

Uncovering the Determinants of Financial Distress: An Empirical Study of Manufacturing Firms Listed on the Indonesia Stock Exchange (2020–2023)

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Abstract. *This study aims to examine the effect of managerial ownership, Return on Assets (ROA), and firm size on financial distress in manufacturing companies listed on the Indonesia Stock Exchange during the 2020–2023 period. This research employs a quantitative approach with a causal associative method. The sample is selected using a purposive sampling technique, resulting in 32 companies with a total of 128 observations. The study utilizes secondary data derived from annual financial reports of the companies. Financial distress is measured using the Altman Z-Score model, while data analysis is conducted using multiple linear regression. Prior to hypothesis testing, classical assumption tests are performed, including tests for normality, heteroscedasticity, multicollinearity, and autocorrelation. The results indicate that managerial ownership has a significant negative effect on financial distress. This finding suggests that a higher proportion of managerial shareholding reduces the likelihood of financial distress. In contrast, ROA and firm size do not have a statistically significant effect on financial distress. These findings support agency theory, which explains that managerial ownership helps reduce agency conflicts and enhances the effectiveness of corporate monitoring mechanisms. This study implies that firms should strengthen governance mechanisms and ownership structures to mitigate the risk of financial distress.*

Keywords: Managerial Ownership, Return on Assets, Firm Size, Financial Distress, Altman Z-Score.

INTRODUCTION

The phenomenon of financial distress, particularly in the manufacturing sector, has increased significantly since the COVID-19 pandemic, which has had a profound impact on economic and industrial activities. The manufacturing sector plays a crucial role in the economy due to its contribution to economic growth, employment absorption, and export activities. However, this sector is also highly vulnerable to changes in global economic conditions. According to the (Kementerian Ketenagakerjaan Republik Indonesia, 2020), approximately 88 percent of companies were affected by the pandemic, with most experiencing financial losses. In addition, (Anwar, 2020) reported in CNBC Indonesia that Indonesia's Manufacturing Purchasing Managers' Index (PMI) declined to 45.3 in March 2020, indicating a contraction

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in the manufacturing sector. This condition suggests that many manufacturing firms faced financial pressure due to declining market demand, disrupted production activities, and weakening economic conditions. The phenomenon of financial distress is further reflected in the bankruptcy case of PT Tuntex Garment Indonesia in 2023, which resulted in the termination of more than 1,100 employees. The company experienced consecutive losses over three years due to declining export demand and global economic pressures (Mulyadi, 2023). These conditions indicate that manufacturing firms face a relatively high risk of financial distress if they are unable to maintain financial and operational stability. Therefore, research on financial distress in manufacturing companies is essential to identify the factors influencing corporate financial difficulties and to provide early detection mechanisms, enabling firms to take strategic actions to ensure business continuity.

Previous studies on financial distress have been extensively conducted; however, the findings remain inconsistent regarding the determinants of financial distress, particularly managerial ownership, Return on Assets (ROA), and firm size. In relation to managerial ownership, several studies report no significant effect on financial distress, such as (Dirman, 2020; Widhiadnyana & Wirama, 2020). In contrast, (Musa, 2024) found that managerial ownership has a significant effect on financial distress. Similar inconsistencies are observed in the case of ROA. (Hidayat & Bintara, 2025) as well as (Limajati et al., 2022) found that ROA has no significant effect on financial distress, whereas (Aslamiah et al., 2023; and Saragih et al., 2023) reported a significant relationship. Furthermore, regarding firm size, (Petronila et al., 2025) found no significant effect on financial distress, while (Musa, 2024) reported that firm size significantly influences financial distress. These inconsistencies indicate that the effects of managerial ownership, ROA, and firm size on financial distress remain inconclusive, thereby necessitating further investigation to obtain more consistent empirical evidence and to strengthen the understanding of the determinants of financial distress in firms.

LITERATURE REVIEW

Agency Theory

Agency theory explains the contractual relationship between firm owners (principals) and managers (agents), which gives rise to potential conflicts of interest due to the separation between ownership and control. According to (Marini et al., 2022), this condition creates opportunities for managerial opportunistic behavior, thereby necessitating corporate governance mechanisms to align the interests of principals and agents and to reduce agency costs associated with financial distress risk. In this context, managerial ownership is considered an alignment mechanism, as managers who hold company shares will personally bear the economic consequences of their decisions. Managerial ownership encourages managers to act more cautiously in making investment, financing, and operational decisions to avoid the risk of financial distress. (Marini et al., 2022) further explain that management equity stakes represent an important mechanism for mitigating financial distress risk from an agency theory perspective. In addition, (Gerged et al., 2023) show that managerial ownership can theoretically influence financial distress by reducing conflicts of interest and constraining risky managerial decision-making. Therefore, agency theory supports the hypothesis that managerial ownership affects financial distress, as managerial shareholding enhances interest alignment and strengthens internal monitoring effectiveness.

In addition to managerial ownership, agency theory also explains the relationship between Return on Assets (ROA), firm size, and financial distress. From an agency perspective, ROA reflects management's effectiveness in utilizing company assets to generate profits as a form of accountability to principals. (Emmanuel et al., 2024) state that a higher ROA indicates stronger financial resilience and the ability to meet corporate obligations, thereby reducing the likelihood of financial distress. However, (Appah et al., 2024) argue that, under certain conditions, high profitability may encourage managers to undertake greater risks, which can increase the potential for financial distress due to opportunistic managerial behavior. On the other hand, firm size in agency theory is associated with organizational complexity and the effectiveness of managerial monitoring. Larger firms tend to have more complex organizational structures, which increases agency costs and makes it more difficult to monitor managerial actions. This condition may elevate the risk of financial distress if governance and monitoring mechanisms are not effectively

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implemented. Therefore, agency theory supports the hypothesis that ROA and firm size influence financial distress, although the direction of the relationship may vary depending on capital structure, governance effectiveness, and the institutional environment of the firm.

Hypothesis Development: The Effect of Managerial Ownership on Financial Distress

Agency theory explains that the separation between firm owners (principals) and managers (agents) may create conflicts of interest, which can potentially increase the risk of financial distress due to managerial opportunistic behavior. In this context, managerial ownership is viewed as a corporate governance mechanism that aligns the interests of managers and shareholders. According to (Marini et al., 2022), managerial ownership serves as an alignment mechanism because managers who hold shares in the company also bear the economic consequences of their decisions, including those that may increase the likelihood of financial distress. With managerial shareholding, managers tend to act more cautiously in making investment, financing, and operational decisions, thereby reducing the risk of financial distress. Furthermore, corporate governance literature identifies management equity stakes as an important mechanism for mitigating financial distress, as it reduces agency conflicts and enhances the effectiveness of internal monitoring systems (Marini et al., 2022).

Empirical evidence also indicates that managerial ownership has a significant effect on financial distress. Studies by (Musa, 2024) demonstrate that managerial ownership influences firms' financial distress conditions. These findings suggest that the greater the managerial ownership, the stronger the incentive for management to maintain financial stability and corporate sustainability, as managerial decisions directly affect their own financial interests. From an agency theory perspective, this condition indicates that managerial ownership can function as an effective control mechanism in reducing conflicts of interest between principals and agents and in mitigating the risk of financial distress. Based on agency theory and previous empirical findings, the following hypothesis is formulated:

H₁: Managerial ownership has an effect on financial distress.

Hypothesis Development: The Effect of ROA on Financial Distress

From an agency theory perspective, Return on Assets (ROA) reflects management's ability to utilize firm assets to generate profits as a form of accountability to shareholders (principals). A high level of profitability indicates that management is capable of efficiently managing the company's resources, thereby enhancing the firm's ability to meet its financial obligations and reducing the risk of financial distress. According to (Emmanuel et al., 2024), a higher ROA can theoretically strengthen a firm's financial resilience against financial pressure, as it provides the ability to generate internal funds that serve as a buffer against liquidity risks and potential failure to meet obligations. Thus, agency theory suggests that improvements in profitability, as reflected by ROA, may serve as an indicator of managerial effectiveness in reducing the likelihood of financial distress.

Empirical evidence also shows that ROA has a significant effect on financial distress. Studies by (Aslamiah et al., 2023; and Saragih et al., 2023) find that ROA influences firms' financial distress conditions. These findings indicate that profitability is an important indicator in assessing a firm's ability to withstand financial pressure. Firms with higher ROA tend to have stronger operational and financial performance, leading to a lower risk of financial distress. Conversely, a low ROA reflects inefficiency in asset utilization to generate profits, which may increase the likelihood of financial difficulties. Based on agency theory and prior empirical evidence, the following hypothesis is formulated:

H₂: Return on Assets (ROA) has an effect on financial distress.

Hypothesis Development: The Effect of Firm Size on Financial Distress

From an agency theory perspective, firm size is associated with the level of organizational complexity and the effectiveness of managerial monitoring. As firm size increases, the potential for conflicts of interest between owners (principals) and managers (agents) also increases due to the greater separation between

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ownership and control. According to (Marini et al., 2022), this condition may lead to higher agency costs and create opportunities for managerial opportunistic behavior, which in turn may increase the risk of financial distress. In addition, larger firms generally have more complex organizational structures, making it more difficult to effectively monitor managerial activities. Within the framework of agency theory, firm size may influence financial distress because the effectiveness of internal control and supervision plays a crucial role in managing financial risk and maintaining operational stability.

Empirical evidence also indicates that firm size has a significant effect on financial distress. (Musa, 2024) finds that firm size influences firms' financial distress conditions. These findings suggest that firm size can serve as an indicator of a company's ability to withstand financial pressure. Larger firms generally possess greater assets, resources, and access to financing, which enables them to better sustain their operations. However, on the other hand, large firms also tend to face higher levels of complexity and operational costs, which, if not managed effectively, may increase the risk of financial distress. Based on agency theory and prior empirical findings, the following hypothesis is formulated:

H₃: Firm size has an effect on financial distress.

METHODS

Research Design

This study employs a quantitative approach using a causal associative method. The quantitative approach is used because the study aims to examine the effect of independent variables on the dependent variable through statistical analysis. The causal associative design is applied to identify the cause-and-effect relationship between managerial ownership, Return on Assets (ROA), and firm size on financial distress.

Population and Sample

The population of this study consists of all manufacturing companies listed on the Indonesia Stock Exchange (IDX) during the 2020–2023 period, totaling 131 companies. The sampling technique used is purposive sampling, based on the following criteria: companies must be continuously listed during the study period, publish complete financial statements, have complete data for all research variables, and report their financial statements in Indonesian Rupiah. Based on these criteria, 32 companies were selected as the research sample, resulting in a total of 128 observations over a four-year period.

Type and Source of Data

This study uses secondary data obtained from the companies' annual financial reports. The data include information on managerial ownership, Return on Assets (ROA), firm size, and the variables required to calculate financial distress using the Altman Z-Score model.

Operational Definition of Variables

Dependent Variable

Financial Distress (FD)

Financial distress refers to a condition of financial difficulty experienced by a firm prior to bankruptcy. In this study, financial distress is measured using the Altman Z-Score model.

The formula of the Altman Z-Score is as follows:

$$Z = 1,2X_1 + 1,4X_2 + 3,3X_3 + 0,6X_4 + 1,0X_5$$

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X_1 = Working Capital / Total Assets
 X_2 = Retained Earnings / Total Assets
 X_3 = EBIT / Total Assets
 X_4 = Market Value of Equity / Total Liabilities
 X_5 = Sales / Total Assets

A lower Z-Score indicates a higher probability of financial distress.

Independent Variables

The operational definitions of the independent variables are used to explain how each variable is measured in this study. The operational definitions are presented in the table below:

Table 1. Operational Definition and Measurement of Variables

Variable	Operational Definition	Measurement	Scale
Managerial Ownership (MOWN)	Managerial ownership refers to the proportion of company shares owned by management.	$MOWN = \frac{\text{Number of Managerial Shares}}{\text{Total Outstanding Shares}} \times 100\%$	Ratio
Return on Assets (ROA)	ROA is a profitability ratio used to measure the company's ability to generate profit from its total assets.	$ROA = \frac{\text{Net Income}}{\text{Total Assets}} \times 100\%$	Ratio
Firm Size (SIZE)	Firm size refers to the scale of a company measured by its total assets.	$SIZE = \ln(\text{Total Assets})$	Ratio

Data Analysis Technique

The data analysis technique employed in this study is multiple linear regression analysis using statistical software. Regression analysis is used to examine the effect of managerial ownership, ROA, and firm size on financial distress. The regression equation used in this study is as follows:

$$FD = \alpha + \beta_1 MOWN + \beta_2 ROA + \beta_3 SIZE + e$$

Keterangan:

FD = Financial Distress
 α = Constant
 $\beta_1, \beta_2, \beta_3$ = Regression coefficients
MOWN = Managerial Ownership
ROA = Return on Assets
SIZE = Firm Size
e = Error term

Classical Assumption Tests

Before hypothesis testing is conducted, the regression model is first subjected to classical assumption tests to ensure that it satisfies the Best Linear Unbiased Estimator (BLUE) criteria. According to (Ghozali & Ratmono, 2017), classical assumption testing is performed to ensure that regression estimates are not biased and can be used as a basis for decision-making in research.

The classical assumption tests in this study consist of normality, heteroscedasticity, multicollinearity, and autocorrelation tests. The normality test is conducted using the Jarque–Bera test to determine whether the regression residuals are normally distributed. The data are considered normally distributed if the Jarque–Bera probability value is greater than 0.05.

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The heteroscedasticity test is performed using the Breusch–Pagan test to examine whether there is unequal variance in the residuals. The model is considered free from heteroscedasticity if the probability value exceeds 0.05.

The multicollinearity test is conducted using the Variance Inflation Factor (VIF) to determine whether there is correlation among independent variables. A VIF value of less than 10 and a tolerance value greater than 0.10 indicate that multicollinearity does not occur.

Meanwhile, the autocorrelation test is performed using the Durbin–Watson test to detect the presence of correlation among residuals across time periods. According to Ghazali and Ratmono (2017), the regression model is considered free from autocorrelation if the Durbin–Watson (DW) value lies between the upper bound (du) and $4 - du$, satisfying the criterion $du < DW < 4 - du$.

Hypothesis Testing

Hypothesis testing in this study is conducted using the t-test, F-test, and coefficient of determination (R^2). According to (Ghozali & Ratmono, 2017), the t-test is used to examine the partial effect of each independent variable on the dependent variable, while the F-test is used to assess the simultaneous effect of all independent variables on the dependent variable.

In the t-test, a hypothesis is accepted if the significance value is less than 0.05, indicating that the independent variable has a significant partial effect on the dependent variable. In the F-test, the regression model is considered significant if the F-significance value is below 0.05, meaning that the independent variables jointly influence the dependent variable.

Furthermore, the coefficient of determination (R^2) is used to measure the extent to which the independent variables explain the variation in the dependent variable. A higher R^2 value indicates a greater explanatory power of the independent variables in the regression model.

RESULTS AND DISCUSSION

Results of Descriptive Statistics

Descriptive statistics are used to provide an overview of the characteristics of the research data, which include financial distress (FD), managerial ownership (MOWN), profitability (ROA), and firm size (SIZE). The descriptive results show that financial distress has an average value of 3.4936 with a standard deviation of 1.8150. The minimum value of financial distress is 0.7958, while the maximum value is 8.7590, indicating variation in the level of financial distress across the sampled firms.

The managerial ownership (MOWN) variable has a mean value of 0.1143 with a standard deviation of 0.1855, indicating that managerial ownership in the sampled firms is relatively low. Profitability, proxied by ROA, has an average value of 0.0681, with a minimum value of -0.1993 and a maximum value of 0.3489. Meanwhile, firm size (SIZE) has a mean value of 15.2949 with a standard deviation of 2.7558.

Table 2. Descriptive Statistics

Variable	Mean	Median	Minimum	Maximum	Std. Dev	N
FD	3.4936	2.7187	0.7958	8.7590	1.8150	128
MOWN	0.1143	0.0099	0.0000	0.7218	0.1855	128
ROA	0.0681	0.0446	-0.1993	0.3489	0.0844	128
SIZE	15.2949	15.6893	8.2800	21.4131	2.7558	128

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Results of Classical Assumption Tests

Classical assumption testing is conducted to ensure that the regression model satisfies the basic assumptions of the Ordinary Least Squares (OLS) estimation method. The normality test using the Jarque–Bera statistic shows a probability value of 0.0001, indicating that the residuals are not normally distributed.

In addition, the Breusch–Pagan heteroscedasticity test yields a probability value of 0.0398, indicating the presence of heteroscedasticity in the model. Furthermore, the Durbin–Watson value of 0.3258 suggests evidence of positive autocorrelation.

However, the multicollinearity test results show that all independent variables have Variance Inflation Factor (VIF) values below 10, indicating that the model does not suffer from multicollinearity problems.

Table 3. Classical Assumption Test Results

Test	Result	Interpretation
Jarque–Bera	p-value = 0.0001	Residuals are not normally distributed
Breusch–Pagan	p-value = 0.0398	Heteroscedasticity is present
Durbin–Watson	0.3258	Indication of positive autocorrelation
VIF MOWN	1.4170	No multicollinearity
VIF ROA	1.6076	No multicollinearity
VIF SIZE	1.9384	No multicollinearity

Model Treatment and Improvement

Based on the results of the classical assumption tests, the regression model exhibits issues of heteroscedasticity and non-normally distributed residuals. Therefore, a treatment is applied in the form of winsorizing the ROA variable and using robust standard errors with the HC3 approach. After the treatment is implemented, the regression model is considered more robust and appropriate for hypothesis testing.

Results of the Regression Model

The regression model in this study is formulated as follows:

$$FD = 3.5985 - 2.1726(MOWN) + 3.5118(ROA_w) - 0.0065(SIZE)$$

This equation indicates that managerial ownership and firm size have a negative relationship with financial distress, while profitability shows a positive relationship with financial distress. The results further reveal that managerial ownership is the only variable that has a statistically significant effect on financial distress. In contrast, profitability and firm size do not show a significant effect on financial distress. The regression model has been adjusted using robust standard errors (HC3), making the estimates more reliable and appropriate for drawing research conclusions.

Based on the regression results, the constant value is 3.5985. This indicates that when managerial ownership (MOWN), profitability (ROA_w), and firm size (SIZE) are assumed to be zero, financial distress is estimated to be 3.5985. Furthermore, managerial ownership (MOWN) has a coefficient of -2.1726 , indicating a negative relationship with financial distress. This implies that a one-unit increase in managerial ownership reduces financial distress by 2.1726, holding other variables constant. This finding suggests that higher managerial shareholding is associated with a lower level of financial distress. Meanwhile, profitability (ROA_w) and firm size (SIZE) do not show a statistically significant effect on financial distress; therefore, no further interpretation is provided for these variables.

Results of the Model Feasibility Test (F-Test)

The simultaneous test results show an F-statistic value of 3.6958 with a probability value of 0.0137. Since the probability value is less than 0.05, it can be concluded that managerial ownership, profitability, and firm size jointly have a significant effect on financial distress. Therefore, the regression model used in this study is considered appropriate and statistically feasible.

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Results of Hypothesis Testing (t-Test)

The partial test results indicate that managerial ownership has a coefficient of -2.1726 with a significance value of 0.0020 . This finding shows that managerial ownership has a significant negative effect on financial distress, meaning that higher managerial ownership is associated with lower levels of financial distress.

The ROA variable, after winsorization (ROA_w), has a coefficient of 3.5118 with a probability value of 0.0765 . This indicates that ROA has a positive but statistically insignificant effect at the 5% significance level.

Meanwhile, firm size (SIZE) has a coefficient of -0.0065 with a probability value of 0.9272 , indicating that firm size has no significant effect on financial distress.

Table 4. t-Test Results

Variable	Coefficient	t-Statistic	Probability	Remark
Constant	3.5985	3.3372	0.0008	Significant
MOWN	-2.1726	-3.0829	0.0020	Significant
ROA_w	3.5118	1.7712	0.0765	Not Significant
SIZE	-0.0065	-0.0914	0.9272	Not Significant

Results of the Coefficient of Determination

The coefficient of determination results show an R-Square value of 0.0696 and an Adjusted R-Square value of 0.0471 . This indicates that managerial ownership, profitability, and firm size collectively explain 6.96% of the variation in financial distress, while the remaining 93.04% is explained by other variables outside the model.

Discussion

Discussion of The Effect of Managerial Ownership on Financial Distress

The empirical results indicate that managerial ownership has a significant effect on financial distress. This finding suggests that a higher proportion of managerial shareholding strengthens managers' incentives to maintain corporate stability and sustainability, thereby reducing the likelihood of financial distress. This occurs because managers who also act as shareholders tend to be more cautious in making investment, financing, and operational decisions. This result is consistent with agency theory, which emphasizes that managerial ownership helps align the interests of managers and shareholders. When managers hold equity in the firm, they are more motivated to improve firm performance and reduce financial failure risk, as their decisions directly affect their personal financial outcomes (Jensen & Meckling, 1976).

In addition, the finding of (Musa, 2024) suggest that managerial ownership can serve as an effective mechanism to mitigate financial distress by creating stronger incentives for managers to maintain corporate stability. This result is also supported by the entrenchment theory, which posits that at certain levels of ownership, managers tend to take strategic actions to protect their positions and avoid conditions that may threaten firm continuity. (Fich & Shivdasani, 2006) also find that higher managerial ownership reduces the risk of financial distress because managers become more cautious in making investment and financing decisions. The implication of this finding is that firms should enhance managerial participation in ownership as an internal control mechanism to minimize the risk of financial distress. With managerial shareholding, firms can establish a more effective monitoring system, as managers have a direct stake in the company's success. Furthermore, this finding provides insight for investors that managerial ownership can serve as an important indicator in assessing a firm's financial stability and health. An ownership structure involving active managerial participation is believed to improve decision-making quality and strengthen long-term corporate sustainability.

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Discussion of The Effect of ROA on Financial Distress

The results of the study indicate that Return on Assets (ROA) does not have a statistically significant effect on financial distress. This finding suggests that profitability, as measured by a firm's ability to generate earnings from its assets, is not necessarily capable of explaining corporate financial distress conditions. ROA often reflects only historical performance and fails to capture more complex future financial dynamics. According to (Karpoff, 2021), firms experiencing financial distress typically face multidimensional problems, such as high debt burdens, liquidity pressure, and negative cash flows, which are not fully reflected in profitability ratios such as ROA. Therefore, even when a firm exhibits relatively high ROA, this does not necessarily guarantee that it will be free from financial distress if other financial fundamentals are weak.

From an agency theory perspective, this finding can be explained by the potential conflict of interest between managers and shareholders, as described by (Jensen & Meckling, 1976). In an agency relationship, managers as agents may make decisions that are not fully aligned with shareholders' interests, including asset utilization decisions. Although ROA may indicate strong performance, managers may still pursue short-term targets by engaging in high-risk projects or making investment decisions that do not support long-term sustainability. Consequently, ROA becomes less relevant as a predictor of financial distress, as it does not capture the quality of managerial decision-making in the presence of agency conflicts and opportunistic behavior. The implication of this finding is that ROA cannot be used as a sole indicator in predicting corporate financial distress. This is consistent with (Altman et al., 2017), who argue that ROA is relatively static and insufficient to fully represent a firm's overall financial condition. Therefore, in managerial practice and financial analysis, a more comprehensive approach is required by incorporating other indicators such as liquidity, leverage, and cash flow to obtain a more accurate assessment of financial distress risk. For investors, creditors, and regulators, this finding emphasizes the importance of not focusing solely on profitability, but also considering a firm's financial structure and overall operational risk in decision-making.

Discussion of The Effect of Firm Size on Financial Distress

The results of the study show that firm size does not have a statistically significant effect on financial distress. This finding indicates that the size of a company cannot be considered a primary determinant in predicting financial distress conditions. Recent empirical studies also support this result. (Kristanti & Pancawitri, 2024) find that firm size does not play a significant role in predicting financial distress in telecommunications companies in Southeast Asia, even when used as a moderating variable. Similar findings are reported by (Petronila et al., 2025), who show that firm size becomes insignificant when current ratio and leverage are included as explanatory variables for financial distress. These findings suggest that both large and small firms have the potential to experience financial distress if their underlying financial fundamentals are weak. Therefore, firm size alone is not a sufficient determinant in explaining financial distress risk.

From an agency theory perspective, the insignificant effect of firm size on financial distress can be explained by the increasing complexity of agency relationships in large firms. (Jensen & Meckling, 1976) state that as firms grow larger, organizational structures become more complex and the separation between ownership and management becomes more pronounced, leading to higher agency costs. This complexity makes managerial monitoring more difficult and increases the potential for conflicts of interest. Boussenna and Kimouche (2024) further argue that there is no consensus regarding the effect of firm size on agency costs, as large firms may benefit from economies of scale but are also more vulnerable to coordination problems and weak control systems. These conditions may increase agency costs and ultimately raise the risk of financial distress, making firm size an inconsistent predictor of such conditions.

The implication of this finding is that efforts to minimize financial distress risk should not rely solely on firm size, but rather focus on the quality of corporate governance and the effectiveness of financial management. This is supported by (Porta et al., 2000), who demonstrate that weak corporate governance can increase agency costs and reduce internal control effectiveness, meaning that large firms may still face substantial financial risk. Furthermore, (Boussenna & Kimouche, 2024) emphasize that strong governance mechanisms are essential to reduce agency costs, particularly in large firms with high organizational

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complexity. Therefore, investors, creditors, and corporate management should pay greater attention to governance quality, internal control systems, and other financial indicators when assessing financial distress risk, rather than relying solely on firm size.

CONCLUSIONS

Based on the empirical results, it can be concluded that managerial ownership has a significant effect on financial distress, whereas Return on Assets (ROA) and firm size do not have a statistically significant effect on financial distress. The significant influence of managerial ownership indicates that a higher proportion of managerial shareholding strengthens managers' incentives to maintain corporate stability and sustainability. Managerial ownership helps align the interests of managers and shareholders, thereby reducing agency conflicts. This condition encourages managers to act more cautiously in making investment, financing, and operational decisions, ultimately reducing the risk of financial distress.

In contrast, the insignificant effect of ROA on financial distress suggests that profitability alone is insufficient to fully explain a firm's financial distress condition. ROA primarily reflects historical performance and does not capture more complex financial issues such as liquidity pressure, high leverage, or negative cash flows. Similarly, the insignificant effect of firm size indicates that company scale cannot be used as a primary indicator in predicting financial distress. Both large and small firms may face financial distress if their fundamental financial conditions and governance mechanisms are not effectively managed.

These findings support agency theory, which states that conflicts of interest between managers and shareholders can influence a firm's financial condition. Managerial ownership is proven to be an effective control mechanism that reduces agency conflicts and mitigates the risk of financial distress. However, ROA and firm size are not sufficiently strong to serve as standalone predictors of financial distress, as financial distress is influenced by a broader set of factors, including leverage, liquidity, corporate governance, and the effectiveness of internal control systems.

The implications of this study suggest that firms need to strengthen corporate governance mechanisms and improve risk management effectiveness to minimize the likelihood of financial distress. Investors and creditors are also advised not to rely solely on profitability and firm size when assessing a company's financial condition, but to also consider ownership structure, governance quality, and other financial indicators in order to make more comprehensive and accurate investment and lending decisions.

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