustainable development.

### **Effect of ERM Disclosure on Firm Value**

Based on signaling theory were the actions taken by management to guide investors are related to how management views the company's opportunities in the future (Brigham & Houston, 2009). ERM implementation information disclosed will be a signal by the company that investors and stakeholders will respond to through fluctuations in the company's stock price in the market as measured by Tobin's Q.

The implementation of ERM disclosed by the company in the annual report is the company's way of providing information to stakeholders regarding the risk profile and how the company manages these risks. ERM also plays an important role in maintaining company stability (Devi et al., 2017). In addition to improving the company's performance through ROA, the implementation of ERM can also increase the value of the company in the capital market. Baxter, Bedard, Hoitash, & Yezegel (2013) in their research results found that companies with better ERM quality showed higher market valuation results as well. There is a time lag between the realization of the benefits of ERM to the company, making Tobin's Q an appropriate measurement to reflect future expectations of investors by looking at the market response (Hoyt & Liebenberg, 2011).

ERM in this case benefits the company by reducing the volatility of earnings and stock prices (Beasley, Pagach, & Warr, 2008). ERM reduces volatility by preventing the accumulation of inherent risk in various sources. Furthermore, the ERM program emerged because of increased information about the company's risk profile. For outsiders who tend to experience difficulties when making assessments, it is easier to assess the financial strength and risk profile of the company financially and operationally with the ERM information in the annual report. Disclosure of ERM implementation is also a signal of the company's commitment to managing its risks. With increased disclosure of risk management, ERM tends to lower the anticipated costs that will arise from regulatory oversight and external capital (Meulbroek, 2002).

Taking into account the increase in operating performance, as well as the announcement of a new risk management agency and implementation in the company's

annual report, this can positively influence investor perceptions which are expected to have a positive relationship between ERM implementation and market valuation (Florio & Leoni, 2017). The existence of a good ERM implementation will have a positive impact on the capital market assessment as measured by Tobin's Q. Based on the theoretical basis and supporting explanations from previous research statements, the following hypotheses are proposed:

H1: Disclosure of enterprise risk management has a positive effect on firm value..

### 3. Research Method

This research is a type of causal research, which aims to test the hypothesis about the effect of one or several independent variables on the dependent variable. The hypothesis proposed in this study was tested using quantitative research methods, namely performing regression testing in the form of descriptive statistics and multiple regression analysis. The data obtained in this study will be processed using Statistical Product and Service Solutions (SPSS). The framework regarding the relationship between each variable can be seen in Figure 1. To perform the test, it is necessary to explain the measurement of the variables used in the study, namely the variables of firm value, enterprise risk management, leverage, and profitability.

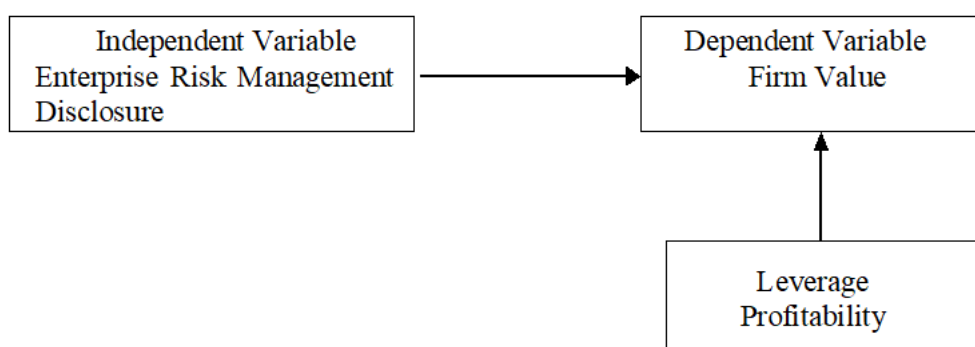


Figure 1 Research Concept Schemati

#### Firm Value

Firm Value as Dependent Variable. Firm value is a market value that can provide maximum prosperity for shareholders if the company's share price increases (Nurlela & Ishlahuddin 2008). The financial ratio that can be used to measure the company's market value is Tobin's Q. In the calculation of Tobin's Q, all elements of the company's debt and share capital are calculated so that this ratio is considered to provide the best information. All company assets are used in the calculation of Tobin's Q, which means that the company also focuses on creditors because the source of financing for the company's operations is not only from equity but also from loans from creditors (Sukamulja 2004). Tobin's Q reflects market expectations and is relatively free from managerial manipulation (Lindenberg & Ross,

1981). Chung & Pruitt's (1994) version of Tobin's Q formula is used consistently because it is simplified in various simulations. The Chung

& Pruitt (1994) version of Tobin's Q formula used is as follows

$$\text{Tobin's Q} = \frac{\text{MVE} + \text{DEBT}}{\text{TA}} \quad (1)$$

Description:

Tobin's Q: Firm value

MVE: Market Value of

Equity DEBT: Total

company debt TA: Total

company assets

### Enterprise Risk Management Disclosure

The independent variable used in this study is Enterprise Risk Management (ERM) disclosure. ERM disclosure in this study was measured using a total score index of disclosure items based on ISO 31000 dimensions which include 5 dimensions, namely mandates and commitments, framework planning, risk management implementation, monitoring, and continuous improvement following ISO 31000 component standards. Calculation of items using a dummy variable, that is, each ERM item that is disclosed is given a value of 1 and a value of 0 if it is not disclosed. Each item will be summed to obtain the overall ERM index of each company. Information regarding ERM disclosures is obtained from annual reports and company websites. The calculation of the Enterprise Risk Management Disclosure Index (ERM) Dimension ISO

31000 is formulated as follows:

$$\text{ERM Index} = \frac{\text{Number of items disclosed}}{25 \text{ disclosure items}} \quad (2)$$

### Leverage

Leverage is used to measure how much the company's assets come from debt or capital. Leverage is a ratio that states the relationship between debt and total capital or company assets (Sulistyaningsih & Gunawan, 2016). The level of leverage in this study was measured using the debt-to-asset ratio. The measurement of leverage uses the debt-to-asset ratio because this ratio can indicate an increased risk for creditors in terms of the company's inability to pay off the company's debt. The following formula is used to measure the debt-to-asset ratio (Yogi & Chariri, 2014) :

$$\text{Leverage} = \frac{\text{Total Debt}}{\text{Total assets}} \quad (3)$$

### Profitability

Profitability is a ratio that describes the company's ability to earn a profit. The increase in profit is the basis for evaluating the company's performance. In this study, profitability is

proxied by Return on Assets (ROA). ROA is the measurement of financial performance that is most often used in the literature because this ratio measures profitability related to the number of assets used (Rose, 2016).

Return on Assets (ROA) is expressed by the formula:

$$ROA = \frac{\text{Net Income}}{\text{Total Asset}} \quad (4)$$

The population in this study includes all state-owned companies listed on the Indonesia Stock Exchange 2020 - 2021, which includes a total of 20 companies. Samples were obtained by purposive sampling technique. The criteria used are state-owned enterprises listed on 20 stocks that are included in the calculation of the SOE 20 IDX index on the Indonesia Stock Exchange. The final sample used in this study is 40 annual reports of state-owned companies listed on the Indonesia Stock Exchange 2020 - 2021.

The data collection method in this study uses secondary data taken from the annual reports of state-owned companies listed on the Indonesia Stock Exchange in 2020-2021. The secondary data collected was obtained from the website [www.idx.co.id](http://www.idx.co.id) and the sites of each sample company.

The multiple regression equation for hypothesis testing in this study is:

$$FV = \alpha_0 + \beta_1 ERMD + \beta_2 LEV + \beta_3 PROFIT + \varepsilon$$

Where:

FV	: Firm Value
ERMD	: Enterprise Risk Management Disclosure,
LEV	: Leverage,
PROFIT	: Profitability
$\alpha_0$	: constant,
$\beta_1 \dots \beta_3$	: regression coefficient, and
$\varepsilon$	: error term.

## 4. Result and Discussion

### Data Description

Overall, there are 40 observation data on the annual report of state-owned enterprises in Indonesia for 2020-2021. Table 1 below describes the descriptive statistics of the research variables. Information on the descriptive statistics includes minimum, maximum, mean, and standard deviation values.

**Table 1 Descriptive Statistics**

Independent Variable	Min	Max	Mean	Std. Deviation
ERM Disclosure	0.7600	0.8800	0.8040	0.0502
Leverage	0,4060	0,8904	0,7221	0,1608
Profitability	-0,0346	0,0508	0,0100	0,0191
Firm Value	0,7722	2,2478	1,2200	0,4362
Valid N (listwise)	40			

Source: Processed secondary data

Table 1 shows the average firm value of state-owned companies in Indonesia of 1.2200 with a maximum value of 2.2478 and a minimum of 07722. Descriptive statistics of the independent variables: the average ERM disclosure is 0.8040, while the control variable for the average leverage is 0.7221, and the average profitability of 0.0100.

### Multiple Regression Analysis.

The results of multiple regression after the classical assumption test is fulfilled can be seen as follows. Table 2 shows that the value of R Square (R<sup>2</sup>) is 26.90% and Adjusted R Square (Adjusted R<sup>2</sup>) is 20.80%. Based on the Adjusted value (R<sup>2</sup>), it can be concluded that as much as 20.80% of the firm's value can be explained by independent variables, and the remaining 79.20% is explained by other factors outside the model.

The table shows the calculated F value of 4.407 with a probability of 0.010 (p-value < 0.050). Because the F value is greater than 4,000 and the probability is less than 0.050, then this regression model shows the Goodness of Fit Model so that the regression model can be used to predict firm value.

**Table 2 Multiple Regression Results**

Variable	Coefficient	t	p-value
(Constant)	-30394,998	-2,500	0,017
ERM Disclosure	4,672	3,491	0,001***
Leverage	0,749	1,798	0,081
Profitability	-3,751	-1,143	0,260
R-Square	0,286		
Adjusted R-Square	0,226		
F	4,805		
Sig	0,006		

Notes: Significance at: \*0,10, \*\*0,05, and \*\*\*0,01 levels.

The variable that has a significant effect on firm value is the disclosure of enterprise risk management at a significance level of 0.01, while the control variables, namely leverage and profitability, do not affect firm value.

The disclosure of enterprise risk management ( $p$ -value = 0.001 and coefficient = 4.672) indicates that the disclosure of enterprise risk management has a significant positive effect on firm value. These results support the signaling theory proposed by Brigham and Houston (2009) where the company will try to provide instructions to investors on how management views the company's prospects in the future. This can be seen in the ERM disclosures contained in the annual report which shows the form of the company's commitment and management towards risk management which the market responds to positively. The results of this study are in line with the results of several previous studies conducted by Dinoyu and Septiani (2020), Iswajuni et al. (2018), Ismail and Wijaya (2021), and Baxter et al. (2013) regarding the positive effect of ERM disclosure on firm value which in this study was measured through Tobin's Q.

## 5. Conclusions and Suggestions

The results of this study strengthen the statement of signaling theory by proving that there is a significant positive effect between ERM disclosure on firm value as measured by Tobin's Q. The implementation of ERM disclosed by the company in the annual report acts as a corporate signal for investors which is finally responded to in the capital market with an increase to the measurement of Tobin's Q. This study adds to the findings regarding the effect of ERM disclosure on firm value as well as a view of the importance of the overall integration of risk management in corporate governance, especially in state-owned companies in Indonesia.

This study has limitations where this study relies on the disclosures contained by the company in the annual report. While it is rational to expect that companies with advanced ERM systems will be able to signal the state of the market, disclosures may be incomplete and sometimes not very clear.

The suggestion for further research is to measure the ERM disclosure variable using primary data in the form of questionnaires and interviews to find out in more detail about ERM practices in a company so that it can compare with disclosures in the annual report.

## 6. References

- Miihkinen, A. (2012, December). What Drives Quality of Firm Risk Disclosure?: The Impact of a National Disclosure Standard and Reporting Incentives Under IFRS. *The International Journal of Accounting*, 47(4), 437-468  
<https://doi.org/10.1016%2Fj.intacc.2012.10.005>.
- Lajili, K., & Zeghal, D. (2005). A Content Analysis of Risk Management Disclosures in Canadian Annual Reports. *Canadian Journal of Administrative Sciences*, 22(2), 125-142. <https://doi.org/10.1111%2Fj.1936-4490.2005.tb00714.x>
- Cole, C., & Jones, C. (2005). Management Discussion and Analysis: A Review and Implications. *Journal of Accounting Literature*, 24, 135-174.
- Solomon, J., Solomon, A., Norton, S., & Joseph, N. (2000). A Conceptual Framework for Corporate Risk Disclosure Emerging from the Agenda for Corporate



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- Governance Reform. *British Accounting Review*, 32(4), 447-478. <https://doi.org/10.1006%2Fbare.2000.0145>
- Dinoyu, M. F., & Septiani, A. (2020). Analysis of the Effect of Enterprise Risk Management Implementation on Company Performance and Value. *Diponegoro Journal Of Accounting*, 9 (4), 1-11.
- Iswajuni, Soetedjo, S., & Manasikana, A. (2018). The Influence of Enterprise Risk Management (Erm) on Company Value in Manufacturing Companies Listed on the Stock Exchange. *Journal Of Applied Managerial Accounting*, 2 (2), 275-281.
- Anggreni, N.K.A., Suprasto, H. B., Ariyanto, D., dan Suaryana, I.G.N.A. (2021). Disclosure of Enterprise Risk Management and Company Value: The Moderating Role of Age and Company Size. *E-Jurnal Akuntansi*, 31(11), 2867-2881.
- Ismail, N., & Wijaya, C. (2021). The Effect of Enterprise Risk Management (ERM) on Firm Value (Case Study of BUMN Companies Listed on the Indonesia Stock Exchange (IDX) for the Period of 2015-2019). *International Journal of Science and Research*, 10 (7), 82-86.
- Devi, S., Budiasih, I. G. N., & Badera, I. D. N. (2017). The Effect of Disclosure of Enterprise Risk Management and Disclosure of Intellectual Capital on Company Value. *Jurnal Akuntansi Dan Keuangan Indonesia*, 14(1), 20–45. <https://doi.org/10.21002/jaki.2017.02>
- Pamungkas, A. (2019). Effect of Enterprise Risk Management (COSO) Implementation on Company Value: Empirical Study on Manufacturing Companies Listed on the IDX. *Jurnal Akuntansi Maranatha*, 11(1), 12 – 21.
- Pamungkas, A.S., & Maryati, S. (2017). The Influence of Enterprise Risk Management Disclosure, Intellectual Capital Disclosure and Debt To Asset Ratio on Firm Value. *Proceedings of Semnas IIB Darmajaya Research Institute, Learning Development & Community Service*, October 25, 2017
- Rivandi, M. (2018). The Influence of Enterprise Risk Management Disclosure and Corporate Governance on Company Value. *Jurnal Benefita* 3(2), 137-148.
- Aditya, O., & Naomi, P. (2017). Implementation of Corporate Risk Management and Corporate Value in the Construction and Property Sector. *Esensi: Jurnal Bisnis dan Manajemen*, 7 (2), 167 – 180.
- Fadilah, R., & Afriyenti, M. (2020). The Influence of Intellectual Capital, Tax Planning, and Disclosure of Enterprise Risk Management on Firm Value. *Wahana Riset Akuntansi* , 8 (1), 82-94.
- Brigham, E. F., & Houston, J. F. (2009). *Fundamentals of Financial Management: Twelfth Edition (12th ed.)*. Cengage Learning.
- Verrecchia, R. E. (1983). Discretionary disclosure. *Journal of Accounting and Economics*, 5, 179–194. [https://doi.org/10.1016/0165-4101\(83\)90011-3](https://doi.org/10.1016/0165-4101(83)90011-3)
- Gitman, L. J. (2009). *Principles of Managerial Finance (12th ed.)*. Pearson Prentice Hall.

The 4<sup>th</sup> International Conference Opportunities and Challenges after the Pandemic Era a Reflection to Post Covid 19 Recovery Efforts (The 4<sup>th</sup> ICTESS 2022)

- Linsley, P., & Shrivs, P. (2006). Risk Reporting: A Study of Risk Disclosures in the Annual Reports of UK Companies. *The British Accounting Review*, 38(4), 387-404. <https://doi.org/10.1016%2Fj.bar.2006.05.002>
- Cabedo, J., & Tirado, J. (2004). The Disclosure of Risk in Financial Statements. *Accounting Forum*, 28(2), 181-200. <https://doi.org/10.1016%2Fj.accfor.2003.10.002>
- ISO31000. (2018). BS ISO 31000: 2018 BSI Standards Publication Risk management — Guidelines. BSI Standards Publication. Retrieved from <https://www.ashnasecure.com/uploads/standards/BS ISO 31000-2018.pdf>
- Schiller, F., & Prpich, G. (2014). Learning to organize risk management in organizations: What future for enterprise risk management? *Journal of Risk Research*, 17(8), 999–1017. <https://doi.org/10.1080/13669877.2013.841725>
- Baxter, R., Bedard, J. C., Hoitash, R., & Yezegel, A. (2013). Enterprise Risk Management Program Quality: Determinants, Value Relevance, and the Financial Crisis. *Contemporary Accounting Research*, 30(4), 1264–1295. <https://doi.org/10.1111/j.1911-3846.2012.01194.x>
- Hoyt, R. E., & Liebenberg, A. P. (2011). The Value of Enterprise Risk Management. *Journal of Risk and Insurance*, 78(4), 795–822. <https://doi.org/10.1111/j.1539-6975.2011.01413.x>
- Beasley, M., Pagach, D., & Warr, R. (2008). Information Conveyed in Hiring Announcements of Senior Executives Overseeing Enterprise-Wide Risk Management Processes. *Journal of Accounting, Auditing & Finance*, 23(3), 311–332. <https://doi.org/10.1177/0148558X0802300303>
- Meulbroek, L. K. (2002). A Senior Manager's Guide to Integrated Risk Management. *Journal of Applied Corporate Finance*, 14(4), 56–70. <https://doi.org/10.1111/j.1745-6622.2002.tb00449.x>
- Florio, C., & Leoni, G. (2017). Enterprise risk management and firm performance: The Italian case. *British Accounting Review*, 49(1), 56–74. <https://doi.org/10.1016/j.bar.2016.08.003>
- Nurlela, R., & Islahuddin. (2008). The Influence of Corporate Social Responsibility on Company Value with Management Ownership Percentage as Moderating Variable. XI National Accounting Symposium, Pontianak.
- Sukamulja, S. (2004). Good Corporate Governance in the Financial Sector: The Impact of GCG on Company Performance. *Benefits: Jurnal Manajemen dan Bisnis*, 8 (1), 1-25.
- Lindenberg, E. B, & Ross, S. A. (1981). Tobin's Q Ratio and Industrial Organization. *Journal of Business*. 54 (1), 1-32.
- Chung, K. H. & Pruitt, S. W. (1994). A Simple Approximation of Tobin's Q. *Financial Management*, 23 (3), 70-74.

The 4<sup>th</sup> International Conference Opportunities and Challenges after the Pandemic Era a Reflection to Post Covid 19 Recovery Efforts (The 4<sup>th</sup> ICTESS 2022)

- Sulistyaningsih, & Gunawan, B. (2016). Analysis of Factors Affecting Risk Management Disclosure. *Riset Akuntansi Dan Keuangan Indonesia*, 1(1), 1–11.
- Yogi, U., & Chariri, A ( 2014). “Determinants of Risk Disclosure in Non-financial Companies in Indonesia.” *Diponegoro Journal of Accounting* 3(3): 1–14.
- Rose, C. (2016). Firm Performance and Comply or Explain Disclosure in Corporate Governance. *European Management Journal*, 34(3), 202-222. <https://doi.org/10.1016%2Fj.emj.2016.03.003>