

The Role of Corporate Governance and Financial Performance on Financial Distress

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Abstract

Purpose: This study examines the influence of good corporate governance—comprising institutional ownership, the board of directors, the board of commissioners, independent commissioners, and the audit committee—on financial distress, with financial performance as an intervening variable in manufacturing companies listed on the Indonesia Stock Exchange during 2020–2024.

Research Methodology: A quantitative approach using secondary data from the financial reports of 15 manufacturing companies over five years (75 samples) was applied. Purposive sampling was used, and data were analyzed to test both the direct and indirect effects of corporate governance components on financial distress through financial performance.

Results: The findings show that all corporate governance components simultaneously affect financial distress. Specifically, institutional ownership, the board of commissioners, and the audit committee negatively and significantly influence financial distress, both directly and via financial performance. Meanwhile, the board of directors and independent commissioners positively and significantly affect financial distress, both directly and through financial performance.

Conclusions: Good corporate governance plays a significant role in shaping financial distress, and financial performance acts as an important mediating mechanism. Certain governance elements can either mitigate or exacerbate financial distress depending on their influence.

Limitations: This study is limited to manufacturing companies listed on the Indonesia Stock Exchange and focuses on selected governance indicators, excluding external economic or industry-specific factors.

Contribution: The study provides empirical evidence on the role of corporate governance in financial distress and highlights the mediating function of financial performance, offering practical guidance for managers and investors to improve governance structures and enhance firm stability and performance.

Keywords: *Financial Distress, Financial Performance, Good Corporate Governance, Indonesia Stock Exchange, Intervening, Manufacturing Companies*

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1. Introduction

Corporate Governance (CG) is still considered difficult to implement in Indonesian companies. This is reflected in the global perception of the poor application of corporate governance, which has influenced the corruption perception index based on Transparency International data from 2021, in which Indonesia ranks 96th out of 180 countries. Several issues arise when implementing corporate governance in Indonesia, including a lack of commitment from company management to apply corporate governance, a lack of awareness and understanding of the importance of corporate governance among management and employees, a lack of independence and objectivity from the board of directors and commissioners in performing their duties, the persistence of unethical practices such as corruption and nepotism, and low levels of stakeholder participation and involvement in the company's decision-making processes.

To address these issues, strong commitment from management and support from stakeholders are necessary for the effective implementation of corporate governance. Furthermore, strong regulations and strict law enforcement are required to ensure that corporate governance practices align with established principles (Husnah, Aryati, Ramlawati, & Fahlevi, 2023). Based on Waskita's 2022 consolidated financial report, the company's revenue increased and net loss decreased. The company posted 2022 operating revenue of IDR 15.30 trillion, an increase of 25.20% compared to 2021's operating revenue of IDR 12.22 trillion. Meanwhile, the net loss decreased by 8.74%, from IDR 1.83 trillion in 2021 to IDR 1.67 trillion in 2022. Similarly, Wika saw an increase in consolidated revenue, but it incurred a net loss. In 2022, Wika recorded a net loss of IDR 59.6 billion, compared to a net profit of IDR 117.67 billion in 2021. The consolidated revenue for 2022 was IDR 21.48 trillion, an increase of 20.67% compared to IDR 17.80 trillion in 2021 (Suli Murwani, 2023).

According to Ghazali (2021), companies must pay attention to corporate governance to optimize profits and financial performance while ensuring that shareholders achieve the company's goals. P. Dewi and Tenaya (2017) state that the purpose of corporate governance is to protect the interests of related parties in business operations, which are often unclear. Its implementation is expected to contribute to improving the company's reputation and increasing customer satisfaction. When financial reports provide accurate and relevant information to users, they become an essential evaluation tool for assessing a company's financial performance. Through financial performance, one can gain insight into a company's financial condition over a particular period, including fundraising and allocation aspects, usually measured by indicators such as capital adequacy, liquidity, and profitability.

The Indonesia Stock Exchange (IDX) is an institution that organizes and provides a platform for meeting buy and sell offers of securities between buyers (investors) and sellers (public companies). This marketplace is known as a capital market. The IDX facilitates transactions in the capital market through two main systems: primary and secondary markets. The primary market refers to the first-time trading of securities, such as when a company conducts an Initial Public Offering (IPO) and offers its shares to the IDX. The secondary market is a continuation of the primary market, where all subsequent transactions are also conducted on the IDX. Given this background, this study is titled **"The Role of Corporate Governance on Financial Distress with Financial Performance as an Intervening Variable in Manufacturing Companies Listed on the Indonesia Stock Exchange 2020 - 2024."**

2. Literature Review

2.1 Basic Theories

2.1.1 Corporate Governance

Mardiasmo (2021) explains that corporate governance is the implementation of management in a solid and responsible development process that aligns with democratic principles and efficient market. It involves avoiding mistakes in allocation and investment and preventing political and administrative corruption. It also implements budget discipline to create a conducive legal and political framework for business activity. Karsono (2023) defines corporate governance as good governance in performing tasks and being accountable to the public in a professional, transparent, responsible, and fair manner.

To achieve this, measures include eradicating corruption, collusion, and nepotism and improving government performance. Riwanto and Suryaningsih (2024) also state that good and clean governance in an organization is demanded by the public to provide transparent and accountable public services according to its principles and to eradicate corruption, collusion, and nepotism. Corporate governance provides management that is solid, responsible, and in line with democratic principles, efficient markets, and avoidance of misallocation of investment funds and corruption prevention, both politically and administratively.

2.1.2 Institutional Ownership

Institutional ownership refers to a large institution that has a significant interest in investments, including share investments. Institutional ownership includes ownership by entities such as insurance companies, banks, investment firms, mutual funds, securities firms, pension funds, financial institutions, and other institutional investors. Institutional ownership is a tool that can be used to reduce agency conflicts. Through a large proportion of institutional ownership, owners can direct management to apply conservative accounting principles to avoid opportunistic actions by management in manipulating the company's performance. Institutional ownership can improve oversight, thereby reducing managers' opportunistic behavior and improving return on assets (ROA) (Widnyani, Anantanathorn, & Rahayu, 2024).

Institutional ownership refers to the ownership of company shares held by institutions that play an important role in monitoring, disciplining, and influencing managers to avoid selfish behaviors (Darsani & Sukartha, 2021). Institutional ownership refers to shares held by institutions, such as insurance companies, banks, investment companies, and other institutions. Institutional ownership is the proportion of shares owned by the institution that founded the company, not public shareholders, measured by the percentage of shares held by institutional investors (Moradi, Yazdifar, Eskandar, & Namazi, 2022).

2.1.3 Board of Commissioners

The board of commissioners is an oversight body in the corporate governance structure responsible for overseeing management policies and advising the Board of Directors. The board of commissioners is responsible for ensuring that the company is managed in the best interest of shareholders and complies with applicable regulations. They play a crucial role in controlling the quality of decision-making processes within the company, including overseeing the performance of the board of directors and reviewing the company's strategic policies (Lumbanraja, 2021). The board of commissioners is not directly involved in the day-to-day operations of the company, but they have the authority to request reports and information from the board of directors to ensure that management is operating according to the plans and standards set by the company. The board of commissioners also functions as a body that monitors the implementation of good corporate governance principles, including transparency and equality (Lumbanraja, 2021).

2.1.4 Board of Directors

Khatib and Nour (2021) define the board of directors as a group of individuals appointed by shareholders to carry out oversight and management responsibilities on their behalf. The board of directors is responsible for approving company strategies, overseeing management performance, and ensuring that the company is managed in a manner consistent with shareholders' interests and applicable regulations. Rafie, Sihombing, Nasution, and Muda (2025) describe the board of directors as the final authority in decision-making in a company. The board of directors is responsible for setting the strategic direction of the company, ensuring that executive management operates effectively and according to established policies, and protecting the interests of shareholders and other stakeholders.

The board plays an essential role in the sustainability and success of a company. They formulate and approve the company's strategic plans, which include long-term planning, risk analysis, and decisions that impact the entire company. The board of directors is responsible for setting clear goals and ensuring that available resources are optimally used to achieve these goals. They also need to consider the impact of strategic decisions on various stakeholders, including employees, customers and the general public.

In addition to their strategic role, the board of directors also acts as a supervisor of executive management, which is led by the CEO. They evaluate management performance, provide direction, and intervene if necessary to ensure that the company remains on track (Mekhriddinovich, 2025).

2.1.5 Independent Commissioner

According Nurjanah, Bandi, Payamta, and Winarna (2025), independent commissioners are those who are not members of the management, majority shareholders, officials, or otherwise directly or indirectly connected with the majority shareholders of a company overseeing the management of the company. The presence of independent commissioners indicates that they act as representatives of independent (minority) shareholders, including other interests such as investors. Essentially, all independent commissioners are expected to carry out their duties independently, solely for the benefit of the company, and free from the influence of any party whose interests may conflict with the company's. The presence of independent commissioners also enhances the overall capability of the board of commissioners, thus optimizing their effectiveness.

2.1.6 Financial Distress

Financial distress refers to a situation in which a company's financial condition is problematic, in crisis, or unhealthy before it experiences bankruptcy. Financial distress occurs when a company fails or is unable to meet its debt obligations due to a shortage or insufficiency of funds to continue or resume its business operations. Signs of financial distress in a company include delays in shipments, reduced product quality, and delayed bank bill payments. Financial distress occurs when a company's finances are unhealthy or critical. Financial distress is closely related to bankruptcy, as deteriorating financial conditions carry bankruptcy risk (Achmad & Hayet, 2024).

Similarly, Arrasyi and Hapsari (2025) state that financial distress occurs when a company's operating cash flows are insufficient to meet its current liabilities (such as trade credits or interest expenses). Susanto, Hamzani, and Kurniawan (2025) define financial distress as a stage of declining financial condition that occurs before bankruptcy or liquidation. Financial distress begins when a company is unable to meet its obligations, particularly short-term obligations, such as liquidity requirements, and includes obligations under the solvency category.

2.1.7 Financial Performance

Financial statements are the financial records of a company's management, including cash flows, balance sheets, profit and loss statements, and changes in equity, and are used as inputs in formulating a company's financial policy. Financial statements represent a company's financial position and include profit and loss reports and other financial information such as cash flows and retained earnings (Yolanda, Lutfhi, Delani, & Panggabean, 2025). Financial performance refers to a company's financial condition over a specific period, including the funding and use of funds measured against various indicators of capital adequacy, liquidity, debt, solvency, and profitability.

Financial performance refers to a company's ability to manage and control its resources. Financial performance is an important indicator used to assess the effectiveness and efficiency of a company in managing its assets, liabilities, and capital to achieve its business goals. Financial performance is often measured using financial statements that reflect a company's profitability, liquidity, solvency, and operational efficiency (Astuti & Sunarsih, 2024).

2.2 Theoretical Framework

This study consists of three variables: the independent variables, which are (X1) Institutional Ownership, (X2) Board of Directors, (X3) Board of Commissioners, (X4) Independent Commissioners, (X5) Audit Committee; the intervening variable, which is (Z) Financial Performance; and the dependent variable, which is (Y) Financial Distress. However, the relationship between corporate governance and financial distress is not always direct or linear. One possible pathway is through financial performance as an intervening variable. Effective corporate governance is believed to enhance a company's financial performance.

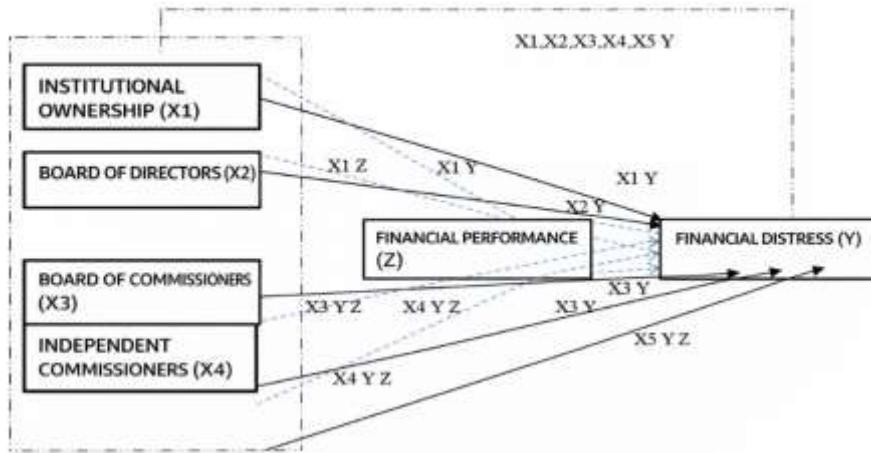


Figure 1. Conceptual Framework

Description:

- : X to Y is Partial
- : X to Y through Z
- : X to Y Simultaneously

2.3. Previous Studies

2.3.1 The Effect of Institutional Ownership, Board of Directors, Board of Commissioners, Independent Commissioners, and Audit Committee on Financial Distress Simultaneously

In the research conducted by Wati and Januari (2025) and Prasetya and Carolina (2023), it was found that institutional ownership, board of directors, board of commissioners, independent commissioners, and audit committee have a significant and simultaneous effect on financial distress. To further examine the simultaneous influence of institutional ownership, board of directors, board of commissioners, independent commissioners, and audit committees on financial distress, the researcher proposes the following hypothesis:

H1: Institutional ownership, board of directors, board of commissioners, independent commissioners, and audit committees are suspected to have a significant simultaneous effect on financial distress.

2.4.2 The Effect of Institutional Ownership on Financial Distress Partially

In the study by P. A. N. Dewi and Rosyadi (2024) and Wati and Januari (2025), as well as Prasetya and Carolina (2023), all found that institutional ownership does not have a significant partial effect on financial distress. However, a study conducted by Nila (2021) found that institutional ownership has a significant partial effect on financial distress. To further examine the effect of institutional ownership on financial distress, the researcher proposes the following hypothesis:

H2: Institutional ownership has a significant partial effect on financial distress.

2.4.3 The Effect of Board of Directors on Financial Distress Partially

In the study by P. A. N. Dewi and Rosyadi (2024) and Wati and Januari (2025), as well as Prasetya and Carolina (2023), all found that the board of directors does not have a significant partial effect on financial distress. However, Nila (2021) found that the board of directors does not have a significant partial effect on financial distress. To further examine the effect of the board of directors on financial distress, the researcher proposes the following hypothesis:

H3: The board of directors has a significant partial effect on financial distress.

2.4.4 The Effect of Board of Commissioners on Financial Distress Partially

In the study by (P. A. N. Dewi & Rosyadi, 2024) and Prasetya and Carolina (2023), all concluded that the board of commissioners has a significant partial effect on financial distress. To further examine the partial effect of the board of commissioners on financial distress, the researcher proposes the

following hypothesis:

H4: The board of commissioners is suspected to have a significant partial effect on financial distress

2.4.5 The Effect of Independent Commissioners on Financial Distress Partially

Wati and Januarti (2025) and Prasetya and Carolina (2023) found that audit committees have a significant partial effect on financial distress. To further examine the effect of the audit committee on financial distress, the researcher proposes the following hypothesis:

H5: Independent commissioners have a significant partial effect on financial distress.

2.4.6 The Effect of Independent Commissioners on Financial Distress through Financial Performance

The independent commissioner variable is tested for its effect on financial distress through the financial performance. Therefore, this study posits that independent commissioners affect financial distress through financial performance.

H6: Independent commissioners significantly affect financial distress through financial performance.

3. Research Methodology

3.1 Research Design

This study used a quantitative research method with a descriptive approach. This study aims to show the correlation between the effects of independent variables on the dependent variable. The data processing analysis conducted applies regression analysis with an intervening variable and uses a quantitative approach, which is a testing system for specific theories by examining the relationships between variables projected into numerical form (Slater & Hasson, 2025).

3.2 Type and Source of Data

3.3.1 Type of Data

According to Sugiyono (2017), quantitative data can be directly measured or counted and are in the form of numbers. The data used in this study are quantitative data in the form of financial data obtained online from the Indonesia Stock Exchange (IDX) website. According to Sugiyono (2017), secondary data are obtained from other sources. This secondary data included processed data from other sources, such as journals, reports, and books. The data source used is secondary data, as it was obtained from other parties in the form of the company's financial reports.

3.3 Research Subjects (Population and Sample)

3.4.1 Population

According to Sugiyono (2018), the population is a generalization area consisting of objects or subjects with certain qualities and characteristics that the researcher applies to study and then draws conclusions about. The population in this study is the financial report data of manufacturing companies listed on the Indonesia Stock Exchange from 2020 to 2024. According to Sugiyono (2018), a sample is a part of the total number and characteristics of the population. If the population is large and the researcher cannot study all of it, for example, due to limitations in funds, manpower, and time, the researcher can use a sample taken from it.

The sampling technique refers to the method of sample selection. Various sampling techniques were used. Non-probability sampling is a sampling technique that does not provide equal opportunities or chances for each element or member (SugiyonoSugiyono (2018)). Purposive sampling is a type of non-random sampling technique where the researcher determines sample selection by specifying certain characteristics that align with the research objectives, so that it is expected to answer the research problem. Based on the explanation of purposive sampling, there are two important points in using this sampling technique: non-random sampling and determining specific characteristics based on the research objectives. The criteria for the data to be used as a sample are explained in the following table:

Table 1. Purposive Sampling Criteria

No	Sample Criteria	Number of Companies
1	Number of manufacturing companies listed on IDX 2020–2024	230
2	Number of companies not reporting financial statements for 2020–2024	(143)
3	Number of companies not nominated for the 2023 GCG award	(72)
4	Number of manufacturing companies listed, reporting financial statements for 2020–2024, and nominated as recipients of the 2023 Indonesian GCG award	15
5	Total research data, which is 5 years of financial reports from 15 companies	75

Thus, the sample used consists of financial reports from 2020 to 2024 of 15 manufacturing companies listed on the Indonesia Stock Exchange that regularly report their financial statements for 2020 to 2024, totaling 75 sample data.

Table 2. List of Sample Companies

No	Sample Company Name
1	PT. Dharma Polimetal Tbk
2	PT. Itama Ranoraya Tbk
3	PT. Unilever Indonesia Tbk
4	PT. Pupuk Sriwijaya
5	PT. Pupuk Kalimantan Timur Tbk
6	PT. Pupuk Indonesia (persero) Tbk
7	PT. Bukit Asam Tbk
8	PT. Petrokimia Gresik Tbk
9	PT. HM Sampoerna Tbk
10	PT. Semen Baturaja Tbk
11	PT. Waskita Beton Precast Tbk
12	PT. Krakatau Steel Tbk
13	PT. Indocement Tunggal Perkasa Tbk
14	PT. Semen Indonesia Tbk
15	PT. Pelat Timah Nusantara Tbk

3.5 Data Collection Techniques

3.5.1 Secondary Data Collection

This technique involves using data that have already been collected by other parties, such as official reports, government statistics, or data from research institutions. Secondary data are often used as a complement or alternative when primary data collection is not possible. According to Sugiyono (2018), secondary data are not directly provided to the data collector but are obtained through other sources such as documents or third parties. Secondary data sources serve as complementary data that complete the primary data needed. Data collection was performed by visiting and obtaining the required financial reports online from the sample company's website or from the official website of the Indonesia Stock Exchange.

3.6 Variables and Operational Definitions of Variables

Research variables are anything that the researcher determines to study to obtain information and draw conclusions (Sugiyono, 2018). This study included dependent and independent variables. The variables used are institutional ownership, board of directors, board of commissioners, independent commissioners, audit committee, financial performance and financial distress.

3.6.1 Independent Variables

An independent variable is a variable whose value depends on another variable, which is the result of changes in the independent variable (dependent variable). In this study, the independent variables used are good corporate governance, consisting of institutional ownership, the board of directors, the board of commissioners, independent commissioners, and audit committees.

3.6.2 Dependent Variables

In this study, the dependent variable is financial distress, which is measured using the Altman Z-score, a multivariate formula that measures the potential bankruptcy of a company. It is a function of five financial ratios: profitability, leverage, liquidity, solvency, and activity ratios.

3.6.3 Intervening Variables

In this study, one intervening variable is financial performance, which is measured using leverage with the Debt to Total Asset Ratio (DAR).

3.6.4 Operational Definition of Variables

Table 3. Operational Definition of Variables

No.	Variable	Operational Definition	Indicator	Measurement Scale
1	Dependent Variable (Y)	Financial Distress: The Altman model, according to Edi and Tania (2018), was created in 1968 by Edward Altman, an economist and professor at the Stern School of Business, New York. In the mid-1980s, auditors and management accountants adopted Altman's methodology.	Altman Z Score: $Z = 1.2Z1 + 1.4Z2 + 3.3Z3 + 0.6Z4 + 0.999Z5$	Ratio
2	Independent Variable (X1)	Institutional Ownership: According to Pijoh, Pratama, Pramono, and Hapsari4 (2022), institutional ownership refers to shares owned by the government, financial institutions, legal entities, foreign institutions, and trust funds. These institutions have the authority to oversee management performance.	KI = Number of shares owned by institutions divided by total shares outstanding, multiplied by 100%	Ratio
3	Independent Variable (X2)	Board of Directors: According to POJK Number 33 of 2014, the board of directors is an organizational body with full authority and responsibility for the management of the organization to achieve its goals.	DD = Number of board members in a company	Nominal
4	Independent Variable (X3)	Board of Commissioners: According to the Limited Liability Company Law Number 40 of 2007, paragraph 6 in Audrey, Lukman, and Sriwati (2024), the board of	DK = Internal commissioners + external commissioners	Nominal

No.	Variable	Operational Definition	Indicator	Measurement Scale
		commissioners is part of the company that is responsible for general and/or specific oversight according to the articles of association and providing advice to the board of directors.		
5	Independent Variable (X4)	Independent Commissioner: According to Gunawan and Utama (2025), an independent commissioner is one who is not a member of management, a majority shareholder, an official, or otherwise directly or indirectly related to the majority shareholder of the company who oversees the company's management. Independent commissioners act as representatives of independent (minority) shareholders, including representing other interests, such as investors.	$KI = \frac{\text{External board of commissioners}}{\text{total board of commissioners}} \times 100\%$	Ratio
6	Intervening Variable (Z)	Financial Performance: According to Pardosi and Siagian (2021), the Debt to Assets Ratio (DAR) is a debt ratio used to measure how much of the company's assets are financed by debt or how much the company's debt affects asset management.	$DAR = \frac{\text{Total Debt}}{\text{Total Assets}}$	Ratio

3.7 Analysis Tools

The analysis tools used include classical assumption tests, which consist of normality tests, heteroscedasticity tests, and correlation tests, multiple linear regression tests, and hypothesis tests, which include the coefficient of determination test, F-test, and t-test. The analysis was performed using SPSS version 23.

3.8 Hypothesis Testing

3.8.1 Classical Assumption Test

3.8.1.1 Normality Test

According to, the normality test aims to check whether the residuals in the regression model are normally distributed. The normality test examines whether the dependent and independent variables in the regression model have an effect or whether the residuals follow a normal distribution. Parametric analysis cannot be used if the data are not normally distributed. The method for testing normality in this study used the p-plot testing method. The regression model is said to be normally distributed if the data plotting (points representing actual data) follows a diagonal line.

3.8.1.2 Heteroscedasticity Test

According to Ghazali (2021), the heteroscedasticity test aims to check whether there is an unequal variance of residuals between one observation and another in the regression models. If the variance of the residuals between observations remains the same, it is called homoscedasticity; if the variance

differs, it is called heteroscedasticity. The test results are shown in the scatterplot: if the points are spread with an unclear pattern above and below the 0-axis and Y-axis, heteroscedasticity does not occur.

3.8.1.3 Autocorrelation Test

According to Ghozali (2021), the autocorrelation test aims to check whether there is a correlation between the disturbance errors in period t and the disturbance errors in period $t-1$ (the previous period). If a correlation exists, it is called an autocorrelation problem. Autocorrelation arises because consecutive observations over time are related. This is often observed in time-series data. The Durbin-Watson (DW) test was used to detect autocorrelation. The decision rule for the Durbin-Watson test is as follows:

- If $0 < d < d_l$, then there is a positive autocorrelation.
- If $d > (4-d_l)$, then there is a negative autocorrelation.
- If $d_u < d < (4-d_l)$, then there is no autocorrelation.
- If $d_l < d < 4-d_u$, then there is neither a positive nor a negative autocorrelation.
- If $4-d_u < d < 4-d_l$, then there is no certainty of a solution.

3.8.1.4 Multicollinearity Test

According to Ghozali (2021), the multicollinearity test is used to examine whether the regression model exhibits a correlation between independent variables. A good regression model should not show a correlation between the independent variables. The decision rule is based on the tolerance value.

- If the tolerance value is > 0.10 , there is no multicollinearity.
- If the tolerance value is < 0.10 , multicollinearity exists.
- The decision rule based on the Variance Inflation Factor (VIF) is:
- If $VIF < 10.00$, there is no multicollinearity.
- If $VIF > 10.00$, multicollinearity exists.

3.8.2 Path Analysis

Path analysis is a statistical method used to identify and understand the relationships between variables in models. Path analysis helps clarify the complexity of relationships in a system by mapping the influence paths between variables. Path analysis is an extension of regression models used to test the correlation matrix in a causal model compared to researchers (Chaitanya, Tevari, & Hanumanthappa, 2024). According to Ghozali (2016), path analysis uses regression analysis to estimate causal relationships between variables (causal models) that are set based on theory.

According to Sugiyono (2017), path analysis is part of a regression model used to analyze the cause-and-effect relationships between variables. Path analysis uses correlation, regression, and paths to identify the intervening variables. Exogenous and endogenous variables are recognized in causal models. Exogenous variables are those whose variations are not influenced by other causes in the system. These are the initial variables that affect other variables, and disturbances are not considered. Endogenous variables are those whose variations are explained by other endogenous variables (Sarah et al., 2021). These steps can be adjusted according to the specific characteristics of the data and research objectives. It is important to incorporate a deep understanding of theory in the specific field of study, as well as relevant policies, when developing the conceptual model and conducting path analysis correctly.

3.8.3 Multiple Linear Regression Test

According to Ghozali (2021), regression analysis is used to measure the extent of the influence of independent variables on the dependent variables. In this study, intervening variables are also used, so the independent variables, such as institutional ownership (X_1), board of directors (X_2), board of commissioners (X_3), independent commissioners (X_4), and audit committee (X_5) are tested against the dependent variable (Y), Debt to Total Asset Ratio, with an intervening variable (Z) as the Altman's Z-Score. The calculation for the multiple regression analysis was also used to answer the hypotheses formulated, referring to the F-test and t-test, with the following multiple linear regression equation:

$$Z = \alpha + \beta_1 X_2 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + e$$

$$Y = \alpha + \beta_1 X_2 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + e$$

$$Y = \alpha + \beta_1 Y_2 + e$$

Where:

Y = Altman Z Score

Z = Debt to Total Asset Ratio

X1 = Institutional Ownership

X2 = Board of Directors

X3 = Board of Commissioners

X4 = Independent Commissioners

α = Constant

β_1 = Regression coefficient of X1

β_2 = Regression coefficient of X2

β_3 = Regression coefficient of X3

β_4 = Regression coefficient of X4

β_5 = Regression coefficient of X5

e = Standard error

3.8.4 Hypothesis Test

According to Barroga and Matanguihan (2022), hypothesis testing is a procedure based on sample evidence used to determine whether a hypothesis is reasonable, so the statement is accepted, or if the hypothesis is unreasonable, it should be rejected. Hypothesis testing in this study was conducted using the following tests:

1. Coefficient of Determination Test (R^2)

According to Ghazali (2021), the coefficient of determination measures how well a model explains the variation in the dependent variables. The coefficient of determination ranges from zero to one. A small R^2 value indicates that the independent variables have a limited ability to explain the variation in the dependent variable. Conversely, a value close to one indicates that the independent variables provide almost all the information required to predict the dependent variables.

2. F-statistic Test

According to Ghazali (2021), the F-test shows whether all independent variables included in the model have a simultaneous effect on the dependent variable. The significance level for the F-test was 5% (0.05). If the significance value is < 0.05 , it can be concluded that the independent variables have an effect on the dependent variable. However, if the significance value is > 0.05 , it can be concluded that the independent variables do not affect the dependent variable.

3. Partial Regression Coefficient Test (t-test)

According to Ghazali (2021), the t-test is used to examine the effect of each independent variable on the dependent variable. The decision rule for the t-test is based on two references.

Based on the significance value (Sig.):

- If the significance value (Sig.) is If $p < 0.05$, then there is an effect of the independent variable (X) on the dependent variable (Y) or the hypothesis is accepted.
- If the significance value (Sig.) $>$ If the p-value is 0.05, then there is no effect of the independent variable (X) on the dependent variable (Y), or the hypothesis is rejected.

Based on the comparison of the t-calculated value with the t-table value:

- If $t_{\text{calculated}} > t_{\text{table}}$, then there is an effect of the independent variable (X) on the dependent variable (Y), or the hypothesis is accepted.
- If $t_{\text{calculated}} < t_{\text{table}}$, then there is no effect of the independent variable (X) on the dependent variable (Y), or the hypothesis is rejected.

4. Result and Discussion

4.1. Research Results

4.2. Data Processing Results

4.2.1. Classical Assumption Test Results

4.2.1.1. Normality Test

4.2.1.2. Heteroscedasticity Test

According to Ghozali (2021), the heteroscedasticity test aims to check whether there is an unequal variance of residuals between one observation and another in the regression models. If the variance of the residuals between observations remains the same, it is called homoscedasticity; however, if it differs, it is called heteroscedasticity. The test results are shown in the scatterplot: if the points are spread with an unclear pattern above and below the 0-axis and Y-axis, heteroscedasticity does not occur.

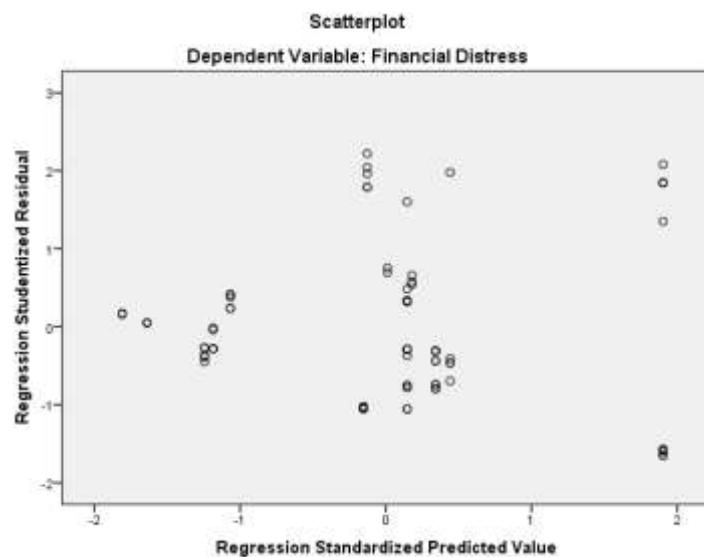


Figure 2. Scatterplot

As shown in Figure 4.2, the points are spread in an unclear pattern above and below the 0-axis and Y-axis, indicating that heteroscedasticity does not occur in the regression model, as the variance of residuals between observations remains consistent.

4.2.1.3. Autocorrelation Test

Autocorrelation arises because consecutive observations over time are related. This is commonly observed in time-series data. To detect autocorrelation, the data were tested using the Durbin-Watson (DW) test. The decision rule for the Durbin-Watson test is as follows:

- If $0 < d < d_l$, then there is a positive autocorrelation.
- If $d > (4-d_l)$, then there is a negative autocorrelation.
- If $d_u < d < (4-d_l)$, then there is no autocorrelation.
- If $d_l < d < 4-d_u$, then there is no positive or negative autocorrelation in the data.
- If $4-d_u < d < 4-d_l$, then there is no certainty of a solution.

Table 4. Durbin-Watson Test Results

Model Summary ^b					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.571 ^a	.560	.513	121.16423	2.176
a. Predictors: (Constant), Komiter Audit, Dewan Direksi, Komisaris Independen\, Kepemilikan Institusional, Dewan Komisaris					
b. Dependent Variable: Financial Distress					

Source: Primary Data Processed, 2025

Based on the table above, the Durbin-Watson value was 2.176. When $T = 75$ and $K = 7$, we find $dl = 1.4284$ and $du = 1.8336$. Using the decision rule, $du < d < (4-dl)$, which means $1.8336 < 2.176 < 2.5716$, indicating that no autocorrelation occurs. The autocorrelation test showed that there was no autocorrelation because consecutive observations over time were not correlated.

4.2.1.4. Multicollinearity Test

A good regression model does not exhibit correlations among independent variables. The decision rule based on the tolerance value is as follows:

- If the tolerance value is > 0.10 , there is no multicollinearity.
- If the tolerance value is < 0.10 , multicollinearity occurs.

The decision rule based on the Variance Inflation Factor (VIF) is:

- If the VIF value is < 10.00 , there is no multicollinearity.
- If the VIF value is > 10.00 , multicollinearity occurs.

Table 5. Multicollinearity Test Results

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	Collinearity Statistics	
		B	Std. Error	Beta	Tolerance	VIF
1	(Constant)	5425.123	2123.499			
	Institutional Ownership	-.051	.276	-.023	.821	1.240
	Board of Directors	.317	.113	.274	.796	1.270
	Board of Commissioners	-.862	.223	-.492	.732	1.393
	Independent Commissioners	4.250	2.072	.248	.779	1.296
	Audit Committee	-.546	.506	-.119	.921	1.123
a. Dependent Variable: Financial Distress						

Source: Primary Data Processed, 2025

Based on the table above, the tolerance value for all independent variables is greater than 0.10, and the VIF value for all independent variables is less than 10. Therefore, it can be concluded that multicollinearity does not occur. A good regression model is indicated by no correlation between independent variables (no multicollinearity).

4.2.2. Path Analysis

According to Sugiyono (2017), path analysis is part of the regression model used to analyze the causal relationships between variables. Path analysis uses correlations, regressions, and paths to identify intermediary variables.

Table 6. Regression Coefficients Table for Equation 1

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	Collinearity Statistics	
		B	Std. Error	Beta	Tolerance	VIF
1	(Constant)	7876.046	2642.081			
	Institutional Ownership	-3.375	1.351	-.382	.743	1.346
	Board of Directors	.241	.139	.260	.775	1.291

Board of Commissioners	-.455	.307	-.254	.592	1.689
Independent Commissioners	3.094	2.558	.179	.795	1.258
Audit Committee	-.955	.631	-.208	.923	1.084

a. Dependent Variable: Financial Distress

Source: Primary Data Processed, 2025

From the coefficient table above, the first path analysis equation generated in this study is as follows:

$$Y = 787,046 - 3,375X_2 + 0,241X_2 - 0,455X_3 + 3,094X_4 - 0,955X_5 + e$$

Table 7. Regression Coefficients Table for Equation 2

Model		Coefficients ^a		Standardized Coefficients
		B	Std. Error	
1	(Constant)	7781,043	2684.992	
	Institutional Ownership	-3.503	1.412	-.397
	Board of Directors	.241	.141	.260
	Board of Commissioners	-.425	.322	-.237
	Independent Commissioners	3.196	2.603	.185
	Audit Committee	-.916	.647	-.199
	Financial Performance	-.099	.276	-.053

a. Dependent Variable: Financial Distress

Source: Primary Data Processed, 2025

From the coefficient table above, the second multiple regression path analysis equation generated in this study is as follows:

$$Y = 7781,043 - 3,503X_2 + 0,241X_2 - 0,425X_3 + 3,196X_4 - 0,916X_5 - 0,099Z + e$$

The relationships between the variables are shown in Figure 3.

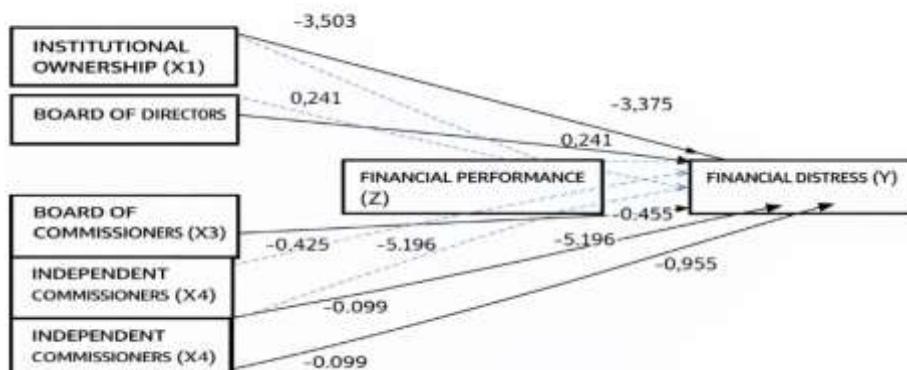


Figure 3. Path Analysis

4.2.3. Multiple Linear Regression Test Results

According to Ghazali (2021), regression analysis is used to measure the extent of the influence of independent variables on the dependent variables. Intervening variables were also used in this study. The independent variables such as institutional ownership (X1), board of directors (X2), board of commissioners (X3), independent commissioners (X4), and audit committee (X5) are tested against the dependent variable (Y) financial distress, with an intervening variable (Z) financial performance.

Multiple regression analysis was used to answer the formulated hypotheses, referring to the F-test and t-test. The following multiple regression equation was formulated:

$$Y = \alpha + \beta_1 X_2 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + e$$

$$Y = \alpha + \beta_1 X_2 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 Z + e$$

Table 8. Regression Coefficients Table for Equation 1

Model		Coefficients ^a			Collinearity Statistics	
		Unstandardized Coefficients	B	Std. Error		
1	(Constant)	5425.123	2123.499			
	Institutional Ownership	-.051	.276		.821	1.240
	Board of Directors	.317	.113		.796	1.270
	Board of Commissioners	-.862	.223		.732	1.393
	Independent Commissioners	4.250	2.072		.779	1.296
	Audit Committee	-.546	.506		.921	1.123

a. Dependent Variable: Financial Distress

Source: Primary Data Processed, 2025

From the coefficient table above, the first multiple linear regression equation generated in this study is as follows:

$$Y = 5425,123 - 0,051X_1 + 0,317X_2 - 0,862X_3 + 4,250X_4 - 0,546X_5 + e$$

The interpretation of the results of the multiple linear regression equation above is as follows:

1. The constant of 5425.123 means that with the influence of institutional ownership, board of directors, board of commissioners, independent commissioners, and audit committee, when all company values change by one point, financial distress is positively valued by that constant.
2. The regression coefficient for institutional ownership (X1) is -0.051, indicating that institutional ownership negatively affects financial distress, meaning that when institutional ownership increases by one unit, financial distress decreases by 0.051 units, assuming that other variables remain constant.
3. The regression coefficient for the board of directors (X2) is 0.317, indicating that the board of directors positively affects financial distress, meaning that when the board of directors increases by one unit, financial distress increases by 0.317 units, assuming other variables remain constant.
4. The regression coefficient for the board of commissioners (X3) is -0.862, indicating that the board of commissioners negatively affects financial distress, meaning that when the board of commissioners increases by one unit, financial distress decreases by 0.862 units, assuming other variables remain constant.
5. The regression coefficient for independent commissioners (X4) is 4.250, indicating that independent commissioners positively affect financial distress, meaning that when independent commissioners increase by one unit, financial distress increases by 4.250 units, assuming other variables remain constant.

Table 9. Regression Coefficients Table for Equation 2

Model		Coefficients ^a			Standardized Coefficients
		B	Std. Error	Beta	
1	(Constant)	5470.709	2074.371		
	Institutional Ownership	-.037	.267		-.017
	Board of Directors	.244	.109		.269

Board of Commissioners	-.864	.224	-.493
Independent Commissioners	4.112	2.064	.243
Audit Committee	-.552	.519	-.123
Financial Performance	.089	.223	.046

a. Dependent Variable: Financial Distress

Source: Primary Data Processed, 2025

From the coefficient table above, the second multiple regression equation generated in this study is as follows:

$$Y = 5470.709 - 0.037X_1 + 0.244X_2 - 0.864X_3 + 4.112X_4 - 0.552X_5 + 0.089Z + e$$

The interpretation of the results of the multiple linear regression equation above is as follows:

1. The constant of 5470.709 means that with the influence of institutional ownership, board of directors, board of commissioners, independent commissioners, and audit committee, when all company values change by 1 point, financial distress through financial performance is positively valued by that constant.
2. The regression coefficient for institutional ownership (X1) is -0.037, indicating that institutional ownership negatively affects financial distress through financial performance. This means that when institutional ownership increases by one unit, financial distress through financial performance decreases by 0.037 units, assuming other variables remain constant.
3. The regression coefficient for the board of directors (X2) is 0.244, indicating that the board of directors positively affects financial distress through its financial performance. This means that when the board of directors increases by one unit, financial distress through financial performance increases by 0.244 units, assuming that other variables remain constant.
4. The regression coefficient for the board of commissioners (X3) is -0.864, indicating that the board of commissioners negatively affects financial distress through its financial performance. This means that when the board of commissioners increases by one unit, financial distress through financial performance decreases by 0.864 units, assuming that other variables remain constant.

4.2.4. Hypothesis Testing Results

4.2.4.1. Coefficient of Determination Test Results

A small R^2 value indicates that the independent variables have a limited ability to explain the variation in the dependent variable. Conversely, if the R^2 value is close to one, it means that the independent variables provide almost all the information needed to predict the dependent variables.

Table 10. Model Summary Table

Model Summary ^b					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.571 ^a	.560	.513	121.16423	2.176
a. Predictors: (Constant), Audit Committee, Board of Directors, Independent Commissioners, Institutional Ownership, Board of Commissioners					
b. Dependent Variable: Financial Distress					

Source: Primary Data Processed, 2025

Based on the result of the R^2 value (0.560), it indicates that 56.0% of the financial performance can be explained by the variations in the independent variables, including institutional ownership, board of directors, board of commissioners, independent commissioners, and audit committee across all companies. The remaining 44.0% is explained by other variables not included in this study.

4.2.4.2. Simultaneous Test Results

The significance level for the F-test was 5% (0.05). If the significance value is < 0.05 , it can be concluded that the independent variables affect the dependent variables. However, if the significance value is > 0.05 , it can be concluded that the independent variables do not affect the dependent variable.

Table 11. ANOVA Table

ANOVA ^a					
	Model	Sum of Squares	df	Mean Square	F
1	Regression	128626101.536	5	25725220.307	3.972
	Residual	451567126.651	69	6544451.111	
	Total	580193228.187	74		

a. Dependent Variable: Financial Distress
b. Predictors: (Constant), Audit Committee, Board of Directors, Independent Commissioners, Institutional Ownership, Board of Commissioners

Source: Primary Data Processed, 2025

From the above test result, the calculated F value is 3.972, and the significance is 0.001, while the F-table value from $df1 = 75-5 = 69$ and $df2 = 5$ is 2.35. Because the calculated F value (3.972) is greater than the F-table value (2.35) and the significance value (0.001) is less than 0.05, the null hypothesis (H_0) is rejected, and the alternative hypothesis (H_a) is accepted. This means that the hypothesis stating that institutional ownership (X1), board of directors (X2), board of commissioners (X3), independent commissioners (X4), and audit committees (X5) simultaneously have a positive and significant effect on financial distress (Y) is supported.

4.2.4.3. Partial Test Results

The decision rule for the t-test can be observed from two references:

Based on the significance value (Sig.):

- If the significance value (Sig.) < 0.05 , there is an effect of the independent variable (X) on the dependent variable (Y), or the hypothesis is accepted;
- If the significance value (Sig.) > 0.05 , there is no effect of the independent variable (X) on the dependent variable (Y), or the hypothesis is rejected;

Based on the comparison of the calculated t value with the t-table:

- If the calculated t value is greater than the t-table value, there is an effect of the independent variable (X) on the dependent variable (Y), or the hypothesis is accepted.
- If the calculated t value $<$ t-table value, there is no effect of the independent variable (X) on the dependent variable (Y), or the hypothesis is rejected.

Table 12. Regression Coefficients Table for Equation 1

Model	Coefficients ^a				
	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
1	(Constant)	5425.123	2123.499		2.647
	Institutional Ownership	-.051	.276	-.023	-2.172
	Board of Directors	.317	.113	.274	2.275
	Board of Commissioners	-.862	.223	-.492	-3.881
	Independent Commissioners	4.250	2.072	.248	2.071
	Audit Committee	-.546	.506	-.119	-2.015

a. Dependent Variable: Financial Distress

Source: Primary Data Processed, 2025

From the above test, the following calculated t values were obtained:

- The institutional ownership variable (X1) has a t value of -2.172, and the t-table value from $75 - 6 = 69$ with an alpha value of 0.05 is 1.99495. This means that the calculated t value is greater than the t-table value ($-2.172 > 1.99495$), with a significance value of 0.002, which is less than 0.05. Therefore, institutional ownership (X1) has a partially negative and significant effect on financial distress (Y).

2. The board of directors variable (X2) has a t-value of 2.275, and the t-table value is 1.99495. Since $2.275 > 1.99495$, and the significance value is 0.029 (less than 0.05), the board of directors (X2) has a partial positive and significant effect on financial distress (Y).
3. The board of commissioners variable (X3) has a t value of -3.881 and a t-table value of 1.99495. Since $-3.881 > 1.99495$, and the significance value is 0.000 (less than 0.05), the board of commissioners (X3) has a partially negative and significant effect on financial distress (Y).
4. The independent commissioners variable (X4) has a t value of 2.071 and the t-table value is 1.99495. Since $2.071 > 1.99495$, and the significance value is 0.043 (less than 0.05), independent commissioners (X4) have a partially positive and significant effect on financial distress (Y).

Table 13. Regression Coefficients Table for Equation 2

Model		Coefficients ^a			t	Sig.
		Unstandardized Coefficients	Standardized Coefficients	Beta		
1	(Constant)	5470.709	2074.371		2.637	.010
	Kepemilikan Institusional	-.037	.267	-.017	-2.139	.000
	Dewan Direksi	.244	.109	.269	3.238	.029
	Dewan Komisaris	-.864	.224	-.493	-4.861	.000
	Komisaris Independen\	4.112	2.064	.243	2.992	.000
	Komiter Audit	-.552	.519	-.123	-2.065	.001
	Financial Performance	.089	.223	.046	2.401	.000

a. Dependent Variable: Financial Distress

Source: Primary Data Processed, 2025

From the test above, the calculated t-value was obtained as follows:

1. The institutional ownership variable (X1) has a t value of -2.139, and the t-table value from $75 - 7 = 68$ with an alpha value of 0.05 is 1.99547. This means that the calculated t value is greater than the t-table value ($-2.139 > 1.99547$), with a significance value of 0.000 (less than 0.05). Therefore, institutional ownership (X1) has a negative and significant effect on financial distress (Y) via financial performance (Z).
2. The board of directors variable (X2) has a t-value of 3.238, and the t-table value is 1.99547. As $3.238 > 1.99547$, and the significance value is 0.029 (less than 0.05), the board of directors (X2) has a positive and significant effect on financial distress (Y) through financial performance (Z).
3. The board of commissioners variable (X3) has a t value of -4.861 and a t-table value of 1.99547. Because $-4.861 > 1.99547$, and the significance value is 0.000 (less than 0.05), the board of commissioners (X3) has a negative and significant effect on financial distress (Y) through financial performance (Z).
4. The independent commissioners variable (X4) has a t-value of 2.992, and the t-table value is 1.99547. Because $2.992 > 1.99547$ and the significance value is 0.000 (less than 0.05), independent commissioners (X4) have a positive and significant effect on financial distress (Y) through financial performance (Z).
5. The audit committee variable (X5) has a t-value of -2.065, and the t-table value is 1.99547. Because $-2.065 > 1.99547$, and the significance value is 0.001 (less than 0.05), the audit committee (X5) has a negative and significant effect on financial distress (Y) through financial performance (Z).

5. Conclusion

5.1 Conclusion

Based on the discussion outlined earlier, the following conclusions can be drawn.

1. The variables of institutional ownership, board of directors, board of commissioners, independent commissioners, and audit committee have a positive and significant simultaneous effect on financial distress in manufacturing companies listed on the Indonesia Stock Exchange from 2020 to 2024.
2. The institutional ownership variable has a negative and significant partial effect on financial distress in manufacturing companies listed on the Indonesia Stock Exchange between 2020 and 2024.

3. The board of directors variable has a positive and significant partial effect on financial distress in manufacturing companies listed on the Indonesia Stock Exchange between 2020 and 2024.
4. The board of commissioners variable has a negative partial effect on financial distress in manufacturing companies listed on the Indonesia Stock Exchange between 2020 and 2024.
5. The independent commissioners variable has a positive partial effect on financial distress in manufacturing companies listed on the Indonesia Stock Exchange between 2020 and 2024.
6. The audit committee variable has a negative partial effect on financial distress in manufacturing companies listed on the Indonesia Stock Exchange between 2020 and 2024.
7. The institutional ownership variable has a negative and significant effect on financial distress through financial performance in manufacturing companies listed on the Indonesia Stock Exchange from 2020 to 2024.
8. The board of directors has a positive effect on financial distress through financial performance in manufacturing companies listed on the Indonesia Stock Exchange from 2020 to 2024.
9. The board of commissioners variable has a negative effect on financial distress through financial performance in manufacturing companies listed on the Indonesia Stock Exchange from 2020 to 2024.
10. The independent commissioners variable has a positive effect on financial distress through financial performance in manufacturing companies listed on the Indonesia Stock Exchange between 2020 and 2024.
11. The audit committee variable has a negative effect on financial distress through financial performance in manufacturing companies listed on the Indonesia Stock Exchange from 2020 to 2024.

5.2 Recommendations

Based on the conclusions presented, the following recommendations are provided.

1. It is recommended that companies, particularly manufacturing companies, continue to pay attention to all factors that may lead to financial distress so that they can take proper preventive measures.
2. The low R Square value of 22.2% suggests that there are other factors not captured in the model that may explain financial distress in companies. Future research should consider including different variables or variables related to earnings management.

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