



## Enterprise Risk Management Disclosure and Investment Efficiency: A Moderation Role Of CEO Power

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### Abstract

*This study aims to provide empirical evidence regarding enterprise risk management disclosure's effect on investment efficiency and also the moderation role of CEO power on enterprise risk management disclosure's effect on investment efficiency. This is quantitative research. Investment efficiency is measured as deviations from expected investment using a model that predicts investment as a function of growth opportunities, while enterprise risk management disclosure is measured through the risk management disclosure index carried out by the company, and CEO power is measured by the CEO Power Index. The data source is annual report of a public company, and the sample is a company listing at Index LQ 45. The research results show that enterprise risk management disclosure has a positive effect on investment efficiency, but CEO power cannot moderate enterprise risk management disclosure's effect on investment efficiency. Based on the result, CEO Power as a predictor variable has a positive effect on investment efficiency. This research contributes to the agency theory that reducing information asymmetry can increase investment efficiency by providing broader ERM disclosures and greater CEO power.*

**Keywords: Enterprise Risk Management, Investment Efficiency, CEO Power, Agency Theory**





## 1. INTRODUCTION

Investment is a company's decision to utilize the capital it has to gain profits in the future. Investment plays an important role in driving economic growth and employment in Indonesia. Investments can be made through purchasing productive assets, setting up factories, opening mines, opening plantations, and others (Gao & Yu, 2020). By investment, companies can create new jobs and improve the economy around them.

Investment decisions taken by the company must be on target so that efficiency can be achieved. Investment is said to be efficient if it avoids overinvestment or underinvestment conditions (Sari & Suaryana, 2014). Companies with high levels of leverage will tend to experience underinvestment. Prasetyo's research (Prasetyo & Suryono, 2016) states that excess capital in companies with slow growth rates is the cause of excessive investment problems.

The efficiency of a company's investment can be measured by a research model by Biddle et al., (2009), which estimates the level of investment that a company expects in the year of observation based on opportunities for sales growth rates. Sales growth reflects the successful manifestation of investment in the past period, which can be used as a predictor for future sales growth.

According to Moradi et al., (2022), investment efficiency increases the growth and survival of firms and projects even in times of crisis and fierce competition by guaranteeing that investors and enterprises will obtain the anticipated returns on their capital outlay. For businesses to optimize value and ensure their survival and growth, the firm's investment decisions are essential (Salehi et al., 2022).

During the COVID-19 pandemic, companies had to think about how to make efficient investment decisions. In the midst of declining economic conditions, it is necessary for companies to manage their finances based on priorities but also not rule out the possibility of investing amid opportunities for an economic downturn in order to obtain greater benefits in the future.

Risk is an integral part of business and is inherent in company activities that cannot be avoided. Internal control is needed, such as risk management (Horvey & Ankamah, 2020). Management can exercise control over the risks that will be faced in every development of the company and play a role in maintaining its stability. Effective risk management can help the growth and survival of the company. Furthermore, risk management is part of the overall





business strategy and is intended to contribute to protecting and increasing shareholder value (Hoyt & Liebenberg, 2011).

The application of risk management is expected to increase investment efficiency. Various investment decisions are made through good control and also have a positive impact on the company. Implementation of a risk management system will improve company performance (Hoyt & Liebenberg, 2011).

Li et al., (2019) argues that disclosing risk information increases the efficiency of corporate investment by reducing information asymmetry and agency problems between investors and companies. Disclosure of specific risks affects the investment efficiency of companies in two ways: by providing overall risk information and by disclosing specific risk factors that were not previously known.

In the context of agency theory, investment efficiency can also be influenced by CEO Power. High authorization by the CEO will benefit the development of trust and cooperation and promote the development of the company. With good instincts of trust and cooperation, CEOs can make better decisions, including wiser investment decisions, thus making investments more efficient (Yang & Liu, 2017).

The majority of research on risk management in Indonesia focuses on the factors that influence risk management disclosures. The lack of research references regarding the effect of risk management disclosure on the efficiency of investments made by companies in Indonesia makes this research feasible. CEO power may also play a role in shaping this relationship. To add to the benefits of this research, this study also adds a moderating variable namely CEO Power to see its role in investment efficiency, which is influenced by risk management disclosures. Both dependent variable are framed in agency theory.

This study answered two research questions which are: (1) What is the impact of enterprise risk management disclosure on investment efficiency? (2) Is CEO Power able to moderate the effect of enterprise risk management disclosure on investment efficiency?. In line with the research questions, two research objectives were answered. The two research objectives are: 1. To determine the impact of enterprise risk management disclosure on investment efficiency. (2) To determine the moderating role of CEO Power on the effect of enterprise risk management disclosure on investment efficiency. Structure of this study includes introduction, literature review, research methodology, results, discussion and conclusion. Next section presents literature review.





## 2. LITERATURE REVIEW

### 2.1 Investment Efficiency

Investment activity is the company's effort to develop and maximize the value of the company. The investment made by the company is expected to be an efficient investment. In order to get efficient results, investments made by companies must consider two factors (Jannah & Rahmawati, 2020). The first factor is that when funding an investment opportunity in a future project, a company should increase its current venture capital with the aim of avoiding financial constraints when an investment opportunity arises. The second factor is that when the company has planned to increase business capital to invest, the investment made does not guarantee it will be efficient. This happens because information asymmetry causes different perceptions between investors and company managers (Biddle et al., 2009; Purba & Suaryana, 2018). Managers who know more company information try to choose investments for a project that benefit themselves and ignore the interests of investors (Jensen & Meckling, 1976), causing investment to be inefficient.

Efficient investment is an investment that is not overinvestment or underinvestment. There is a condition of overinvestment if the company invests excessively and exceeds the predetermined target, while there is a condition of underinvestment or lack of investment if the company does not carry out all projects that are known to provide benefits for the company. Investment efficiency relates to the company's sales and investment growth (Nathaniel & Butar, 2019). In addition, overinvestment conditions occur when investment in a project causes the company to experience losses, namely when the NPV is negative (Biddle et al., 2009), and vice versa.

According to agency theory, both overinvestment and underinvestment can be explained by the presence of asymmetric information between stakeholders (Nathaniel & Butar, 2019). Asymmetric information can be overcome with agency theory.

### 2.2 Enterprise Risk Management Disclosure

Risk can be defined as the probability of an event occurring and its consequences. Risks can occur in all aspects of business and daily life (Gonidakis et al., 2020). There will always be risks in business. Risks can be in the form of business and market risks, operational risks, financial risks, etc.

Developed and developing countries are paying attention to risk prevention with the aim of acquiring the capability to ensure adequate performance and protection against





market risks and uncertainties, as well as creating suitable conditions for effective risk management. Risk management means applying skills, knowledge, tools, and techniques to a project that can reduce threats to an acceptable level (Kusumaningrum & Arifin, 2022). by maximizing opportunities. According to (Sulistyaningsih & Gunawan, 2018), the application of good risk management must ensure that the organization is able to provide good and proper treatment of the risks that will affect it.

Risks disclosure is commonly accepted as a business advantage, is not only limited to information between executives and shareholders but also increases shareholder confidence. Campbell et al. (2014) stated that risk announcements by company management indicate that companies invest within a reasonable scope. The disclosed risks update the company's risk condition as well as reveal unknown risk factors, which increases the provision of public information.

It also shows the confidence of managers in managing risk, which increases investors' understanding of the company and reduces management opportunism in investing by prioritizing oversight of investment behavior. Second, more risk disclosures reflect the prudential attitude of management. When considering an environment of high risk and uncertainty, managers will prefer superior projects over inferior ones and be encouraged to make optimal investment decisions, which effectively moderates agency problems between controlling shareholders and minority shareholders. Third, risk disclosure is beneficial for investors to realize the volatility of future earnings; therefore, it can reduce the compensation required for risk and result in a more appropriate price. In addition, disclosure of high-quality information can reduce the cost of external capital, and the demand for excess capital suppresses overinvestment and reduces underinvestment, which increases investment efficiency (Campbell et al., 2014).

There are minimal references to the effect of risk disclosure on investment efficiency in Indonesia. Disclosure of risk is considered to affect investment efficiency through information transparency and disclosing risk factors.

### 2.3 CEO Power

Chief Executive Officer (CEO) is the highest administrative officer responsible for routine business within a corporation. It may also be called the administrative president, general manager, or chief executive. As a company manager, every CEO decision has a





relationship with the fate of the company. In line with Javeed et al. (2021), a powerful CEO is one of the most predominant aspects of the corporate governance system of organizations.

The size of the CEO's power has a major impact on CEO decision-making and the interests of stakeholders (Yang & Liu, 2017). Under market economic conditions, CEO Power influences business and economic development.

CEO Power has a negative effect on investment efficiency (Majeed & Ullah, 2022). The results of this study support the argument that greater CEO Power causes adverse selection and moral hazard in agency problems, which ultimately lead to inefficient investment decisions. Instead, strong CEOs make decisions more quickly, which prompts appropriate reactions to difficulties or unanticipated changes in the external environment (Tarus, 2023).

Informational transparency is higher when powerful CEOs are established and don't face as many dangers to their careers (Jiraporn et al., 2014). In the end, less knowledge asymmetry and prompt decision-making might lead to higher investment efficiency. Therefore, strong CEOs can make efficient or inefficient investment decisions. According to (Tarus, 2023) CEO Power significantly moderated the relationship between board interlock and the investment efficiency. This study is motivated by the unusual capacity of CEO power to affect investment efficiency in both directions.

## 2.4 Agency Theory

This study uses agency theory (Jensen and Meckling, 1976) as a basis for explaining the effect of enterprise risk management disclosures on investment efficiency. Agency theory explains the proper contract between principal and agent when there is a conflict of interest to reach the best agreement due to the separation of ownership and management (Fakhriyyah & Mawardi, 2020). Agency theory discusses agency problems that often occur in a company. Agency problems can occur due to information asymmetry (Fakhriyyah & Hidayati, 2021).

The existence of information asymmetry between owners and management can lead to adverse selection and moral hazard. This means that the company's management knows all of the company's information but only discloses some of it to owners or investors. In addition, to maximize personal utility, company management will choose investment opportunities with small risks rather than investment opportunities with large risks (Saputra & Wardhani, 2017). This causes agency costs to be incurred by investors to control deviant behavior by managers (Jannah and Rahmawati, 2020).





To overcome the problem of information asymmetry, it can be done by disclosing some information. One of the useful pieces of information for overcoming the problem of information asymmetry is regarding company risk information.

The problem of information asymmetry can also be linked to CEO Power (Majeed & Ullah, 2022), which states that greater CEO Power causes adverse selection and moral hazard in agency problems, which ultimately lead to inefficient investment decisions. In the other hand, (Javeed et al. (2021), a powerful CEO is one of the most predominant aspects of the corporate governance system of organizations, which is one of agency problem mechanism.

## 2.5 Hypothesis

Li et al., (2019) conducted research on the impact of the risk disclosure index on the efficiency of company investment in China and found that the higher the frequency of risk disclosure in the "Significant Risk Factors and Management Discussion & Analysis" section, the higher the company's investment efficiency. Siregar & Amalia (2020) conducted research on risk management and investment efficiency in BUMN companies in Indonesia, showing that the application of risk management in BUMN has a significant effect on investment efficiency. Research by Sulistyawati & Suryani (2022) shows that risk disclosure has a positive effect on the company's operational efficiency.

(Majeed & Ullah, 2022) CEO Power has a negative effect on investment efficiency, and (Yang & Liu, 2017) revealed that CEO Power has a positive effect on investment efficiency. In addition, there is also evidence that CEO Power, in the form of a CEO with a longer tenure, has an effect on enterprise risk management.

From this description, the research hypothesis is

H1: Enterprise risk management disclosure affects investment efficiency

H2: CEO Power can moderate the effect of risk management disclosure on investment efficiency

## 3. RESEARCH METHOD

### 3.1 Research Approach





This research is a quantitative study with an explanatory approach that explains the effect of risk management disclosures on investment efficiency and moderating effect on risk management disclosures on investment efficiency. The data collection method is documentation.

### 3.2 Population and Sample

The research population includes companies listed on the Indonesia Stock Exchange in 2019–2021. The research sample is a company with an LQ 45 index. The sample was selected using purposive sampling.

The type of research data is secondary data. The data used is the company's annual report, which can be obtained from the Indonesia Stock Exchange's website, namely [www.idx.co.id](http://www.idx.co.id).

### 3.3 Definition of Operational Variabel

The dependent variable is investment efficiency that measures investment efficiency as deviations from expected investment using a model that predicts investment as a function of growth opportunities based on Jannah & Rahmawati (2020), Chen et al., (2011), Biddle et al., (2009). The formulation is:

$$Invest_{i,t} = a + b_1.grow_{i,t-1} + e_{i,t}$$

Description

$INVES_{i,t}$  : new investment in fixed assets minus sales of fixed assets

$GROW_{i,t-1}$  : changes of company's sales i in year t-1

The measurement model will be estimated cross-sectionally with the aim of obtaining a residual value that reflects the value of investment inefficiency. The dependent variable is Enterprise Risk Management (ERM) Disclosure based on ISO31000:2018. ERM assessment is measured by dummy variables and uses a dichotomous approach. If the ERM item is disclosed, it will be given a value of 1, and if not, then a value of 0. The disclosure index is calculated by:

$$ERM = \frac{\text{disclosure item}}{\text{Numbers of items in the ERM disclosure index}}$$





The moderator variabel is CEO Power, which is an index of organizational power, expert power, ownership power, and reputation power (Yang & Liu, 2017). Value of CEO power (CEO Power) can be measured by calculating the average value of these 4 main dimensions after the values of the 4 main dimensions are acquired. The greater the value is, the greater the CEO power is.

**Table 1. Measuring Dimension and Indexes CEO Power**

Dimensions	Indexes	Meaning of Indexes
Organizational power	Dual	Chairman as part time job (yes: 1, No: 0)
	Insider director	Insider director (yes: 1, No: 0)
Expert power	Rank	Senior profesional title (yes: 1, No: 0)
Ownership power	CEO share	Hold equity own company(yes: 1, No: 0)
Reputation power	Education	High academic qualification (yes: 1, No: 0)
	Part time job	Part time job of other company (yes: 1, No: 0)

Source: Yang & Liu (2017)

This study also uses control variables in order to obtain a better empirical model, namely firm size (the natural logarithm of total assets).

### 3.4 Data Analysis Method

The data analysis method used in this study consisted of descriptive analysis, classical assumption testing, and regression analysis. The hypothesis testing method use moderation regression analysis by hierarchical regression analysis (Hartono, 2014:175).

There are criteria for the type of moderation that may later be formed in this study. According to the research of Sharma, et.,al (1981) there are four types of moderating variables, which are shown in table 2 below:



**Table 2. Classification of Moderation Variable Types**

Types of Moderation Variable	Criteria
Antecedent, Exogen, Mediation, Predictor	If in equation 2, the moderating variable is significant
	If in equation 3, the interaction variable is not significant
<i>Homologizer</i>	If in equation 2, the moderating variable is not significant
	If in equation 2, the moderating variable is not significant
<i>Quasi</i>	If in equation 2, the moderating variable is significant
	If in equation 3, the interaction variable is significant
<i>Pure</i>	If in equation 2, the moderating variable is not significant
	If in equation 3, the interaction variable is significant

Source: Sharma, *et al.* (1981)

#### 4. RESEARCH RESULTS

##### 4.1 Hypothesis Testing Analysis

The hypothesis testing model based on the regression analysis used in this study has passed the classical assumptions test. Hypothesis testing analysis based on hierarchical regression analysis (moderation regression analysis).

**Table 3. Hierarchical Regression Analysis Results**

Description	Variable	Coefficient	Significance	R <sup>2</sup>	Sig. F change
Equation 1 (Hypothesis 1)	Constanta	27.039	.000	.200	.000
	ERM	.296	.012		
	Size	.047	.001		
Equation 2 (Hypothesis 2)	Constanta	26.837	.000	.264	.008
	ERM	.301	.008		
	Size	.047	.000		
	CEO Power	.047	.008		
Equation 3 (Hypothesis 2)	Constanta	27.507	.000	.282	.153
	ERM	-.533	.368		
	Size	.045	.001		
	CEO Power	-.083	.369		

	ERM*CEO power	.180	.153		
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Based on the table above, the regression equation is obtained as follows:

$$Investment\ Efficiency = 27,039 + 0,296\ ERM + 0,047\ SIZE + \epsilon$$

$$Investment\ Efficiency = 26,837 + 0,301\ ERM + 0,047\ CEO\ Power + 0,047\ SIZE + \epsilon$$

$$Investment\ Efficiency = 27,507 - 0,533\ ERM - 0,083\ CEO\ Power + 0,180\ ERM*CEO\ Power + 0,045\ SIZE + \epsilon$$

**Table 4. Recapitulation of Hypothesis testing**

Hypothesis	Notation	Coefficient	Significance	Description
H1	ERM → IE	0,296	0,012	Accepted
H2	ERM*CEOPower → IE	0,180	0,153	Rejected

Decision-making is accepted or not the research hypothesis, as seen from the significance value of the t test with significant value 5%. Based on table 3 in regression model 1 , enterprise risk management disclosure (ERM) has a significance value of 0.012 (<0.05) with a regression coefficient of 0,296, so that hypothesis 1 is accepted which means that enterprise risk management disclosure has a positive effect on investment efficiency. The higher the ERM, the more it can increase investment efficiency.

Testing hypothesis 2, which states that CEO Power moderates the effect of ERM on investment efficiency, is carried out by looking at the significance value of t and the regression coefficient in regression models 2 and 3. Based on table 3 in regression model 2, the significance of the CEO Power variable is 0,008 (<0,05) and the regression coefficient is 0,047. The test results show that CEO Power variable have a positive effect on investment efficiency. The next test is the CEO Power variable which interacts with the ERM variable. Based on the results of testing the regression model 3 in Table 3, the regression coefficient for the interaction variable (CEO power x ERM) is 0,153 and the regression coefficient is 0,180, which means that the CEO Power cannot moderates the effect of ERM on investment efficiency, therefore reject hypothesis 2. The recapitulation of hypothesis testing can see at table 4.





Based on (Sharma et al., 1981) and Sugiono (2004), regarding the classification of moderator variables, CEO Power in this study is not a moderator variable, but is categorized as a predictor (independent), mediating, exogenous, and or antecedent variable.

## 5. DISCUSSION

### 5.1 The Effect of Enterprise Risk Management Disclosure on Investment Efficiency

Hypothesis one states that ERM has an effect on investment efficiency. The test results show that the first hypothesis is accepted. The results of this study are in line with research of (Li et al., 2019) which states that the higher of the frequency of risk disclosure in the "Significant Risk Factors and Management Discussion & Analysis" section, the higher the company's investment efficiency. And also in line with research of Siregar & Amalia (2020) which show that the application of risk management in State Own Enterprise (SOE) has a significant effect on investment efficiency.

The disclosure of enterprise risk management assessed in this study is in the form of leadership and commitment, integration of risk management, design of risk management, design of risk management policies, implementation of risk management, evaluation, and improvement of risk management. The more a company does to manage risk appropriately and the more it discloses, the more useful information it will provide to stakeholders. Disclosure of company risk management is part of the solution to the agency problem. (Campbell et al., 2014) stated that risk announcements by company management indicate that the company is investing within a reasonable scope. The disclosed risks update the company's risk condition as well as reveal unknown risk factors, which increases the provision of public information. The more risk disclosures, the more prudent the attitude of management. When considering an environment of high risk and uncertainty, managers will prefer superior projects over inferior ones and be encouraged to make optimal investment decisions, which effectively moderates agency problems between controlling shareholders and minority shareholders. Therefore, the higher the ERM disclosure, the more efficient the investment made by the company will be.

### 5.2 The role of CEO Power in moderating Enterprise Risk Management Disclosure's Influence on Investment Efficiency





Hypothesis 2 states that CEO Power is able to moderate the effect of ERM disclosure on investment efficiency. The test results show that the hypothesis is rejected, which means that CEO Power is unable to moderate the effect of ERM on investment efficiency. However, based on the test results in equations 2 and 3, it shows that CEO Power is a predictor (independent), mediating, exogenous, and/or antecedent variable.

CEO power, which is assessed through organizational power, expertise, ownership power, and reputation, can only be a predictor variable that can improve investment efficiency. The greater the CEO's Power, the more efficient the investment made by the company. This is due to the fact that The size of the CEO's power has a major impact on CEO decision-making and the interests of stakeholders (Yang & Liu, 2017); based on this, the greater the CEO's power is, the higher the investment efficiency will be.

CEO power is not able to moderate the effect of ERM disclosure on investment efficiency, possibly because ERM disclosure is not only decided by the CEO but also by various parties in the company's management. Even now, there is already a Risk Management Committee in every company whose job it is to implement and disclose ERM, so ERM disclosure decisions are also mostly made by the Risk Management Committee. In addition, the determinants of ERM disclosure are also influenced by the size of the board of commissioners, risk management committee, auditor reputation, company size, and independent commissioners (Tarantika & Solikhah, 2019), (Gunawan, 2020). Meanwhile, the determinants of investment efficiency are determined by the board's financial expertise and board interlock (Tarus, 2023). Therefore, CEO Power was unable to moderate ERM disclosure on investment efficiency.

## 6. CONCLUSION

This study examines the effect of Enterprise Risk Management Disclosure on Investment Efficiency, and the moderation effect of CEO Power on Enterprise Risk Management Disclosure's effect on Investment Efficiency. The results are ERM disclosure have a positive effect on investment efficiency. CEO power is not able to moderate the effect of ERM disclosure on investment efficiency, but CEO power as a predictor variable have a positive effect on investment efficiency.

The results of this study contribute to agency theory that reducing information asymmetry can increase investment efficiency by providing broader ERM disclosures and greater CEO power.





This study has the limitation that it is only conducted on companies listed in the LQ 45 Index as a sample. Therefore, further research can be carried out on a wider sample so that it can be more generalized. In addition, the CEO Power variable in this study was not proven to be moderating but was categorized as a predictor (independent), mediating, exogenous, and/or antecedent variable, thus, there is potential for future research to test whether the CEO Power variable can mediate the relationship between ERM disclosure on investment efficiency. This study also produced a relatively small coefficient of determination, namely 28%, so it is necessary to look for other independent variables which are predicted to affect investment efficiency.

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