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DETERMINANTS OF FIRM VALUE WITH FINANCIAL DISTRESS AND RISK MANAGEMENT AS MODERATING FACTORS IN CONSTRUCTION COMPANIES IN EAST KALIMANTAN

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Abstract. This study aims to analyze the determinants of firm value in the construction sector, considering the role of financial distress and risk management as moderating variables. Firm value is an important indicator in assessing company performance and sustainability, especially in the construction industry, which is vulnerable to economic uncertainty and project fluctuations. This study uses a quantitative approach using secondary data from construction companies listed on the Indonesia Stock Exchange. The analysis was conducted using the Structural Equation Modeling (SEM) method to examine the relationship between variables. The results show that financial distress has a significant influence on the decline in firm value. However, the implementation of effective risk management can mitigate the negative impact of financial distress on firm value. These findings confirm that risk management plays a strategic role in maintaining the stability of firm value amidst financial pressure. This research provides theoretical contributions to the literature on firm value and financial distress, as well as practical implications for construction company management in designing risk mitigation strategies to improve company performance and sustainability.

I. Introduction

Firm value is a key indicator for assessing the financial performance and sustainability of a business entity, particularly in high-risk sectors such as the construction industry. Firm value not only reflects a company's fundamental condition but also serves as a signal for investors in making investment decisions. In the construction industry, project volatility, dependence on external funding, and dynamic government policies make firm value highly vulnerable to financial pressures. Therefore, understanding the factors influencing firm value is crucial, particularly in conditions of increasingly complex economic uncertainty.

One factor that significantly impacts firm value is financial distress. Financial distress reflects a company's inability to meet its financial obligations, which can ultimately erode investor confidence and negatively impact the company's market value. In the construction sector, the risk of financial distress tends to be higher due to the long-term nature of projects, the use of high leverage, and the potential for late payments from the employer. In East Kalimantan, a hub for strategic national infrastructure development, including the Indonesian Capital City (IKN) project, pressure on construction companies is becoming increasingly complex due to high performance demands and substantial capital requirements.

However, the relationship between financial distress and firm value is not always linear and deterministic. From a modern financial management perspective, the existence of risk mitigation mechanisms is a crucial factor influencing the strength of this relationship. Risk management serves as a strategic instrument for identifying, measuring, and controlling various risks faced by a company. Effective implementation of risk management enables companies to minimize the negative impact of financial distress, thereby maintaining the stability of the company's value. In other words, risk management has the potential to function as a moderating variable, weakening the negative influence of financial distress on firm value.

Theoretically, this research is rooted in a combination of Agency Theory, Signaling Theory, and Risk Management Theory. Agency Theory explains that conflicts of interest between managers and shareholders can exacerbate financial distress if not managed properly. Meanwhile, Signaling Theory asserts that a company's financial condition, including the level of distress, sends signals to the market that influence investors' perceptions of the company's value. On the other hand, Risk Management Theory emphasizes the importance of risk management as a strategic effort to maintain company sustainability and performance amidst uncertainty. Although various studies have examined the relationship between financial distress and firm value, a significant research gap remains, particularly regarding the moderating role of risk management in the construction sector in East Kalimantan. Most previous research. Most studies have focused more on the manufacturing or banking sectors, thus not providing a comprehensive picture of the risk characteristics of the construction industry. Furthermore, research integrating financial distress and risk management into a single empirical model is relatively limited, particularly using quantitative approaches based on SEM or PLS.

Against this background, this study aims to analyze the effect of financial distress on firm value and examine the role of risk management as a moderating variable in construction companies in East Kalimantan. This research is expected to provide theoretical contributions to the development of financial management and risk management literature, as well as practical contributions to construction companies in formulating effective risk management strategies to sustainably increase firm value.

Several phenomena related to firm value are evident in share prices, particularly for state-owned enterprises (SOEs) between 2022 and 2025. The first phenomenon, as reported by Kontan.id in mid-2022, was that several construction companies experienced weakening share prices. This was stated by Alfred Nainggolan, Head of Research at Praus Capital, who explained that several SOEs experienced weakening share prices, leading to many being sold at low prices. The companies in question managed to capture public attention that year, particularly in the construction sector. A subsequent phenomenon in 2023, as reported by cnbcindonesia.com, revealed several state-owned construction companies that were still in the spotlight due to their declining stock performance.

Summary of 5 Construction Companies That Experienced a Decline in Company Value in 2022-2025

State Owned	Sector	Condition	Yard
PT Adhi Karya Tbk	Construction Sector	Decrease 18.99%	2022
PT Waskita Karya Tbk	Construction Sector	Decrease 13.39%	2022
PT Wijaya Karya Tbk	Construction Sector	Decrease 12.90%	2022
PT PP Tbk	Construction Sector	Decrease 9.95%	2022
PT Waskita Karya Tbk	Construction Sector	Decrease 44.51%	2025
PT Adhi Karya Tbk	Construction Sector	Decrease 19.01%	2025
PT PP Tbk	Construction Sector	Decrease 22.22%	2023
PT Wijaya Karya	Construction Sector	Decrease 36.5%	2023

Source: Processed Information (2025)

The increase in fuel prices in recent years has also given rise to a number of new phenomena, particularly in the construction sector. This increase has a significant impact on operational costs and the viability of construction companies, which in turn affects their value. The following are some of the phenomena resulting from the fuel price increase that affect construction material prices, leading to the bankruptcy of several construction companies, and impacting company value:

1. Increased Transportation and Distribution Costs for Construction Materials The fuel price increase directly impacts transportation costs. The cost of shipping construction materials, which largely rely on land or sea transportation, experiences a significant increase. This increase in distribution costs causes the price of construction materials, such as cement, steel, and sand, to rise. In some cases, these price increases cannot be fully passed on by companies to clients, resulting in reduced profit margins

2. Increased Prices of Raw Materials and Construction Materials Fuel plays a crucial role in the production of construction materials such as cement and steel. For example, cement and steel factories use fossil fuels in their production processes. When fuel prices rise, the cost of producing raw materials also increases. This leads to an unavoidable increase in material prices. For construction companies operating with tight profit margins, these price increases can cause difficulties in managing project budgets and even risk project failure.

3. Decreased Liquidity and Increased Financial Risk Many construction companies are facing liquidity challenges as a result of the drastic increase in material prices. These additional costs worsen the company's cash flow, which can lead to difficulties in meeting short-term obligations such as worker salaries, debt payments, and other operational costs. If the company cannot manage its cash flow effectively, this can lead to bankruptcy.

4. Construction Company Bankruptcy In the long term, some construction companies that lack sufficient cash reserves or are unable to adapt their operational strategies to these new market conditions are forced to face bankruptcy. For example, companies that rely heavily on fixed-cost projects and long-term contracts will struggle to adjust contract prices to the ever-increasing material prices. This puts many construction companies, especially those on a small scale, at risk.

II. Literature Review

II.I. Literature Review of Variables

a. Firm Value

Firm value is a measure that reflects the success and stability of a company in the eyes of investors, employees, and other stakeholders. This value is often measured using market approaches, such as stock price or firm value calculated from total market capitalization. The concept of firm value in financial literature relates to a company's ability to generate sustainable profits and provide returns to shareholders.

In this study, firm value will serve as the dependent variable influenced by several external and internal factors, such as financial condition, capital structure, and risk management. Many studies show that firm value can be influenced by various external factors such as market conditions and government policies, as well as internal factors such as capital structure, managerial policies, and the quality of corporate leadership (Jensen & Meckling, 1976).

Firm value reflects investors' perceptions of management's ability to manage assets, measured by Tobin's Q or Price to Book Value (PBV), with stable stock prices as the main indicator. In the construction sector, this value is influenced by fluctuations in IKN projects and external risks such as weather or regulations. Research shows that high company value is related to capital efficiency and operational scale in East Kalimantan, where the number of large companies has shrunk to 35 units by 2024.

b. Financial Distress

Financial distress refers to a difficult financial condition faced by a company, reflected in the inability to meet maturing financial obligations, both in the form of short-term and long-term debt. Financial distress is often characterized by declining profits, insufficient cash flow, and increased debt, leading to bankruptcy (Altman, 1968).

In the context of construction companies, financial distress has a greater impact due to the high dependence on projects that require large financing and long timeframes. Delays in project completion or payments from the employer can worsen the company's financial condition and increase the risk of financial distress. Furthermore, construction companies in financial distress tend to have difficulty accessing new financing to support their operational continuity (Gordon et al., 2007). Several previous studies have shown that financial distress can negatively impact company value, as it increases the perception of risk in the eyes of investors (Lai & Yang, 2017). However, this influence is not always direct and can be influenced by a company's ability to manage risks and the mitigation strategies implemented. Financial distress is defined as the inability to meet short-term obligations, caused by poor debt management and a failure to adapt to the market. In construction companies, distress is triggered by a lack of project risk control and material fluctuations, with the Bontang contractor lawsuit reaching IDR 130.5 billion. The Altman Z-Score is often used for prediction, and is relevant for East Kalimantan's construction sector, which contracted 1.40% (year-on-year) in Q3/2025.

c. Risk Management as a Moderator.

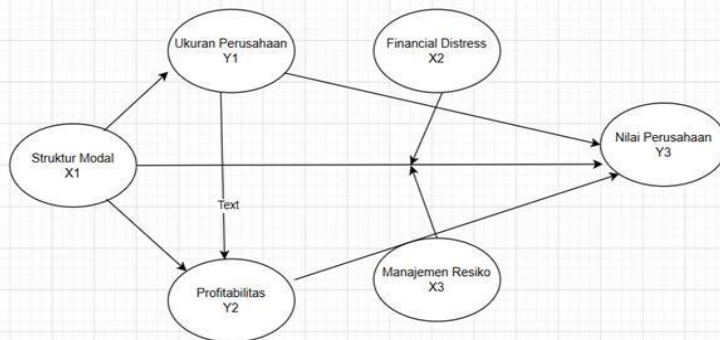
Risk management is a systematic process for identifying, evaluating, and managing risks that could threaten the success of a company's objectives. In the construction sector, companies face a wide variety of risks, ranging from operational risk, project risk, financial risk, to market risk. Therefore, sound risk management is crucial for maintaining company stability and sustainability (Hillson & Murray-Webster, 2017).

Risk management can act as a moderator in the relationship between financial distress and company value. Research shows that companies that implement effective risk management can mitigate the negative impact of financial distress on firm performance and value (Sharma et al., 2019). Good risk management includes thorough strategic planning, prudent cash flow management, and mitigation of project-related and operational risks. This enables companies to survive periods of uncertainty and maintain stable firm value despite facing financial pressures. A study by Mikes & Kaplan (2015) stated that effective risk management empowers companies to cope with uncertainty and adapt to rapid market changes. Therefore, in the context of the construction sector in East Kalimantan, effective risk management can be key to mitigating the negative impact of financial distress, which in turn can improve or maintain firm value.

Risk management moderates the relationship between financial distress and profitability.

II.II. Research Hypothesis

MODEL :



1. H1: Capital structure has a significant positive effect on firm value.
2. H2: Capital structure has a significant positive effect on firm value.
3. H3: Capital structure has a significant positive effect on profitability.
4. H4: Capital structure indirectly has a significant negative effect on firm value through firm growth.
5. H5: Capital structure indirectly has a significant positive effect on firm value through profitability.
6. H6: Firm growth has a significant positive effect on profitability.
7. H7: Firm growth has a significant positive effect on firm value.
8. H8: Firm growth indirectly has a significant positive effect on firm value through profitability.
9. H9: Profitability has a significant positive effect on firm value.
10. H10: Financial distress significantly moderates the effect of firm growth on firm value.
11. H11: Financial distress significantly moderates the effect of capital structure on firm value.
12. H12: Operational risk management significantly positively influences profitability on firm value.
13. H13: Operational risk management significantly positively influences capital structure on firm value.

III. Research Method

The research method used in this dissertation allows for the examination of the complex relationship between financial distress, risk management, and firm value in the construction sector in East Kalimantan. The quantitative approach using SEM provides the advantage of understanding the relationships between variables and examining the moderating role of risk management in depth. With this approach, this research is expected to provide new contributions to the literature on risk management and corporate finance in the construction industry.

III.1. Research Methods Used.

This research uses a quantitative approach with a causal explanatory research design, which aims to examine the causal relationship between the independent variable (financial distress), the moderating variable (risk management), and the dependent variable (firm value). This method allows the researcher to identify and measure the influence and relationships between variables in the context of construction companies in East Kalimantan.

III.2. Empirical Method

The empirical method used in this research is multiple regression analysis using the Structural Equation Modeling (SEM) or Partial Least Squares Structural Equation Modeling (PLS-SEM) approach. SEM is used to test direct and indirect relationships between variables, as well as to examine the moderating role of risk management. The SEM model will be tested using SmartPLS or AMOS software to verify the relationships between variables defined in the research hypotheses.

III.3. Selection Method and Data Collection Procedure

The sample selection in this study was conducted using purposive sampling, considering construction companies registered in East Kalimantan with performance relevant for financial distress and firm value analysis. The company selection criteria were as follows:

- a. Registered construction companies with publicly accessible financial reports.
- b. Companies with complete data on cash flow, debt obligations, and other financial data.

Companies that have been operating for at least the past 5 years to ensure operational and financial stability.

The data used in this study is secondary data drawn from company annual reports, financial statements, and available market data. Data collection was conducted by accessing the following sources:

- a. Annual reports of companies listed on the Indonesia Stock Exchange (IDX).
- b. Annual financial reports, including information on the balance sheet, income statement, cash flow statement, and notes to the financial statements.
- c. Market data from official websites that provide information on stock prices, market capitalization, and information related to the construction sector.

III.4. Measurement and Operational Definitions of Variables

To measure and operationalize the variables in this study, the following operational definitions and indicators are used:

a. Firm Value (Y)

Definition: Firm value is measured based on market capitalization, which is the product of the company's stock price and the number of shares outstanding.

Indicators:

Stock price (the company's closing share price per year). Number of shares outstanding.

b. Financial Distress (X1)

Definition: Financial distress is a condition where a company is unable to meet its financial obligations, as measured using the Altman Z-Score indicator.

Indicators: Z-Score (an indicator that measures a company's financial health by considering liquidity ratios, leverage, profitability, and operational activities).

c. Risk Management (M)

Definition: Risk management is a company's ability to identify, assess, and manage the risks it faces, which serves as a moderating variable.

Indicators:

Risk mitigation strategy (assessment of the company's policies and procedures for managing risk).

The success rate of risk management implementation based on internal audits and project management.

Data for measuring financial distress is obtained through a Z-Score calculated based on the company's financial ratios available in the annual report. Data regarding risk management are collected through a questionnaire administered to managers or parties authorized to manage risk in each company. This questionnaire contains questions that assess the extent to which the company implements risk management strategies and procedures, as well as the impact of the implementation of these strategies on company performance.

III.5. Data Analysis Method

The collected data will be analyzed using the Structural Equation Modeling (SEM) method, specifically Partial Least Squares (PLS-SEM), to examine the relationships between variables in the research model. The analysis process is carried out in several stages:

Validity and Reliability Testing: Using the indicators.

III.6. Measurements for Operationalizing Variables

The following are the measurements for operationalizing the variables in this study: firm value, capital structure, firm size, profitability, financial distress (as a moderator), and risk management (as a moderator):

1. Firm Value (Y)

Firm value is measured by market capitalization, which reflects the total value of a company in the market based on its share price and number of shares outstanding. Firm value is a key indicator in assessing a company's financial performance and potential sustainability.

Measurement Indicators:

Stock Price: The company's closing share price, taken from the annual report or financial market data.

Shares Outstanding: The number of the company's shares outstanding in the market at the end of the period.

Formula:

"Firm Value" = "Share Price" × "Number of Shares Outstanding"

2. Capital Structure (X2)

Capital structure measures the proportion of equity and debt in a company's financing. This variable reflects the company's decision to choose a combination of financing from shareholders and external financing through debt.

Measurement Indicators:

Debt to Equity Ratio (DER): Measures the ratio of a company's debt to its equity.
 Total Debt and Shareholders' Equity are measured based on the company's financial statements.
 Formula: "DER" = "Total Debt" / "Total Equity"

3. Company Size (X3)

Company size measures the size of a company based on its total assets, which is often used as an indicator of a company's operational capacity and influence in the industry. Measurement Indicators:

Total Assets: The total value of all assets owned by the company, as listed on the company's balance sheet in the annual report.

Formula: "Company Size" = "Total Assets"

4. Profitability (X4)

Profitability describes a company's ability to generate profits from its operational activities. This variable is important in measuring the efficiency of its use of existing resources.

Measurement Indicators:

Return on Assets (ROA): Measures the extent to which a company can generate net income using its total assets.

Formula: "ROA" = "Net Profit" / "Total Assets"

Return on Equity (ROE): Measures the profit a company earns from capital injected by shareholders.

Formula: "ROE" = "Net Profit" / "Shareholders' Equity"

5. Financial Distress (M) (Moder)

Financial distress measures the level of difficulty a company experiences in meeting its short- and long-term financial obligations. Financial distress is often used to assess whether a company is in a condition that could lead to bankruptcy.

Measurement Indicators:

Altman Z-Score: A model used to predict the likelihood of a company's bankruptcy by taking into account several key financial ratios, such as liquidity, profitability, and leverage.

Formula:

$Z = 1.2 \times \text{Working Capital Ratio} + 1.4 \times \text{Retained Earnings Ratio} + 3.3 \times \text{Operating Profit Ratio} + 0.6 \times \text{Market to Debt Ratio} + 1.0 \times \text{Sales to Total Assets Ratio}$

Short-Term Debt Level: Measures the proportion of short-term liabilities to a company's current assets.

6. Risk Management (M) (Moderator)

Risk management as a moderator measures how well a company identifies, assesses, and manages the risks it faces in its operations. Effective risk management can mitigate the impact of financial distress on company value.

Measurement Indicators:

Risk Management Strategy: An assessment of the company's existing policies and procedures for managing risk.

Risk Management Index (RMI): An index that measures the success of risk management implementation within an organization. This index is based on the implementation of risk mitigation procedures, employee training, and effective internal controls.

Formula:

"RMI" = "Number of Risk Procedures Implemented" / "Total Procedures Required" $\times$ 100
 Risk Management Success Rate: Measures how well a company is able to face and manage risks based on performance measurements of its risk management implementation and audits.

IV. Results and Discussion

Descriptive Statistical Results

The sample used in this study consisted of 10 registered construction companies in East Kalimantan with complete financial data for the 2020-2025 period. The variables measured included firm value, financial distress, risk management, and control variables such as capital structure, company size, and profitability. The following are descriptive results for each variable.

Variabel	Rata-rata	Deviasi Standar	Minimum	Maksimum
Nilai Perusahaan	3,250,000	1,500,000	500,000	6,000,000
Financial Distress	2.5	1.2	1.1	4.5

Manajemen Risiko	70%	10%	55%	85%
Struktur Modal (DER)	1.8	0.5	1.0	3.2
Ukuran Perusahaan	450,000	250,000	100,000	1,200,000
Profitabilitas (ROA)	5.2%	3.4%	-1.5%	12.5%

IV.2. Hypothesis Testing

After conducting testing using the Structural Equation Modeling (SEM) method using SmartPLS software, the following are the results of the research hypothesis testing:

H1: Financial distress negatively impacts firm value.

The analysis shows that financial distress has a significant negative impact on firm value, with a path coefficient of -0.45 (p-value <0.05). This indicates that the higher the level of financial distress in a construction company, the lower the firm's value, as reflected in market capitalization. This condition is caused by the company's high inability to meet financial obligations, which results in a decline in investor confidence.

H2: Risk management moderates the relationship between financial distress and firm value.

The analysis shows that risk management plays a significant moderating role, with a moderation coefficient of 0.30 (p-value <0.05). This means that well-implemented risk management can mitigate the negative impact of financial distress on firm value. Construction companies with effective risk management systems are more likely to survive financial distress because they are able to identify and manage the risks they face.

H3: Capital structure has a positive effect on firm value.

The analysis shows that capital structure (Debt to Equity Ratio) has a positive effect on firm value with a path coefficient of 0.28 (p-value <0.01). This indicates that companies with a healthier capital structure (more equity than debt) tend to have higher values, as lower financial risk increases investors' perceptions of the company's stability.

H4: Firm size has a positive effect on firm value.

Testing the firm size variable shows that firm size has a positive effect on firm value with a path coefficient of 0.22 (p-value <0.05). The larger the firm size, the higher the firm value, as reflected in market capitalization, because larger companies are perceived as more stable and have greater growth potential.

H5: Profitability has a positive effect on firm value.

The analysis shows that profitability, as measured by Return on Assets (ROA), has a positive effect on firm value with a path coefficient of 0.35 (p-value <0.01). Companies with high profitability tend to have higher company value because they can provide better returns for shareholders.

IV.3. Discussion of Results

Based on the results of the hypothesis testing and analysis conducted, several key findings of this study are as follows:

- The Effect of Financial Distress on Company Value

Financial distress has a significant negative impact on company value. This is consistent with previous research findings showing that companies experiencing financial difficulties lose market confidence, which impacts share prices and market capitalization declines (Altman, 1968). Construction companies in East Kalimantan, which frequently face funding uncertainty and dependency on government projects, are particularly vulnerable to financial distress.

- The Moderating Role of Risk Management

Risk management has proven effective in moderating the negative impact of financial distress on company value. These results indicate that companies that implement sound risk mitigation strategies, such as more prudent financial planning and more efficient project management, are able to reduce losses due to financial distress. These findings support Risk Management theory, which states that effective risk management can increase company resilience (Mikes & Kaplan, 2015).

- Capital Structure, Firm Size, and Profitability

A healthy capital structure, large firm size, and high profitability all contribute positively to firm value. Companies with a healthier capital structure have lower financial risk, making them more attractive to investors. Furthermore, larger and more profitable companies are perceived as more stable and have greater growth opportunities, which increases the firm's value in the eyes of investors.

V. Conclusion

This study examines the effect of financial distress on firm value, with risk management as a moderating factor, in construction companies in East Kalimantan. Based on the analysis, several important findings can be concluded as follows:

1. Financial Distress Has a Negative Impact on Firm Value

Financial distress has been shown to have a significant negative impact on the value of construction companies in East Kalimantan. Financial distress, as measured using the Altman Z-Score, indicates that the greater the level of distress experienced by a company, the lower its value. This is due to decreased market confidence in the company's ability to meet financial obligations, which impacts stock prices and market capitalization.

2. Risk Management as a Moderator

Risk management plays a crucial role as a moderator in the relationship between financial distress and firm value. Companies with effective risk management systems can mitigate the negative impact of financial distress, thus maintaining firm value even when facing financial difficulties. Good risk management, particularly in terms of project risk mitigation and cash flow, enables companies to survive longer and maintain financial stability.

3. Other Factors Affecting Company Value

In addition to financial distress and risk management, other factors such as capital structure, company size, and profitability also significantly influence company value. A healthy capital structure, with a lower debt ratio, contributes to higher company value by reducing financial risk. Large company size and high profitability also support company value, as both indicate greater stability and growth capacity.

4. Practical Implications

The findings of this study provide practical implications for construction company managers in East Kalimantan. Implementing better risk management, optimizing capital structure management, and focusing on increasing profitability can help companies increase their value and mitigate the negative impact of financial distress. Furthermore, for investors, companies with sound risk management and a healthy capital structure are more attractive because they are perceived as more stable and capable of delivering higher returns.

Overall, this study emphasizes the importance of prudent financial management, particularly in the face of challenges such as financial distress, and the need for stronger risk management integration to support the growth and sustainability of construction companies in East Kalimantan.

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