Financial Distress and Earnings Management Behavior: An Empirical Study of Indonesian Manufacturing Companies

Rindhi Marverissa[1], Putu Eka Dianita Marvilianti[2], Diota Prameswari Vijaya[3]
Universitas Pendidikan Ganesha[1,2,3]
rindhi@undiksha.ac.id[1], ekadianita@undiksha.ac.id[2], diota.pv@undiksha.ac.id[3]

Abstract
Purpose: This study examines the effect of financial distress on earnings management among manufacturing companies listed on the Indonesia Stock Exchange (IDX) during 2022–2024.
Methodology/approach: Using a quantitative approach and purposive sampling, the study analyzes 453 firm-year observations drawn from 151 companies. Secondary data are obtained from companies' audited annual reports and financial statements. Earnings management is measured using discretionary accruals estimated with the Modified Jones Model, while financial distress is measured using the Altman Z-Score. Firm size, leverage, and profitability are included as control variables. The data are analyzed using multiple linear regression.
Results/findings: The results indicate that the Altman Z-Score has a negative and statistically significant coefficient ($\beta = -0.215$; $p = 0.013$). Because a lower Z-Score indicates greater financial distress, this finding suggests that greater financial distress is associated with higher earnings management. Leverage is positively and significantly associated with earnings management ($\beta = 0.176$; $p = 0.032$), whereas profitability has a negative and significant association ($\beta = -0.241$; $p = 0.007$). Firm size has no statistically significant association ($\beta = 0.018$; $p = 0.229$).
Conclusions: These findings suggest that financial pressure and debt dependence are relevant conditions associated with managerial reporting behavior.
Contribution: The study contributes empirical evidence for investors, creditors, auditors, and regulators in assessing financial reporting quality and potential earnings management.

Keywords: *financial distress, earnings management, leverage, profitability, firm size*

1. Introduction

Financial statements play a central role in the decision-making process of investors, creditors, managers, regulators, and other parties that have an economic interest in a company. Through financial statements, stakeholders obtain information about profitability, liquidity, solvency, asset utilization, and the overall financial position of an organization. The usefulness of this information, however, depends not only on whether the numbers are available but also on whether they faithfully represent the economic activities of the firm. The preparation of financial reports involves managerial judgment, and that judgment can influence the timing, classification, and measurement of accounting information. Because managers possess information that may not be equally accessible to outside parties, differences in information and interests can create opportunities for reporting choices that favor managerial objectives. One of the issues that arises from this situation is earnings management. Healy and Wahlen (1999) describe earnings management as managerial intervention in the financial reporting process or in the choice of accounting policies with the intention of influencing reported performance. Earnings management does not necessarily mean that every accounting judgment is fraudulent or violates accounting standards. Managers may operate within the discretion allowed by accounting rules, yet the use of that discretion can still affect how stakeholders perceive the company's performance. The issue becomes particularly important when managerial incentives are strong and when external users rely heavily on reported earnings to evaluate a company's condition.

Financial distress is one circumstance that may strengthen those incentives. In general, financial distress describes a deterioration in a firm's financial condition that makes the organization increasingly difficult to meet its financial commitments. Platt and Platt (2002) place financial distress within the sequence of

conditions that can precede corporate failure, making it useful as an early-warning concept. Distress may arise from falling sales, rising operating costs, weak cash generation, excessive financial obligations, inefficient resource allocation, or a combination of these factors. Once financial pressure becomes substantial, managers may have to deal simultaneously with operational problems and expectations from parties outside the organization. The pressure associated with distress can affect financial reporting decisions. A manager whose company is experiencing declining performance may be concerned about falling investor confidence, deteriorating relationships with lenders, breaches of debt agreements, or questions about managerial competence. In that environment, the incentive to present a more stable or favorable performance can become stronger. Putra and Santoso (2023) and Rahman et al. (2022), for example, report a positive association between financial distress and earnings management. Their findings support the view that financial pressure can become an important contextual factor in understanding why managers exercise greater discretion over reported earnings.

Agency theory offers a useful framework for explaining this relationship. Jensen and Meckling (1976) argue that a separation between ownership and control can generate conflicts because managers and owners may not always have identical objectives. Managers may possess private information and may make decisions that protect their own interests, while shareholders seek to maximize the value of their investment. Financial distress can intensify this conflict because poor financial performance may threaten managerial reputation, compensation, authority, or even employment. Managers therefore may have an incentive to influence reported performance when the actual results are unfavorable. The Indonesian manufacturing sector provides an important setting for examining this issue. Manufacturing companies operate through production processes that are sensitive to raw-material prices, energy costs, labor expenses, exchange-rate movements, market demand, and the efficiency of production capacity. They may also have relatively long operating cycles and substantial investments in inventory, property, plant, and equipment. These characteristics can create financial pressure when demand weakens or input costs rise. The Ministry of Industry (2022) reported changes in manufacturing performance following the COVID-19 period, illustrating the broader economic pressures faced by firms in the sector.

The post-pandemic environment is also relevant because companies have had to adjust to changing consumer demand, global competition, supply-chain disruptions, and movements in exchange rates and commodity prices. Although the financial condition of individual firms varies, these external pressures can affect sales, costs, working capital, and debt-servicing capacity. When the financial condition of a firm deteriorates, managers may face stronger demands to preserve confidence among investors and creditors. Consequently, manufacturing companies offer a meaningful context for studying whether financial distress is accompanied by changes in managerial reporting behavior. Prior research does not, however, provide a completely uniform conclusion. Some studies identify a positive relationship between financial distress and earnings management, whereas others do not find a statistically significant effect. Sari and Putri (2022), for instance, suggest that firms under financial pressure may sometimes reduce aggressive reporting behavior because management may be concerned about long-term reputation and credibility. The direction of earnings management can also differ. Managers may increase reported income to avoid an unfavorable market response, but in other circumstances they may reduce reported earnings for conservative reporting or strategic reasons. These differences indicate that the relationship is not necessarily mechanical.

Another issue concerns the characteristics of the samples used in previous research. A number of studies combine companies from several industries or use cross-country observations. Such designs are useful for identifying broad patterns, but they can also conceal industry-specific conditions. Manufacturing firms have particular operating characteristics, financing needs, and exposure to production costs that may distinguish them from financial institutions, mining firms, technology companies, or service businesses. Examining manufacturing companies listed on the IDX during a defined period therefore provides a more focused setting for evaluating the relationship between financial distress and earnings management. This study addresses that context by examining manufacturing companies listed on the

IDX during 2022–2024. The research specifically considers financial distress as the main explanatory variable and earnings management as the dependent variable, while firm size, leverage, and profitability are included to account for other company characteristics that may influence reporting behavior. The use of these control variables is intended to make the relationship between financial distress and earnings management more precise within the regression model.

The study has both theoretical and practical relevance. From a theoretical standpoint, it contributes evidence to the discussion of agency theory by examining how financial pressure may influence managerial discretion in financial reporting. From a practical standpoint, the findings can help stakeholders recognize that reported earnings should be interpreted together with the underlying financial condition of the company. Investors and creditors may use financial distress indicators as part of their risk assessment, while regulators and auditors may consider financial pressure as one contextual factor when assessing the possibility of aggressive reporting practices.

Accordingly, the main objective of this study is to determine whether financial distress affects earnings management among Indonesian manufacturing companies during the 2022–2024 period. The research also evaluates the roles of firm size, leverage, and profitability in the same empirical model. By focusing on these relationships, the study seeks to provide more contextual evidence regarding managerial reporting behavior under conditions of financial pressure and to clarify whether the results observed in previous studies remain evident in the Indonesian manufacturing sector.

2. Literature review and hypotheses development

Financial distress represents a weakening of the financial capacity of a company. The concept is broader than a single accounting ratio because financial problems can emerge through declining profitability, insufficient liquidity, excessive debt, or difficulties in meeting contractual commitments. Platt and Platt (2002) position financial distress as an early warning condition that may precede bankruptcy. In practical terms, a company can experience financial distress before it reaches legal bankruptcy because its ability to generate sufficient resources to meet obligations may already be under pressure. This makes the concept particularly useful for empirical research that attempts to identify conditions associated with managerial responses to financial difficulties. For manufacturing companies, the origins of financial distress may be closely connected to the structure of their operations. A decline in product demand can leave firms with unused production capacity and accumulated inventory. At the same time, increases in raw-material, energy, transportation, or labor costs can reduce margins. Exchange-rate changes may further affect firms that import materials or equipment or have foreign-currency obligations. If operating cash flows become weaker while financial commitments remain fixed, the company may face increasing pressure to maintain liquidity and satisfy creditors. Such circumstances can influence not only operating decisions but also managerial judgments in preparing financial reports.

Habib et al. (2013) emphasize that financial distress can have implications beyond the immediate financial condition of a firm. Managers of distressed companies may respond to external pressure by using reporting choices that influence the timing or level of recognized earnings. The motivation can be defensive: management may want to avoid a sharp deterioration in the perceived performance of the company. Sari and Meiranto (2021) likewise report that distressed firms may have incentives to undertake accounting manipulation in an effort to preserve a favorable image among stakeholders. These arguments imply that financial distress can be connected to reporting behavior through managerial incentives. Earnings management refers to deliberate managerial influence over reported accounting outcomes through accounting choices or intervention in the reporting process. Healy and Wahlen (1999) emphasize that the practice is relevant when managers use judgment in a way that affects stakeholders' perceptions of the firm's economic performance. Earnings management can be broadly distinguished into accrual-based and real activity-based forms. Accrual-based earnings management changes reported accounting amounts without necessarily changing the underlying timing of cash transactions, while real earnings management involves changes in actual operating decisions. Kothari et al. (2016) stress the importance of distinguishing these mechanisms because managers can influence reported results through both accounting accruals and real activities.

This research measures earnings management through discretionary accruals using the Modified Jones Model. The approach is widely used because it attempts to separate the discretionary portion of total accruals from the non-discretionary component. The measure is therefore intended to provide an empirical proxy for managerial intervention in reported earnings. It should nevertheless be recognized that an accrual-based proxy does not capture every possible reporting strategy. A manager can also influence performance through production, sales incentives, discretionary expenditure, or other operational decisions. This limitation is addressed later in the discussion of the study's scope. Agency theory provides the principal theoretical explanation for the expected relationship between financial distress and earnings management. Jensen and Meckling (1976) explain that the separation of ownership and control creates agency costs because managers may pursue interests that are not perfectly aligned with those of shareholders. Information asymmetry makes this problem more difficult to observe from outside the company. Financial distress can make the situation more acute. When performance deteriorates, managers may be concerned about personal consequences, while shareholders and creditors may demand corrective actions. Under such conditions, the discretion available in financial reporting can become more valuable to management.

From the agency perspective, the manager's incentive to influence reported earnings may arise because accounting results serve as signals to external stakeholders. A stronger reported profit may reduce the immediate perception of risk, support confidence in management, and potentially make negotiations with creditors easier. This does not mean that all distressed managers necessarily manipulate earnings, but the economic pressure can increase the perceived benefits of doing so. Habib et al. (2013) and Li et al. (2021) provide evidence that financial pressure can be associated with greater use of accrual-based earnings management. Rahmawati and Dianita (2021) and Nugroho and Firmansyah (2022) similarly report positive relationships in Indonesian settings. The debt covenant perspective provides an additional explanation. Companies with substantial debt must satisfy repayment obligations and may also be required to comply with financial conditions established in loan agreements. Watts and Zimmerman (1986) argue that accounting choices can have economic consequences because reported accounting numbers can affect relationships with creditors and other contracting parties. When leverage is high, management may therefore have greater motivation to avoid reported results that could trigger concerns among lenders or indicate a greater probability of covenant violations. This logic supports an expected positive association between leverage and earnings management.

The role of profitability can be understood in terms of managerial pressure. When profitability is strong, managers may have less immediate need to alter reported earnings because the company's operating performance already produces favorable results. In contrast, weak profitability can create incentives to make reported performance appear more attractive. The empirical direction, however, is not necessarily uniform across studies. Differences in measurement, industry, observation period, and managerial incentives can cause profitability to have different relationships with earnings management. This study therefore treats profitability as a control variable rather than assuming in advance that its effect must be positive or negative. Firm size is also included because company scale may be related to reporting behavior through monitoring and visibility. Large companies generally attract more attention from investors, analysts, regulators, auditors, and the public. They may also have more developed internal control systems and more formal governance structures. These factors could discourage aggressive reporting. On the other hand, large firms can face strong market expectations and greater pressure to maintain stable performance. Smaller companies can also experience financial pressure and information asymmetry. Because the theoretical direction is ambiguous, the present study evaluates firm size empirically rather than imposing a predetermined outcome.

The manufacturing context makes the combined examination of financial distress, leverage, profitability, and firm size particularly relevant. Production-oriented firms may need significant working capital and fixed assets, while their financial results can be sensitive to changes in sales and

input costs. A company that is simultaneously distressed and highly leveraged may experience especially strong pressure from creditors and shareholders. At the same time, a profitable firm may have greater room to absorb operational shocks. Considering these variables together allows the empirical model to distinguish the role of financial distress from other dimensions of corporate financial condition. Existing empirical evidence supports the need for further investigation. Putra and Santoso (2023) and Rahman et al. (2022) identify positive effects of financial distress on earnings management, while Sari and Putri (2022) report a different implication for firms under financial pressure. Garcia Lara et al. (2020) indicate that distressed firms can sometimes engage in income-decreasing rather than income-increasing reporting, depending on the objective pursued. In Indonesia, Rahmawati and Dianita (2021), Sari and Meiranto (2021), and Nugroho and Firmansyah (2022) provide evidence that financial distress can be associated with earnings management. The mixed findings justify another test using a manufacturing-company sample for 2022–2024.

The Indonesian evidence also indicates that governance and monitoring may influence how financial pressure is translated into reporting decisions. Utama et al. (2020) emphasize the importance of corporate governance in understanding earnings management. If monitoring is effective, managers may have less opportunity to use accounting discretion opportunistically. Conversely, weak monitoring may allow financial pressure to become more strongly associated with aggressive reporting. The current model does not include all governance dimensions, but this theoretical consideration is important when interpreting the empirical results and identifying directions for future research. Based on the theoretical reasoning and the empirical findings reported in previous studies, the principal hypothesis is formulated as follows: H1: Financial distress has a positive effect on earnings management behavior among manufacturing companies in Indonesia. The hypothesis reflects the expectation that worsening financial conditions increase managerial pressure and therefore increase the incentive to influence reported earnings. The hypothesis is tested after controlling for firm size, leverage, and profitability.

H1: Financial distress has a positive effect on earnings management behavior among manufacturing companies in Indonesia

3. Methodology

This study adopts a quantitative approach to examine the effect of financial distress on earnings management practices among manufacturing companies in Indonesia. A quantitative approach was selected because it allows hypotheses to be tested through numerical data analysis and objective measurement of research variables. The study relies on secondary data obtained from the annual financial statements of manufacturing companies, collected through the official Indonesia Stock Exchange (IDX) website (www.idx.co.id) and the respective companies' official websites. The population consists of all manufacturing companies listed on the Indonesia Stock Exchange (IDX) during the 2022–2024 period. The sample was selected using purposive sampling based on the following criteria: (1) manufacturing companies that remained listed on the IDX throughout 2022–2024; (2) companies that published complete and audited annual financial statements; (3) companies that presented their financial statements in Indonesian rupiah; and (4) companies with complete data required to measure the research variables.

The dependent variable in this study is earnings management, measured using discretionary accruals based on the Modified Jones Model. This model was selected because it is considered more effective in identifying earnings management practices. Financial distress is measured using the Altman Z-Score, calculated from the companies' financial ratios without applying inverse coding. Thus, a lower Z-Score indicates a higher level of financial distress, while a higher Z-Score reflects a relatively healthier financial condition. Given this measurement direction, a negative regression coefficient for the Z-Score variable indicates that an increase in the Z-Score is associated with a decrease in discretionary accruals. In other words, a greater degree of financial distress, as indicated by a lower Z-Score, is associated with an increase in earnings management. This interpretation follows the original direction of the Z-Score rather than an inverted scoring approach. The Altman Z-Score model provides a means of predicting potential financial difficulties within a company by incorporating several financial ratios (Widiyawati

et al., 2015). In addition to the main variables, this study includes firm size, leverage, and profitability as control variables to improve the reliability of the research model.

The data were analyzed using the Statistical Product and Service Solutions (SPSS) software. Multiple linear regression analysis was employed to examine the effect of financial distress on earnings management. Before testing the hypotheses, the data were subjected to classical assumption tests to assess the suitability of the regression model. These tests included normality, multicollinearity, heteroscedasticity, and autocorrelation tests. The regression model applied in this study is formulated as follows:

$$\mathbf{EM = \alpha + \beta_1 FD + \beta_2 SIZE + \beta_3 LEV + \beta_4 ROA + \varepsilon}$$

Description:
EM = Earnings management
FD = Financial distress
SIZE = Firm size
LEV = Leverage
ROA = Profitability
α = Constant
β = Regression coefficient
ε = Error term

Normality is assessed from the regression residuals. Following Ghozali (2018), a significance value above 0.05 is treated as evidence that the normality assumption is satisfied. Multicollinearity is assessed using Tolerance and Variance Inflation Factor (VIF) values. A Tolerance value above 0.10 and a VIF below 10 are used as the criteria for an acceptable model. Heteroscedasticity is examined using the Glejser test, where significance values above 0.05 indicate that there is no evidence of unequal residual variance. Autocorrelation is evaluated with the Durbin-Watson statistic, with a value close to 2 generally indicating that residuals are relatively independent.

4. Results and Discussion

4.1. Descriptive Statistical Analysis

The descriptive statistics provide an initial picture of the 453 observations included in the analysis. Financial distress (FD) has a minimum value of 0.45 and a maximum of 8.20, with a mean of 2.31 and a standard deviation of 1.45. Earnings management (EM) ranges from -0.32 to 0.41 and has an average of 0.03 with a standard deviation of 0.10. Firm size (SIZE) ranges from 25.10 to 33.20, with a mean of 29.15 and a standard deviation of 1.75. Leverage (LEV) ranges between 0.17 and 0.90, with an average of 0.52 and a standard deviation of 0.18. Profitability, measured by ROA, ranges from -0.15 to 0.25, with a mean of 0.06 and a standard deviation of 0.08. The descriptive results indicate that the companies in the sample display meaningful variation in their financial characteristics. The spread in the FD measure suggests that the observations are not concentrated around a single financial condition. Likewise, earnings management varies in both direction and magnitude, as shown by the minimum negative value and the maximum positive value. The range of ROA also shows that the sample contains firms with negative as well as positive profitability. These variations are useful for regression analysis because they provide differences across observations that can be used to examine relationships among the variables.

Table 1. Descriptive Statistical Analysis

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
FD	453	0,45	8,20	2,31	1,45
EM	453	-0,32	0,41	0,03	0,10
SIZE	453	25,10	33,20	29,15	1,75
LEV	453	0,17	0,90	0,52	0,18
ROA	453	-0,15	0,25	0,06	0,08

Source: Processed data by SPSS

4.2. Classical Assumption Tests

Before the regression coefficients are interpreted, the model is evaluated through normality, multicollinearity, heteroscedasticity, and autocorrelation tests. The results are presented below.

4.2.1. Normality Test

Table 2. Normality Test

		Unstandardzed Residual
N		453
Normal Parameters	Mean	0,0000000
	Std. Deviation	0,00002314
Most Extreme Differences	Absolute	0,041
	Positive	0,041
	Negative	-0,032
Test Statistic		0,041
Asymp. Sig. (2-tailed)		0,071

Source: Processed data by SPSS

The first diagnostic procedure is the normality test. The residual analysis is based on 453 observations and produces an Asymp. Sig. (2-tailed) value of 0.071. Because 0.071 is greater than the 0.05 criterion, the residuals are considered normally distributed. The result indicates that there is no statistical evidence in the test output that would require the normality assumption to be rejected. Therefore, the regression analysis can proceed under the normality criterion used in the study.

4.2.2. Multicollinearity Test

Table 3. Multicollinearity Test

Model	Variabel	Tolerance	VIF
1	FD	0,842	1,188
	SIZE	0,913	1,095
	LEV	0,876	1,142
	ROA	0,801	1,249

Source: Processed data by SPSS

The multicollinearity results also indicate an acceptable regression structure. Financial distress has a Tolerance value of 0.842 and a VIF of 1.188. Firm size has a Tolerance value of 0.913 and a VIF of 1.095. Leverage records a Tolerance of 0.876 and a VIF of 1.142, while profitability has a Tolerance of 0.801 and a VIF of 1.249. Every Tolerance value is above 0.10 and every VIF value is below 10. Consequently, the independent variables do not show excessive linear overlap that would threaten the interpretation of the regression coefficients.

The absence of multicollinearity is important because the model evaluates financial distress together with firm size, leverage, and profitability. If these variables were highly correlated, it would be difficult to distinguish their individual contributions and the estimated coefficients could become unstable. The observed VIF values are all close to 1, indicating that the degree of linear association among the predictors is relatively low. The regression model can therefore be used to examine the partial relationship of each explanatory variable with earnings management.

4.2.3. Heteroscedasticity Test

Table 4. Heteroscedasticity Test

Variabel	Unstandardized B	Std. Error	t	Sig.
(Constant)	0,082	0,021	3,905	0,000
FD	0,003	0,002	1,428	0,154
SIZE	-0,001	0,001	-1,176	0,24
LEV	0,002	0,002	1,083	0,279
ROA	-0,004	0,003	-1,367	0,172

Source: Processed data by SPSS

The heteroscedasticity test produces significance values of 0.154 for financial distress, 0.240 for firm size, 0.279 for leverage, and 0.172 for profitability. Each value is higher than 0.05. Under the Glejser criterion applied in this study, the results provide no evidence of heteroscedasticity. In other words, the independent variables do not show a statistically significant relationship with the absolute residuals. The model therefore satisfies the homoscedasticity criterion used before hypothesis testing.

The results based on 453 observations show significance values of 0.154 for *financial distress*, 0.240 for firm size, 0.279 for leverage, and 0.172 for profitability. All of these values exceed the 5% significance level (0.05). This indicates that none of the independent variables has a statistically significant relationship with the absolute residuals. Accordingly, the regression model does not exhibit symptoms of heteroscedasticity. The residuals do not demonstrate a systematic change in variance across observations. Thus, the homoscedasticity assumption is considered satisfied, allowing the regression model to proceed to the subsequent hypothesis testing stage.

4.2.4. Autocorrelation Test

Table 5. Autocorrelation Test

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	0,487	0,237	0,23	0,18452	1,982

Source: Processed data by SPSS

The autocorrelation assessment reports a Durbin-Watson statistic of 1.982. This value is very close to 2, which suggests that the regression residuals do not display a problematic serial-correlation pattern. The model also reports R = 0.487, R Square = 0.237, and Adjusted R Square = 0.230, with a standard error of the estimate of 0.18452. The R Square indicates that approximately 23.7 percent of the variation in earnings management is associated with the predictors included in the model, while the remaining variation is related to other factors outside the specification. This interpretation should be understood as an explanatory measure rather than as evidence of causality by itself.

4.3. Multiple Linear Regression Analysis

To examine the effect of financial distress on earnings management while controlling for firm size, leverage, and profitability, this study employs multiple linear regression analysis. This approach is

appropriate because the research model consists of one dependent variable and several independent variables that are examined simultaneously. The regression model used in this study is expressed mathematically as follows:

$$EM=\alpha+\beta 1FD+\beta 2SIZE+\beta 3LEV+\beta 4ROA+\epsilon$$

Table 6. Multiple Linear Regression

Model		B (Unstandardized)	Std. Error	Beta	t	Sig.
1	Constant	0,203	0,087	0,001	2,471	0,014
	FD	-0,215	0,072	-0,286	-2,986	0,013
	SIZE	0,018	0,018	0,129	1,002	0,229
	LEV	0,176	0,049	0,151	3,592	0,032
	ROA	-0,241	0,113	-0,184	-2,133	0,007

Source: Processed data by SPSS

The multiple linear regression analysis, based on 453 observations, produces a set of coefficients that indicate the direction of the relationships between financial distress, firm size, leverage, profitability, and earnings management. This analytical method makes it possible to examine how several independent variables are associated with a dependent variable within the same regression model. It also provides an overview of the direction and magnitude of changes in the dependent variable in response to changes in the independent variables (Ghozali, 2018).

The regression results indicate that financial distress, measured using the Altman Z-Score, has a coefficient of -0.215 with a significance value of 0.013. Firm size has a coefficient of 0.018 with a significance value of 0.229, while leverage has a coefficient of 0.176 with a significance value of 0.032. Profitability records a coefficient of -0.241 with a significance value of 0.007. These findings suggest that financial distress, as represented by the Altman Z-Score, leverage, and profitability have statistically significant relationships with earnings management. In contrast, firm size does not show a statistically significant relationship. A more detailed interpretation of each variable, including its theoretical implications and comparison with previous studies, is provided in the hypothesis testing section (t-test).

4.4. Hypothesis Testing (t-test)

The partial hypothesis tests are summarized below. A significance level of 0.05 is used to determine whether each coefficient is statistically different from zero.

Table 7. Hypothesis Testing (t-test)

Variabel	B	t	Sig.	Keputusan
FD	-0,215	-2,986	0,013	Signifikan
SIZE	0,018	1,002	0,229	Tidak signifikan
LEV	0,176	3,592	0,032	Signifikan
ROA	-0,241	-2,133	0,007	Signifikan

Source: Processed data by SPSS

4.4.1. The Effect of Financial Distress on Earnings Management

The partial regression test reveals that financial distress has a significance value of 0.013, which is below the 0.05 threshold. This indicates that financial distress has a statistically significant effect on earnings management. The negative regression coefficient suggests that companies experiencing greater financial pressure tend to engage in higher levels of earnings management. This finding implies

that financial difficulties may influence managerial decisions, particularly those related to financial reporting. When companies face financial pressure, managers may attempt to maintain a favorable image of the company's performance in the eyes of investors and creditors. From the perspective of agency theory, conflicting interests between managers and shareholders may encourage opportunistic behavior, especially when managers are under pressure to present better financial performance (Jensen & Meckling, 1976).

This finding is consistent with the study conducted by Aulia and Setiyono (2025), which identified a significant relationship between financial distress and earnings management. Their findings support the argument that financial pressure may be associated with a greater tendency among managers to manipulate reported earnings. Therefore, this study provides further empirical evidence that financial distress is associated with an increased tendency to engage in earnings management among manufacturing companies in Indonesia.

4.4.2. The Effect of Firm Size on Earnings Management

The insignificant result for firm size can be interpreted in several ways. Large companies may be exposed to stronger external monitoring, more sophisticated internal controls, and greater attention from capital-market participants. These mechanisms may restrict opportunistic reporting. At the same time, large firms may face greater market expectations and stronger pressure to maintain performance. Smaller companies are not free from reporting incentives either because they may experience information asymmetry, financing constraints, or dependence on a smaller number of stakeholders. The opposing mechanisms may help explain why company scale does not emerge as a significant determinant in the present model.

The finding is consistent with Lanjarsih (2024), who reported that firm size did not significantly affect real earnings management. Nevertheless, Purwoto (2024), using 316 observations of Indonesian manufacturing companies during 2018–2022, found a negative relationship between firm size and earnings management. The difference may reflect variation in observation periods, samples, or measures of earnings management. It is therefore more appropriate to conclude that firm size is not a statistically significant predictor in the current 2022–2024 sample rather than claiming that size can never influence managerial reporting behavior.

4.4.3. The Effect of Leverage on Earnings Management

Leverage records an unstandardized coefficient of 0.176, a standardized beta of 0.151, a t-statistic of 3.592, and a significance value of 0.032. The significance level is below 0.05, so leverage has a positive and statistically significant association with earnings management. The result suggests that firms with a larger proportion of debt financing tend to exhibit greater earnings-management behavior within the sample. This finding is consistent with the debt-covenant logic because greater debt obligations can increase pressure to present financial performance that remains acceptable to creditors.

The leverage result is also consistent with Watts and Zimmerman (1986), whose discussion of accounting choice emphasizes the economic consequences of financial reporting. Debt contracts can make reported accounting numbers relevant to creditor relationships. If management expects unfavorable accounting results to create difficulties in financing relationships, it may have greater incentives to use available reporting discretion. Faisal et al. (2024) and Lanjarsih (2024) provide supporting evidence that leverage can be related to earnings management among Indonesian firms. The current result therefore strengthens the argument that financing structure is relevant to managerial reporting behavior.

4.4.4. The Effect of Profitability on Earnings Management

Profitability has a significance value of 0.007, which is below the 0.05 threshold, with a negative regression coefficient. This indicates that profitability has a statistically significant negative effect on earnings management. In other words, an increase in profitability in this research model tends to be associated with a decrease in earnings management. This finding suggests that companies with stronger profit-generating capabilities tend to face less pressure to engage in earnings management. A relatively healthy financial position may reduce management's need to manipulate accounting figures to improve or present a more favorable picture of the company's financial performance.

However, this finding should be interpreted with caution, as previous studies have reported mixed results. Purwoto (2024), for instance, found a positive relationship between profitability and earnings management among Indonesian manufacturing companies during the 2018–2022 period. This suggests that, in that study, companies with higher profitability were more likely to engage in earnings management. In contrast, the present study identifies a negative relationship between the two variables. These differences indicate that the relationship between profitability and earnings management is not yet consistent and may depend on several factors, including sample characteristics, the observation period, the measurement method used for earnings management, and the financial conditions of the companies examined.

5. Conclusion

5.1 Conclusion

This study examines the effect of financial distress on earnings management practices among manufacturing companies in Indonesia. In addition to financial distress, firm size, leverage, and profitability are included in the research model as control variables. Based on the results of the t-test for hypothesis testing, several conclusions can be drawn.

First, the Altman Z-Score has a negative and statistically significant coefficient in relation to earnings management, with a regression coefficient of -0.215 and a significance value of 0.013. Since a lower Z-Score represents greater financial distress, this finding indicates that companies facing greater financial difficulties tend to engage in higher levels of earnings management.

Second, firm size does not have a statistically significant effect on earnings management. The regression coefficient is 0.018, with a significance value of 0.229. This result indicates that company size alone is not a consistent determinant of earnings management practices. Companies of different sizes may face varying business conditions, financial pressures, and monitoring mechanisms. Consequently, firm size by itself does not sufficiently explain the differences in earnings management practices observed in this study.

Third, leverage has a positive and statistically significant effect on earnings management, with a regression coefficient of 0.176 and a significance value of 0.032. This finding indicates that companies with higher levels of debt financing tend to exhibit greater earnings management practices. A high level of leverage may place additional pressure on companies to meet their obligations to creditors and maintain financial conditions that satisfy lending requirements.

Fourth, profitability, measured by Return on Assets (ROA), has a negative and statistically significant effect on earnings management. The regression coefficient is -0.241, with a significance value of 0.007. This result suggests that companies with stronger profit-generating capacity tend to have less incentive to engage in earnings management. Favorable financial performance may reduce the pressure on managers to intervene in reported earnings.

Overall, the findings indicate that earnings management among manufacturing companies is associated not only with firm characteristics but also with the financial conditions they face. Financial distress and leverage are associated with a greater tendency to engage in earnings management, whereas profitability shows an inverse relationship. Meanwhile, firm size does not demonstrate a statistically significant effect. These findings highlight the importance of considering financial pressure and capital structure when examining managerial behavior in the financial reporting process.

5.2 Limitation

This study has several limitations that should be considered when interpreting its findings. First, the research focuses exclusively on manufacturing companies listed in Indonesia over the 2022–2024 observation period. As a result, the findings reflect the specific characteristics of the manufacturing sector and may not necessarily apply to companies operating in other industries. Second, financial distress is measured using the Altman Z-Score. However, financial difficulties can also be assessed through alternative measurement approaches, which may produce different classifications of a company's financial condition. Relying on a single measurement method may therefore limit the ability to capture financial distress from different perspectives.

Third, earnings management is measured using the discretionary accruals approach. This method primarily captures accrual-based earnings management and does not fully reflect earnings management practices carried out through a company's actual operating activities. Managers may influence reported earnings not only through accounting policy choices but also through specific operational decisions. Fourth, the research model includes only financial distress, firm size, leverage, and profitability as explanatory or control variables. Other factors that may influence earnings management are therefore not fully addressed in this study.

More specifically, the Modified Jones Model employed in this research captures accrual-based earnings management but does not identify earnings management conducted through real operating activities, commonly referred to as real earnings management (REM). In practice, managers may influence reported earnings through operational decisions, such as reducing research and development (R&D) expenditure or other discretionary expenses, offering price discounts to boost short-term sales, and engaging in overproduction to reduce production costs per unit. These decisions may affect current-period earnings even though their effects are not directly captured by discretionary accruals. Consequently, the findings of this study do not represent the full range of strategies that managers may use to manage reported earnings.

5.3 Suggestion

Considering the findings and limitations discussed above, future studies are encouraged to expand the research scope by including companies from different industry sectors. A broader research sample may provide a more comprehensive understanding of the relationship between financial conditions and earnings management while improving the generalizability of the findings. Future researchers may also extend the observation period to examine how companies adjust their behavior under different economic and financial conditions. A longer observation period could provide further evidence regarding the relationships among financial distress, leverage, profitability, and earnings management.

In terms of variable measurement, future research may consider applying more than one method to assess financial distress. Combining the Altman Z-Score with alternative financial distress measurement models could offer a broader perspective on the financial difficulties experienced by companies. Similarly, the measurement of earnings management could be extended to include real earnings management, allowing researchers to examine earnings management from both accrual-based and operational perspectives.

Future studies may also measure real earnings management using relevant proxies, including abnormal cash flow from operations, abnormal production costs, and abnormal discretionary expenses. Combining these measures with discretionary accruals would provide a more comprehensive picture of how managers choose between accrual-based and real activity manipulation, particularly when companies are experiencing financial distress.

Furthermore, future research could incorporate additional variables related to corporate governance mechanisms and financial reporting quality. Factors such as audit quality, board independence, audit committee effectiveness, ownership structure, and internal control quality may help develop a more comprehensive research model. More specifically, future studies could examine board independence and audit committee effectiveness as moderating variables to determine whether corporate governance mechanisms weaken or strengthen the relationship between firm size and earnings management. Such an approach would allow the role of corporate governance to be examined not merely as a conceptual explanation but also through empirical evidence.

Acknowledgment

The authors would like to express their sincere gratitude and appreciation to Lembaga Penelitian dan Pengabdian kepada Masyarakat (LP2M) Universitas Pendidikan Ganesha for providing research grant funding that made it possible to conduct and complete this study successfully. This support played an important role in facilitating various stages of the research, from data collection and analysis to the preparation of the scientific article. The authors also gratefully acknowledge all forms of support, both financial and non-financial, provided throughout the research process. The authors declare that there are no conflicts of interest that could have influenced the conduct, analysis, or findings of this study. The authors would also like to thank the Faculty of Economics Universitas Pendidikan Ganesha for providing academic and institutional support throughout the research process. Appreciation is also extended to academic colleagues and peers who provided valuable suggestions, constructive feedback, and discussions that contributed to the improvement of this study. The authors gratefully acknowledge the Indonesia Stock Exchange (IDX) and the manufacturing companies included in the research sample for providing publicly accessible financial reports and relevant corporate information. These data served as the primary source for the empirical analysis conducted in this study.

Acknowledgment List

1. Lembaga Penelitian dan Pengabdian kepada Masyarakat (LP2M) Universitas Pendidikan Ganesha for providing financial support through the research grant.
2. The Faculty of Economics Universitas Pendidikan Ganesha for providing academic and institutional support throughout the research process.
3. The Indonesia Stock Exchange (IDX) and the manufacturing companies included in the research sample, for providing publicly accessible financial reports and relevant corporate information.
4. Academic colleagues and peers for their valuable suggestions, constructive feedback, and discussions during the research process.
5. All parties who contributed directly or indirectly to the implementation and completion of this study.
6. The authors declare that there are no conflicts of interest related to this research.

References

Habib, A., Bhuiyan, M. B. U., & Islam, A. (2013). *Financial distress, earnings management and market pricing of accruals during the global financial crisis*. *Managerial Finance*, 46(2), 155–180.

Kementerian Perindustrian. (2022). *Laporan Kinerja Sektor Manufaktur Indonesia*.

Putra, I. G. N. A., & Santoso, B. H. (2023). *Financial distress and earnings management: Evidence from Indonesian manufacturing firms*. Jurnal Akuntansi dan Keuangan Indonesia, 20(1), 45–60.

Rahman, M. M., Moniruzzaman, M., & Sharif, M. J. (2022). *Financial distress and earnings management behavior: Evidence from emerging markets*. *Asian Review of Accounting*, 30(3), 456–475.

Sari, N. P., & Putri, D. A. (2022). *Earnings management practices in financially distressed firms: Evidence from Indonesia*. Jurnal Ilmiah Akuntansi dan Bisnis, 17(2), 210–225.

Wijaya, A., & Kusuma, I. W. (2021). *Agency conflicts and earnings management in Indonesia*. Jurnal Keuangan dan Perbankan, 25(3), 567–580.

Healy, P. M., & Wahlen, J. M. (1999). *A review of the earnings management literature and its implications for standard setting*. *Accounting Horizons*, 13(4), 365–383.

Jensen, M. C., & Meckling, W. H. (1976). *Theory of the firm: Managerial behavior, agency costs and ownership structure*. *Journal of Financial Economics*, 3(4), 305–360.

Kothari, S. P., Mizik, N., & Roychowdhury, S. (2016). *Managing for the moment: The role of earnings management via real activities versus accruals*. *Accounting Review*, 91(2), 559–586.
Li, Y., Lin, B., & Lu, L. (2021). *Financial distress and earnings management: Evidence from emerging markets*. *Emerging Markets Review*, 46, 100–121.
Nugroho, B., & Firmansyah, A. (2022). *Financial distress dan manajemen laba pada perusahaan manufaktur di Indonesia*. *Jurnal Akuntansi Multiparadigma*, 13(2), 245–260.
Platt, H. D., & Platt, M. B. (2002). Predicting corporate financial distress. *Journal of Financial Service Professionals*, 56 (3), 12–15.
Putri, R. A., & Siregar, S. V. (2022). Earnings management behavior in Indonesian manufacturing firms. *Jurnal Akuntansi dan Keuangan Indonesia*, 19(1), 1–15.
Rahmawati, E., & Dianita, P. S. (2021). Pengaruh financial distress terhadap manajemen laba. *Jurnal Akuntansi dan Auditing Indonesia*, 25(1), 45–58.
Sari, D. P., & Meiranto, W. (2021). Financial distress dan praktik earnings management di Indonesia. *Diponegoro Journal of Accounting*, 10(3), 1–14.
Utama, S., Utama, C. A., & Amarullah, F. (2020). Corporate governance and earnings management in Indonesia. *Asian Journal of Business and Accounting*, 13(1), 1–28.
Wulandari, D., & Sugiyanto, S. (2023). Financial distress in Indonesian manufacturing sector. *Jurnal Keuangan dan Perbankan*, 27(1), 88–102.
Chairunnisa, Z., Rasmini, M., & Alexandri, M.B. (2021). Pengaruh *financial distress* terhadap manajemen laba pada perusahaan subsektor telekomunikasi yang terdaftar di BEI periode 2015-2019. *INOVASI: Jurnal Ekonomi, Keuangan dan Manajemen*, 17 (3), 387-394.
Ghozali, Imam. (2018). Aplikasi Analisis Multivariate Dengan Program SPSS. Semarang: Badan Penerbit Universitas Diponegoro.
Widiyawati, A. T., Utomo, S.P., & Amah, N. (2015). Analisis Rasio Altman Modifikasi pada Prediksi Kebangkrutan Perusahaan Property dan Real Estate yang terdaftar di BEI. ASSETS: Jurnal Akuntansi dan Pendidikan, 4 (2), 99-111.
Gupta, A. T. & Suartana, I. W. (2018). Pengaruh Financial Distress dan Kualitas Corporate Governance pada Manajemen Laba. E-Jurnal Akuntansi Universitas Udayana, 23 (2), 1495-1520. DOI: https://doi.org/10.24843/EJA.2018. v23.i02.p26.
Sugiyono. (2014). Metode Penelitian Pendidikan Pendekatan Kuantitatif, Kualitatif, dan R&D. Bandung: Alfabeta.