

AUDITING | RESEARCH ARTICLE

Predicting Financial Failure in Indonesian Manufacturing Firms Using Ratio Analysis

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ABSTRACT

This study aims to examine the impact of financial ratios on financial distress in manufacturing firms listed on the Indonesia Stock Exchange (IDX) for the period 2022–2023. The independent variables analyzed comprise liquidity, profitability, leverage, and activity ratios, while the dependent variable is financial distress. The research utilizes multiple linear regression analysis within a quantitative framework. From a population of 170 companies, purposive sampling was applied to select 23 firms as the sample. Data analysis was performed utilizing SPSS version 25. The results indicated that liquidity, profitability, and activity ratios have a significant negative influence on financial distress, implying that higher levels of these ratios are associated with a reduced risk of distress. Conversely, the leverage ratio demonstrated a significant positive effect on financial distress, indicating that increased dependence on debt heightens the probability of financial difficulties. This study contributes to existing literature and offers important guidance for company management, investors, and creditors in the process of making financial decisions.

Keywords: Liquidity Ratio, Profitability Ratio, Leverage Ratio, Activity Ratio, Financial Distress.

JEL Code: G33, G32, M41

I. Introduction

The continuously evolving economic environment has significantly affected the operations and performance of companies across all sectors, leading many—particularly manufacturing firms listed on the Indonesia Stock Exchange (IDX)—to experience bankruptcy (Mas'ud & Srengga, 2015). According to Firmansyah and Riduwan (2021), in the face of constant change, companies are required not only to adapt to shifting conditions but also to ensure sustainability in order to avoid financial distress or bankruptcy. Alongside these challenges, firms must also contend with the critical risk of financial distress. As noted by Afriyeni in Carolina et al. (2018), financial distress typically emerges before a company encounters failure or bankruptcy. It reflects a condition in which a firm's financial health is weakened or unstable. When financial distress severely hampers operational activities, it becomes a critical issue that must be addressed and anticipated promptly. From a financial perspective, three main factors contribute to financial distress: insufficient capital, high levels of debt and interest obligations, and prolonged losses. These elements are interrelated, making it crucial to maintain balance in order to prevent financial difficulties that may ultimately result in bankruptcy (Fahmi, 2020).



According to Utami (2015), a company is considered to be experiencing financial distress if it reports negative net operating income for several consecutive years. Sustained negative income for more than one year may indicate that the company has entered a phase of financial decline. Harahap (2018) emphasizes that a firm's potential bankruptcy can be detected and evaluated by analyzing its financial statements. To enhance the usefulness of these reports for decision-making, financial data must be interpreted into meaningful insights that support economic evaluations. Research is therefore essential to validate the reliability and relevance of financial statements. One widely applied method is the use of financial ratios to forecast a company's performance, including the likelihood of bankruptcy and financial distress (Mas'ud & Srengga, 2015). According to Susilawati (2019), financial ratio analysis is a method of evaluating a company's financial performance by examining the relationships between components of the income statement and balance sheet. These ratios play a vital role in highlighting both the strengths and weaknesses of a business. Through ratio analysis, investors can assess a company's profitability growth and make well-informed investment decisions. Furthermore, this approach provides an assessment of the company's current financial condition and operational performance, offering a clear perspective on its real circumstances over time. Financial distress represents a stage of declining financial health that precedes bankruptcy or cash flow difficulties. Various factors are commonly used to predict financial distress, including profitability, liquidity, leverage, and activity ratios. These ratios serve as key indicators of a company's overall financial position and operational efficiency, assisting in the prediction of bankruptcy risk (Kurniadi, 2021).

This study seeks to develop a logit model to forecast financial distress among manufacturing firms listed on the Indonesia Stock Exchange. In this model, financial distress is treated as the categorical dependent variable. The research aims to determine whether financial ratios obtained from publicly available company financial statements can effectively predict financial distress. The study contributes by providing valuable insights to both internal and external stakeholders regarding which financial ratios hold the most significant predictive power for financial distress (Mas'ud & Srengga, 2015). Given the dynamic nature of the business environment, the risk of bankruptcy has become a pressing challenge for manufacturing companies in Indonesia. Market fluctuations, shifts in financial performance, and competitive pressures necessitate the adoption of early detection strategies for potential financial failure. Financial ratio analysis is widely regarded as an effective tool for assessing financial health and forecasting the likelihood of financial distress. Accordingly, this study aims to predict the potential for financial failure in Indonesian manufacturing companies through financial ratio analysis, thereby offering meaningful contributions to managerial decision-making and corporate strategy.

II. Literature Review and Hypothesis Development

2.1. Financial Distress

Financial distress signifies a condition marked by significant financial instability or vulnerability within a company. When this distress reaches a level that interferes with the company's operations, it becomes a situation requiring careful monitoring and proactive measures. According to Simanjuntak et al. (2017), Financial distress is a phase of declining financial health in a company that precedes bankruptcy or liquidation. If left unaddressed, it can result in severe consequences, including the loss of stakeholder confidence and potentially leading to bankruptcy.

2.2. Liquidity Ratio

This ratio indicates a company's capacity to fulfill its short-term liabilities that must be settled promptly. Liquidity ratios are essential tools in assessing creditworthiness and analyzing financial risk (Prayuningsih et al., 2021). The current ratio measures a company's ability to settle its short-term liabilities

within the near term by utilizing its current assets (Haras et al., 2022). The research conducted by Firmansyah & Riduwan (2021) found that the liquidity ratio, represented by the current ratio, has an impact on the financial distress conditions of manufacturing firms. In addition, research conducted by Shidiq & Khairunnisa (2019) reveals that liquidity ratios significantly influence a company's financial distress condition. The results of research conducted by Dance & Made (2019) show that the liquidity ratio hurts financial distress conditions. The results of this study align with previous research by Antikasari & Djuminah (2017), which indicates that the liquidity ratio (current ratio) has a significant negative impact on financial distress.

2.3. Profitability Ratio

Profitability refers to a ratio that indicates how effectively a company can generate earnings (Prayuningsih et al., 2021). This ratio is categorized into two types: return on investment and operating performance ratios. The return on investment ratio evaluates the financial return gained from the utilization of assets or equity in relation to net income (Kasmir, 2018). Return on assets is a ratio that indicates the effectiveness of a company's assets in generating net income. Essentially, it measures the net profit earned for every rupiah invested in the company's total assets. According to Suprihatin & Mansur (2016), Profitability ratios are used to evaluate how effectively a company can earn profits. Research conducted by Mas'ud and Srengga (2015) suggests that profitability has a significant impact on financial distress. This finding is supported by research conducted by Haras et al. (2022), which suggests that profitability hurts a company's financial distress condition. This ratio can serve as a predictor for the likelihood of bankruptcy. The results of this study align with previous research by Dewi & Dana (2017), Dance & Made (2019), Hendra et al. (2018), and Harianti & Paramita (2019), which indicate that return on assets has a negative and significant effect on financial distress.

2.4. Leverage Ratio

Leverage is a ratio that reflects a company's capacity to meet all its liabilities. Like liquidity ratios, solvency ratios are essential for credit evaluation and financial risk assessment. The debt ratio measures the proportion of total debt relative to total assets (Firmansyah & Riduwan, 2021). This ratio is also commonly referred to as the debt-to-asset ratio. According to Mas'ud & Srengga (2015), a company's capacity to fulfill its short-term and long-term liabilities is illustrated. Analyzing this ratio is crucial to evaluating the company's ability to repay debts, both short-term and long-term, mainly if the company is liquidated or dissolved at any point (Kuntari & Machmuddah, 2022). The research conducted by Damajanti et al. (2021) and Kuntari & Machmuddah (2022) suggests that the financial leverage ratio has a positive impact on a company's financial distress condition. The results of the research conducted by Agustini & Wirawati (2019) indicate that the leverage ratio has a positive influence on the occurrence of financial distress. The results of this study align with previous research by Dewi & Dana (2017), Dance & Made (2019), Hendra et al. (2018), and Harianti & Paramita (2019), indicating that the average ratio has a significant and positive effect on predicting financial distress in manufacturing firms.

2.5. Activity Ratio

It is a ratio designed to measure a company's efficiency in employing its resources and its ability to conduct routine business activities (Mahaningrum & Merkusiwati, 2020). Also referred to as the asset utilization ratio, this metric evaluates how effectively and intensively a company's assets generate sales. Total asset turnover measures the amount of sales produced for every rupiah invested in total assets. This activity ratio is calculated using the Total Asset Turnover (Carolina et al., 2018). Research conducted by Prayuningsih et al. (2021) indicates that the ratio of total asset turnover is associated with a company's financial distress. The results of this study are in line with previous research by Dewi & Dana (2017), Antikasari & Djuminah (2017),

and Kartika & Hasanudin (2019), which indicates that activity (TATO) has a negative and significant effect on financial distress.

The flow of this research can be seen in the following figure:

H1 : *Liquidity ratio hurts financial distress. Profitability ratio hurts financial distress. Leverage ratio has a positive effect on financial distress*

H2 : *Activity ratio hurts financial distress*

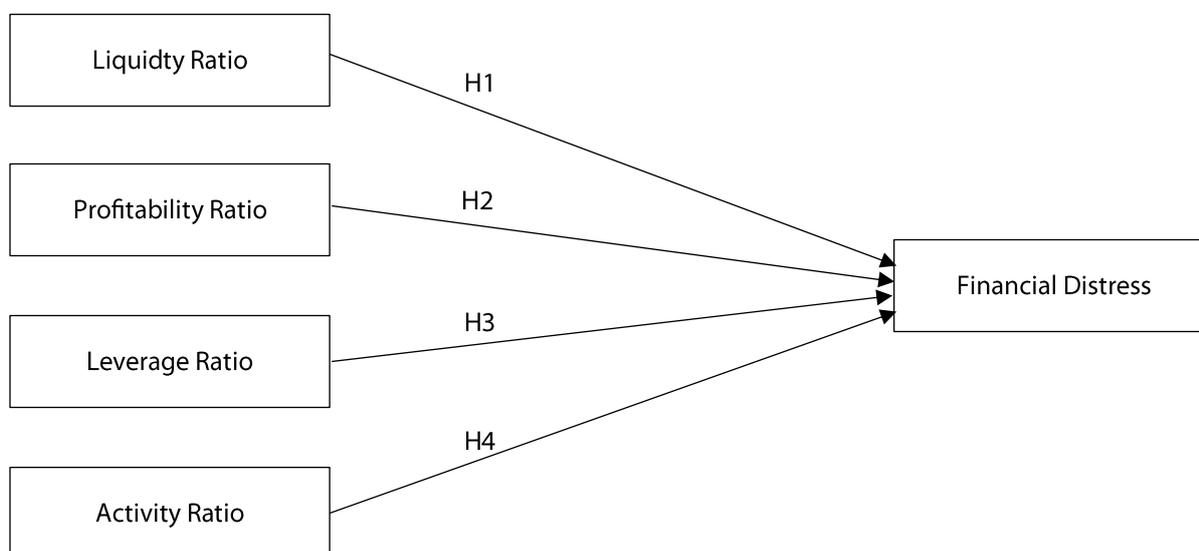


Figure 1. Conceptual Framework

III. Research Method

3.1. Population and Sample

The population for this study consists of the financial statements of manufacturing companies listed on the Indonesia Stock Exchange (IDX) during the 2022-2023 period. Out of 170 manufacturing firms listed on the IDX, purposive sampling was applied, a sampling technique based on specific criteria, resulting in a sample size of 23 companies.

3.2. Operational Definition of Variables

The variables used in this study are as follows:

a. Liquidity Ratio (X1)

According to Kasmir in Orina Andre & Salma Taqwa (2014), the Liquidity Ratio measures a company's ability to meet its short-term liabilities. Similarly, Kasmir (2018) defines the Liquidity Ratio as a metric that reflects a company's capacity to fulfill its short-term obligations. In this study, liquidity is measured using the Current Ratio, calculated with the following formula:

$$\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$$

b. Profitability Ratio (X2)

According to Kasmir in Suprihatin & Mansur (2016), the Profitability Ratio assesses a company's ability to generate profit. This ratio also indicates management's effectiveness in generating returns. In this study, profitability is measured using Return on Assets (ROA), calculated with the following formula:

$$ROA = \frac{Net\ Income}{Total\ Assets}$$

c. Leverage Ratio (X3)

According to Sigit in Mas'ud & Srengga (2015), the Leverage Ratio demonstrates a company's ability to meet both short-term and long-term obligations. Kasmir (2018) defines the Leverage Ratio, proxied by the Debt-to-Equity Ratio (DER), as the ratio of total debt to total equity. In this study, it is formulated as follows:

$$DER = \frac{Total\ Debt}{Total\ Equity}$$

d. Activity Ratio (X4)

Commonly referred to as the turnover ratio, this metric evaluates how effectively and efficiently a company utilizes its resources. According to Kasmir (2018), this ratio measures the turnover of total assets and indicates the amount of sales generated per rupiah of assets. In this study, it is measured using the Total Asset Turnover (TATO), calculated as:

$$TATO = \frac{Sales}{Total\ Assets}$$

e. Financial Distress (Y)

According to Kasmir (2018), financial distress is a stage of declining financial health that occurs before bankruptcy or liquidation. If not addressed promptly, it can seriously harm a company, including the loss of stakeholder confidence, and may ultimately lead to bankruptcy. This study focuses on financial distress and employs the Altman Z-Score model to categorize companies as either financially healthy or in distress (Shidiq & Khairunnisa, 2019). The formula is as follows:

$$Z - Score = 1.2A + 1.4B + 3.3C + 0.6D$$

3.3. Analysis Method

Data analysis was conducted by measuring the correlation between the independent and dependent variables using multiple linear regression analysis. The data obtained were analyzed using SPSS version 25.0. The purpose of this analysis is to evaluate the influence of multiple independent variables, both simultaneously and individually, on the dependent variable (Sugiyono, 2019).

a. Descriptive Statistical Analysis

Descriptive statistical analysis is a technique used to summarize and present data in a way that facilitates understanding. It provides an overview of the characteristics of each variable. The data used in this study comprises 46 observations from 2022 to 2023.

b. Classical Assumption Test

Regression analysis is employed to explore and model the relationships among variables. To ensure the validity of the results, classical assumption tests must be conducted first. According to Sugiyono (2019), these tests are essential to guarantee that the regression model produces accurate, unbiased, and consistent estimates. The classical assumption tests applied in this study include:

- 1) The purpose of the normality test is to determine if the residuals from the regression model conform to a normal distribution.
- 2) The autocorrelation test checks that there is no correlation between the errors across different time periods in the predictive model.
- 3) The heteroscedasticity test verifies that the variance of errors remains constant across all observations for each independent variable in the model.
- 4) The purpose of the multicollinearity test is to confirm that there is no high correlation among independent variables, thereby supporting the robustness of the regression model.

3.4. Multiple Linear Regression Analysis

A multiple linear regression model was employed to assess the effect of independent variables on the dependent variable, represented by the following equation:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + e$$

Description:

- Y : Financial Distress
- α : Constant
- $\beta_1, \beta_2, \beta_3, \beta_4$: Coefficients of the independent variables
- X_1 : Liquidity Ratio
- X_2 : Profitability Ratio
- X_3 : Rasio Leverage
- X_4 : Activity Ratio

IV. Results and Discussion

4.1. Analysis Result

a. Descriptive Statistics

Table 1. Result Descriptive Statistics

| Variable | N | Minimum | Maximum | Mean | Std. Deviation |
|---------------------|----|---------|---------|--------|----------------|
| Liquidity Ratio | 46 | 0.6500 | 9.9540 | 2.6158 | 1.7317 |
| Profitability Ratio | | -.0950 | .9350 | .1171 | .1897 |
| Leverage Ratio | | .0610 | 2.9120 | .8761 | .7266 |
| Activity Ratio | | .1250 | 2.5560 | .8481 | .5351 |
| Financial Distress | | 2.2820 | 12.8830 | 6.7035 | 2.7083 |
| Valid N (listwise) | | | | | |

Based on the descriptive statistical analysis of 46 company samples, the Liquidity Ratio ranges from 0.6500 to 9.9540, with an average of 2.6158 and a standard deviation of 1.7317. The Profitability Ratio has a minimum value of -0.0950 and a maximum of 0.9350, with a mean of 0.1171 and a standard deviation of 0.1897. The Leverage Ratio ranges from 0.0610 to 2.9120, with a mean of 0.8761 and a standard deviation of 0.7266. The Activity Ratio ranges from 0.1250 to 2.5560, with an average of 0.8481 and a standard deviation of 0.5351. Finally, Financial Distress ranges from 2.2820 to 12.8830, with a mean of 6.7035 and a standard deviation of 2.7083.

b. Normality Test

Table 2. Results of the Kolmogorov-Smirnov Test for Normality

| One-Sample Kolmogorov-Smirnov Test | | |
|--|----------------|--------------------|
| | | Financial Distress |
| N | | 46 |
| Normal Parameters ^{a,b} | Mean | 6.703478 |
| | Std. Deviation | 2.7082670 |
| Most Extreme Differences | Absolute | .130 |
| | Positive | .130 |
| | Negative | -.083 |
| Test Statistic | | .130 |
| Asymp. Sig. (2-tailed) | | .549 ^c |
| a. Test distribution is Normal. | | |
| b. Calculated from data. | | |
| c. Lilliefors Significance Correction. | | |

The normality test using the One-Sample Kolmogorov-Smirnov method shows that the Financial Distress variable (N = 46) has a mean of 6.7035 and a standard deviation of 2.7083. The test statistic is 0.130, with an Asymp. Sig. (2-tailed) value of 0.549 (> 0.05). This indicates that the data are normally distributed and therefore suitable for subsequent parametric tests.

c. Multicollinearity Test

Table 3. Result Multicollinearity Test

| Coefficients ^a | | | |
|---|---------------------|-------------------------|-------|
| Model | | Collinearity Statistics | |
| | | Tolerance | VIF |
| 1 | (Constant) | | |
| | Liquidity Ratio | .919 | 1.088 |
| | Profitability Ratio | .879 | 1.138 |
| | Rasio Leverage | .837 | 1.195 |
| | Activity Ratio | .992 | 1.008 |
| a. Dependent Variable: Financial Distress | | | |

The normality test using the One-Sample Kolmogorov-Smirnov method shows that the Financial Distress variable in 46 samples has an average value of 6.7035 with a standard deviation of 2.7083. The test statistic is 0.130 with a significance value of Asymp. Sig. (2-tailed) of 0.549 > 0.05. This indicates that the Financial Distress data are normally distributed, allowing them to be used in subsequent parametric tests.

d. Autocorrelation Test

Table 4. Result Autocorrelation Test

| Model Summary | | | | | |
|---|--------|----------|-------------------|----------------------------|---------------|
| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Durbin-Watson |
| 1 | 0.784a | 0.811 | 0.835 | 0.0992 | 1.849 |
| a. Predictors: (Constant), Activity Ratio, Liquidity Ratio, Profitability Ratio, Leverage Ratio | | | | | |
| b. Dependent Variable: Financial Distress | | | | | |

According to Sugiyono (2019), a regression model shows positive autocorrelation if the Durbin-Watson (DW) value is < -2, negative autocorrelation if it is > 2, and no autocorrelation if the value lies between -2 and 2. The DW value of 1.849 falls within this range, indicating that the data are free from autocorrelation.

e. Heteroscedasticity Test

Table 5. Result Heteroscedasticity Test

| Coefficients ^a | | | | | | |
|---------------------------|---------------------|-----------------------------|------------|---------------------------|--------|------|
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | .135 | .024 | | 5.537 | .100 |
| | Liquidity Ratio | -.011 | .045 | -.346 | -2.329 | .184 |
| | Profitability Ratio | -.044 | .042 | -.157 | -1.034 | .307 |
| | Rasio Leverage | -.026 | .011 | -.358 | -2.303 | .064 |
| | Activity Ratio | -.180 | .014 | -.018 | -.128 | .899 |

a. Dependent Variable: ABS

According to Ghozali (2019), the Glejser test regresses absolute residuals on independent variables to detect heteroscedasticity. If the significance value is greater than 0.05, the model is considered free from heteroscedasticity. The results show that all significance values exceed 0.05, indicating no heteroscedasticity in the study data.

4.2. Hypothesis Testing Results

a. Multiple Linear Regression Equation

Table 6. Result Multiple Linear Regression Equation

| Coefficients ^a | | | | | | |
|---------------------------|---------------------|-----------------------------|------------|---------------------------|--------|------|
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 1.019 | .481 | | .394 | .696 |
| | Liquidity Ratio | -1.200 | .189 | -.767 | -2.918 | .000 |
| | Profitability Ratio | -1.400 | .183 | -.098 | -2.934 | .000 |
| | Rasio Leverage | 3.300 | .222 | .886 | 2.992 | .000 |
| | Activity Ratio | -.600 | .028 | -.119 | -3.794 | .000 |

a. Dependent Variable: Financial Distress

Based on the results in Table 6, the regression equation can be formulated as follows:

$$Y = 1.019 - 1.200CR - 1.400ROA + 3.300DER - 0.600TATO$$

The regression results indicate that the Liquidity, Profitability, and Activity Ratios negatively affect financial distress, with coefficients of -1.200, -1.400, and -0.600, respectively. This means that higher values of these ratios reduce the risk of financial distress. Conversely, the Leverage Ratio has a positive effect on financial distress (coefficient 3.300), suggesting that higher debt levels increase the risk. Therefore, companies should maintain strong liquidity, profitability, and efficiency while managing debt prudently to avoid financial difficulties.

b. T-Test (Partial)

Table 7. Result of t-test

| Coefficients ^a | | | | | | |
|---|---------------------|-----------------------------|------------|---------------------------|--------|------|
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 1.019 | .481 | | .394 | .696 |
| | Liquidity Ratio | -1.200 | .189 | -.767 | -2.918 | .000 |
| | Profitability Ratio | -1.400 | .183 | -.098 | -2.934 | .000 |
| | Rasio Leverage | 3.300 | .222 | .886 | 2.992 | .000 |
| | Activity Ratio | -.600 | .028 | -.119 | -3.794 | .000 |
| a. Dependent Variable: Financial Distress | | | | | | |

Based on the table above and the t-table calculation, the conclusions for each hypothesis are as follows:

H1: Liquidity Ratio hurts financial distress

The test results show a t-statistic of -2.918, exceeding the critical value of -2.01954, with a significance level of 0.000 (< 0.05). This indicates that the Liquidity Ratio has a significant adverse effect on financial distress. Therefore, H1 is accepted, and H0 is rejected. Higher liquidity reduces the likelihood of financial distress. This finding is consistent with Antikasari & Djuminah (2017), who found that the current ratio significantly reduces financial distress.

H2: Profitability Ratio hurts financial distress

The test results show a t-statistic of -2.934, exceeding the critical value of -2.01954 (in absolute terms), with a significance level of 0.000 (< 0.05). This confirms that the Profitability Ratio has a significant and negative impact on financial distress. Thus, H2 is accepted, and H0 is rejected. Higher profitability lowers the risk of financial distress. These results are consistent with Dewi & Dana (2017), Dance & Made (2019), Hendra et al. (2018), and Harianti & Paramita (2019).

H3: Leverage Ratio has a positive effect on financial distress

The test results show a t-statistic of 2.992, which is greater than the critical value of 2.01954, indicating a significance level of 0.000 (< 0.05). This confirms that the Leverage Ratio has a significant and positive effect on financial distress. Therefore, H3 is accepted, and H0 is rejected. An increase in leverage raises the risk of financial distress. These findings align with Dewi & Dana (2017), Dance & Made (2019), Hendra et al. (2018), and Harianti & Paramita (2019).

H4: Activity Ratio hurts financial distress

The test results show a t-statistic of -3.794, exceeding the critical value of -2.01954 (in absolute terms), with a significance level of 0.000 (< 0.05). This indicates that the Activity Ratio has a significant adverse effect on financial distress. Thus, H4 is accepted, and H0 is rejected. These findings are consistent with Dewi & Dana (2017), Antikasari & Djuminah (2017), and Kartika & Hasanudin (2019).

c. F-Test (Simultaneous)

Table 8. Result of F-test

| ANOVA ^a | | | | | | |
|---|------------|----------------|----|-------------|-------|-------|
| Model | | Sum of Squares | df | Mean Square | F | Sig. |
| 1 | Regression | 330.062 | 4 | 82.515 | 9.091 | .000b |
| | Residual | .000 | 41 | .000 | | |
| | Total | 330.062 | 45 | | | |
| a. Dependent Variable: Financial Distress | | | | | | |
| b. Predictors: (Constant), Activity Ratio, Liquidity Ratio, Profitability Ratio, Leverage Ratio | | | | | | |

The ANOVA results show an F-value of 9.091 with a significance level of 0.000 (< 0.05), indicating that the regression model is statistically significant. This means the independent variables—Liquidity Ratio, Profitability, Leverage, and Activity—collectively have a significant impact on financial distress. Thus, the model effectively explains how these financial ratios influence a company's financial condition.

d. Coefficient of Determination (R^2)

Table 9. Result Coefficient of Determination (R^2)

| Model Summary | | | | |
|---|-------|----------|-------------------|----------------------------|
| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
| 1 | .784a | .811 | .835 | .0992000 |
| a. Predictors: (Constant), Activity Ratio, Liquidity Ratio, Profitability Ratio, Leverage Ratio | | | | |
| b. Dependent Variable: Financial Distress | | | | |

The Model Summary shows an R^2 value of 0.811, meaning that 81.1% of the variation in financial distress is explained by the independent variables (Liquidity Ratio, Profitability, Leverage, and Activity). The remaining 18.9% is attributed to factors outside the model. The Adjusted R^2 of 0.835 indicates the robustness of the model after accounting for the number of predictors.

4.3. Discussion of Research Results

a. The Effect of Liquidity Ratio on Financial Distress

The Liquidity Ratio has a significant adverse effect on financial distress, indicating that companies with higher liquidity ratios are less likely to experience financial distress because they can efficiently meet their short-term obligations. Manufacturing companies listed on the Indonesia Stock Exchange (IDX) during 2022–2023 with low liquidity ratios faced significant financial challenges, including delayed payments on short-term debt and a decline in investor confidence. In contrast, firms with strong liquidity were better equipped to withstand the economic difficulties that followed the pandemic and ongoing global pressures. This finding supports previous research by Antikasari & Djuminah (2017), which showed that the Liquidity Ratio, particularly the current ratio, has a significant adverse effect on financial distress. High liquidity serves as a positive indicator of a company's ability to maintain financial stability.

b. The Effect of Profitability Ratio on Financial Distress

The Profitability Ratio has a significant adverse effect on financial distress, meaning that companies with higher profitability are less likely to experience financial distress because they generate sufficient profits to cover operational expenses and financial obligations. Among manufacturing firms listed on the IDX during

2022–2023, those with strong profitability maintained stable financial performance despite market volatility and avoided major liquidity issues. Conversely, firms with low profitability struggled to repay debts and experienced declining investor confidence, which increased their risk of financial distress. These results are consistent with prior studies by Dewi & Dana (2017), Dance & Made (2019), Hendra et al. (2018), and Harianti & Paramita (2019), which demonstrated that Return on Assets (ROA) has a significant adverse effect on financial distress. High profitability provides a positive signal to the market about management efficiency and the sustainability of the company's operations.

c. The Effect of Leverage Ratio on Financial Distress

The Leverage Ratio has a significant positive effect on financial distress, showing that higher levels of debt increase a company's risk of financial distress due to rising interest expenses and repayment burdens. Manufacturing firms listed on the IDX during 2022–2023 with high leverage ratios—particularly in the textile and automotive sectors—experienced cash flow difficulties and weakening financial performance due to substantial financial costs. These challenges hindered their ability to meet financial obligations promptly, resulting in financial distress. In contrast, firms with stronger capital structures and well-managed debt were better equipped to maintain financial stability amid global economic pressures. This result is consistent with previous studies by Dewi & Dana (2017), Dance & Made (2019), Hendra et al. (2018), and Harianti & Paramita (2019), which concluded that the Leverage Ratio has a positive and significant effect in predicting financial distress among manufacturing firms. High debt levels signal to investors and creditors the presence of elevated financial risk.

d. The Effect of Activity Ratio on Financial Distress

The Activity Ratio, particularly measured by Total Assets Turnover (TATO), has a significant adverse effect on financial distress. A higher Activity Ratio indicates greater efficiency in utilizing assets to generate revenue, thereby reducing the likelihood of financial distress. Manufacturing firms listed on the IDX during 2022–2023 that maximized asset utilization—such as those in the food and beverage sector—maintained stable financial performance and successfully avoided financial difficulties. Conversely, firms with low asset turnover exhibited weaker operational efficiency, which limited their ability to generate adequate cash flow and increased their vulnerability to financial distress. These findings align with previous research by Dewi & Dana (2017), Antikasari & Djuminah (2017), and Kartika & Hasanudin (2019), which have demonstrated that the Activity Ratio, particularly TATO, has a significant negative impact on financial distress. Efficient asset management signals positively to investors regarding a company's capacity to manage resources productively and avoid financial problems.

V. Conclusion

The findings of the study entitled 'The Use of Ratio Analysis to Predict the Financial Distress of Manufacturing Companies on the Indonesia Stock Exchange' can be summarized as follows. The Liquidity Ratio has a negative and significant influence on financial distress, indicating that increased liquidity reduces the risk of financial difficulties. The Profitability Ratio also has a significant negative impact on financial distress, where higher profitability reflects the company's ability to earn profits and lowers the chance of experiencing distress. The Leverage Ratio exhibits a significant positive relationship with financial distress, suggesting that a greater reliance on debt increases the company's risk of financial strain. The Activity Ratio has a negative and significant impact on financial distress, suggesting that companies that manage their assets efficiently are less likely to face financial difficulties.

Based on the conclusions above, the author offers the following recommendations for future research. Management should prioritize the effective management of financial ratios by maintaining adequate liquidity, boosting profitability, and enhancing asset utilization efficiency. Furthermore, prudent control over debt levels is essential to avoid placing excessive financial pressure on the company. Investors

and creditors are encouraged to utilize financial ratio analysis results as a valuable reference in making investment and lending decisions, with a particular focus on indicators that strongly predict financial distress. Regulatory bodies and relevant institutions can leverage these insights to develop preventive measures that identify companies at high risk of financial distress, while also promoting transparency and accuracy in financial reporting among manufacturing companies.

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