



RESEARCH ARTICLE

## Corporate Financial Distress in the Context of Sustainability Performance and Managerial Ownership: Does Gender Diversity Matter?

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**ABSTRACT**

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This research aims to explore the role of board gender diversity to enhancing the relationship between sustainability performance and managerial ownership on financial distress. The sample includes all manufacturing companies listed on the Indonesia Stock Exchange, with a total of 298 firm-year observations from 2021 to 2022. The study employs Moderated Regression Analysis (MRA) to test the hypotheses. The findings reveal that both sustainability performance and managerial ownership significantly and positively influence financial distress, while gender diversity significantly enhances this relationship. These results suggest that companies should improve their corporate governance by disclosing sustainability performance and managerial ownership, while also considering the importance of the proportion of women on the board of directors, which can strengthen sustainability performance and enhance corporate management in mitigating financial distress.

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## INTRODUCTION

Academics have paid much attention in recent decades to the causes and consequences of financial distress. (Rahman et al., 2023). The World Bank (2024) reports that economic growth is subject to a variety of undesirable risks, such as a more severe-than-expected global economic slowdown, longer periods of higher interest rates, increased global uncertainty regarding economic policies, and heightened geopolitical tensions. Financial distress is often considered an embarrassing situation as it involves the inability to meet due payments, such as debts or expenses, caused by liquidity problems, lack of equity, failure to pay debts, and lack of assets that can be converted into cash quickly. In addition, financial distress situations can be triggered by uncontrolled growth, expansion with minimal working capital, poor cash flow forecasting, and difficulty in predicting and managing cash flows effectively. Financial distress can cause problems such as decreased company sales, increased costs, unrealistic budget management, and insufficient cash flow to run the company's operations. (Younas et al., 2021). Moreover, financial distress also carries indirect costs, such as damage to relationships with stakeholders and losses in competition to maintain market share (Abdi et al., 2020).

In recent decades, sustainability issues have become a major focus for companies around the world, including in Indonesia. The Indonesian government has implemented a number of regulations and policies

to encourage sustainable business practices. Law No 32 of 2009 on Environmental Protection and Management requires companies to comply with strict environmental standards and conduct an Environmental Impact Assessment (AMDAL) before starting activities that have the potential to cause major impacts on the environment. In addition, Law No 40 of 2007 on Limited Liability Companies, Government Regulation No 47 of 2012 on Corporate Social and Environmental Responsibility, and Financial Services Authority (OJK) Regulation No 29/POJK.04/2016 on Public Company Annual Reports have required issuers to report on their social and environmental activities in annual reports. These regulations have not regulated the existence of a special report to disclose social and environmental activities, nor have they set standards on what elements should be disclosed. As a result, the level of social and environmental disclosure varies between companies (Hajawiyah et al., 2019).

Continuing sustainability efforts, in 2017 OJK issued OJK Regulation No 51/POJK.03/2017 on the Implementation of Sustainable Finance for Financial Services Institutions, Issuers, and Public Companies. In Indonesia, the implementation of the approach and regulations regarding sustainability reporting for public companies through the regulation has influenced sustainability practices nationwide. This regulation encourages public companies to integrate sustainability aspects into their business strategies, which can indirectly impact the national economy. (Permatasari & Gunawan, 2023).

The study of sustainable business continues to change rapidly, indicating the need for renewal in research on this issue. In the current era of global transformation, the company's sustainability performance is a very important aspect for business growth and survival (Laskar, 2018). Over the past few decades, there has been a significant increase in the demand for companies to take their responsibilities towards economic, social, and environmental aspects more holistically (Laskar & Gopal Maji, 2018). In this context, companies tend to improve their sustainability performance to meet the demands of stakeholders and society as a whole (Kalash, 2023). Sustainability performance is believed to improve a company's reputation and image, increase stakeholder recognition and trust, facilitate funding, and reduce business risk. However, some experts see it as an agency cost. Management can harm the value of the company by investing too much in social responsibility, seeking personal benefits at the expense of short-term interests, and neglecting investment projects that add value today (Gao & Geng, 2024).

Many stakeholders have noticed the link between corporate governance and potential financial problems. Ownership structure is often considered as one of the main factors that influence corporate governance (Udin et al., 2017). Ownership structure has a significant influence on funding decisions, firm value, and can even help reduce the risk of bankruptcy (Hunjra et al., 2020). The ownership structure determines the proportion of ownership of each party in the capital and resources of the company (Manna et al., 2016). By allocating more wealth into the business, owners can encourage better performance and increase the level of oversight of company activities. An effective ownership structure acts as an internal mechanism in corporate governance that helps overcome potential conflicts between company owners and management (Tayachi et al., 2023). According to Jensen et al. (1976) in the agency conflict framework, managerial ownership can influence manager behavior when facing financial problems. Since managers have a personal incentive to ensure the continuity and financial health of the company, it is expected that managerial ownership can reduce the conflict of interest between shareholders and management.

Previously, there have been many studies in developed countries regarding the relationship between sustainability performance and financial distress (Beijer & Pålsson, 2021; Boubaker et al., 2020; Rahman et al., 2023). Previous research has found a significant and negative influence between Environmental, Social, and Governance (ESG) and financial distress (Dumitrescu et al., 2020; Habib, 2023). Citterio & King (2023) found that ESG can improve the predictive ability to correctly identify distress in bank companies in the United States and EU 28 European countries, Gao & Geng (2024) also found that better ESG performance will have more resilience to crises, but powerful CEOs may weaken the firm's ability to respond to ESG.

Regarding the relationship between ownership structure and financial distress, Udin et al. (2017) found that ownership structure has an insignificant effect on financial distress in public companies in Pakistan. Furthermore, according to Shan et al. (2024) managerial ownership has a negative relationship with

financial distress in the convergence area and has a positive relationship with financial distress in the entrenchment area. Meanwhile, Prasetyo & Fachrurrozie (2016) said that there is no influence between managerial ownership on the probability of financial distress.

Previous research has investigated the direct relationship between sustainability performance and managerial ownership with financial distress. This study uses gender diversity as a moderating variable in the relationship between sustainability performance and managerial ownership with financial distress. Previous research shows fairly consistent evidence that gender diversity can reduce the likelihood of companies experiencing financial distress (Abbas & Frihatni, 2023; Ali et al., 2023; García & Herrero, 2021; Guizani & Abdalkrim, 2023; Muien et al., 2024). According to the echelon theory by Hambrick & Mason (1984) gender diversity in representation and decision-making on boards of directors or executive management can lead to more diverse, innovative and effective decisions.

Diversity in the board of directors provides more perspectives, knowledge and experience to the company. Gender diversity is one aspect of diversity that is often discussed in the context of corporate boards (Papíková & Papík, 2024). According to the report of the International Finance Corporation (2019), women who occupy leadership positions in companies tend to improve overall company performance. Therefore, it is important to increase gender diversity in the business sector. The presence of women directors on corporate boards is believed to improve the overall quality of corporate governance. This includes improvements in transparency, monitoring, as well as protection of shareholders' rights (Guizani & Abdalkrim, 2023). One of the advantages of having more female directors is that they tend to be more cautious and risk-averse compared to male directors. This may result in more cautious and measured decision-making (García & Herrero, 2021). Previous research, such as that conducted by Zhou (2019), has linked the inclusion of female directors in boards of directors to a lower number of financial problems. This suggests that the presence of female directors in the board of directors may contribute to the reduction of financial problems within the firm. Conducting research on the influence of female directors is important, as there are differences in estreroid hormones between women and men that may affect women's propensity to take risks. (Han Kim et al., 2015).

Although several studies have previously been conducted regarding the relationship between sustainability performance, managerial ownership, and gender diversity on financial distress, there are not many studies that discuss the Indonesian context. This study aims to discuss how sustainability performance and managerial ownership affect financial distress by looking at the role of gender diversity as a moderating variable. To achieve this goal, this study took manufacturing companies listed on the IDX for the period 2021 - 2022. This research makes several contributions. First, this study contributes to the literature by providing empirical evidence regarding the relationship between sustainability performance and managerial ownership on financial distress in manufacturing companies in Indonesia. Second, although some previous literature has discussed the direct relationship of sustainability performance and managerial ownership to financial distress, this study provides a new paradigm by presenting gender diversity to moderate this relationship. Third, these findings are important for investors to be able to design and run their portfolios. Furthermore, for managers, this study shows that in addition to "social benefits", socially responsible businesses also benefit economically by reducing the risk of financial distress. In addition, it is important for companies to pay attention to their ownership structure, especially the ownership held by the company's executive managers.

This study chooses to focus on manufacturing companies, using Altman's Z-score as an indicator to evaluate financial distress. Altman's Z-score is specifically used to assess the likelihood of bankruptcy for publicly listed manufacturing companies (Altman, 1968). Specifically, Altman (1968) emphasized that "the data used in the study is limited to manufacturing companies". This suggests that the use of Altman's Z-score is more relevant for manufacturing companies, thus driving the sample selection in this study. In addition, according to data from Indonesian Ministry of Industry (2021), manufacturing companies are the largest contributor to the National Gross Domestic Product (GDP). This shows that the manufacturing industry plays a very important role in economic growth in Indonesia.

## 2. LITERATURE REVIEW

### 2.1 Stakeholder Theory

Stakeholder theory, introduced by Freeman (1984) discusses organizational management and business ethics. According to this theory, companies should pay attention not only to maximizing profits, but also to ensuring that the interests of other stakeholders, both internal and external, are equally protected. The stakeholder ecosystem, according to this theory, includes all those who invest in and are involved or affected by the company, such as customers, employees, suppliers, and government agencies. This view presents a picture of the company as an environment made up of various related groups, all of which must be taken into account and catered for in order to maintain the long-term health and success of the company (Becky, 2023).

According to Edward Freeman & McVea (2001) Strategic management considers the reciprocal relationship between the firm and its environment. In other words, how the firm affects its environment and how this environment affects the firm. In this context, the instrumental dimension of stakeholder theory lays the foundation for the relationship between stakeholder management and firm performance. It postulates that practicing stakeholder management increases the growth and profitability of the firm which reduces the likelihood of financial distress (Donaldson & Preston, 1995). Previous literature has used the stakeholder theory perspective to explore sustainability performance (Kalash, 2023), managerial ownership (Dakhli, 2021) and gender diversity (Abbas & Frihatni, 2023).

### 2.2 Sustainability performance and financial distress

The concept of corporate sustainability includes three main aspects, namely economic, social and environmental. To manage the concept of sustainability well, every company should strive to integrate in a balanced way these three main aspects of sustainability (Laskar, 2018). Improved corporate sustainability contributes to increased customer satisfaction, corporate reputation, and organizational commitment. Overall, this will result in an increase in the company's competitive advantage and performance (Marti et al., 2015). According to research Saeidi et al. (2015), corporate social responsibility has an impact on company performance through factors such as customer satisfaction, reputation, and competitive advantage. A good reputation of the company and customer satisfaction arising from social responsibility can result in reduced costs and increased sales and profitability.

According to research Kim et al. (2014), socially conscious companies tend to avoid the negative impact of news and are responsible for maintaining the stability of the stock price so that it does not decline. A number of studies have also shown that socially responsible companies tend to have lower debt costs. This suggests that sustainability practices can reduce financial distress by lowering the cost of debt. This is because sustainability practices can improve the relationship between companies and shareholders and creditors. (Bacha et al., 2021). However, Al Barrak et al. (2023) concluded that companies are usually reluctant to engage in ESG initiatives during times of financial instability or economic challenges, and Chan et al. (2017) argue that when financial pressures are high, companies focus more on ensuring business continuity rather than engaging in sustainability activities, leading to decreased investment in environmental, social and governance aspects.

Many empirical studies have shown that implementing corporate sustainability practices has a positive impact on financial performance (Bai et al., 2015; Eccles et al., 2014; Grewatsch & Kleindienst, 2017). As stated by Habib (2023), effective sustainability practices assist firms in developing capabilities and resources that strengthen their competitive position. In line with that, some authors assert that companies that have high social responsibility tend to experience a lower risk of financial distress. Calomiris & Carlson (2016) and ESG provides additional protection for firms against the risk of financial distress (Antunes et al., 2023). However, Abdi et al. (2020) found a positive relationship between environmental performance as an indicator of sustainability practices and the risk of financial distress. Thus, based on the above arguments, the first hypothesis can be formulated as follows:

H1: Sustainability performance reduces the risk of financial distress.

### 2.3 Managerial ownership and financial distress

According to Vu et al. (2018), dividing company shares to managers and employees can improve company performance by coordinating management interests with shareholder interests. Board members and managers will pay more attention to company operations and encourage management efficiency (Luqman et al., 2018). Ownership by management seems to have a positive impact on the profitability of the company. Calomiris & Carlson (2016) support this claim by showing that ownership by management can improve the company's financial performance, thereby reducing the risk of financial distress. In an empirical study, Ashraf et al. (2016) confirmed that companies with higher levels of managerial ownership have a greater tendency to avoid risk and maintain the company's financial stability.

Specifically, managerial ownership can help organize aligned interests between shareholders and management, with results that are consistent with the principles of agency theory. (Shan et al., 2024). Furthermore Shan et al. (2021) also explained that managerial ownership encourages managers to prioritize actions that optimize shareholder value rather than acting opportunistically for their personal interests. However, according to Vu et al. (2018) the company's financial performance can also be negatively affected if members of the board of directors own a large number of company shares (as major shareholders who have control and play a role in the company's decision-making process), because this can encourage behavior that is more inclined to personal interests and potentially detrimental to the company's interests.

Pramudena (2017) concluded that managerial ownership has a negative impact on financial distress. Share ownership by managers in a company can increase prudence in company management. This understanding is also reinforced by Luqman et al. (2018) who found a negative correlation between managerial ownership and the probability of experiencing financial distress. In contrast, the findings of Udin et al. (2017) show a positive and significant relationship between ownership by managers and the probability of experiencing financial distress. Thus, based on the above arguments, the second hypothesis can be formulated as follows:

H2: Managerial ownership of the company reduces the risk of financial distress.

### 2.4 Moderating Role of Gender Diversity

Previous research shows that gender diversity has an impact on corporate risk. The findings of Faccio et al. (2016) showed that firms led by female directors have lower leverage levels, lower earnings volatility and higher survival rates than similar firms led by male directors. According to Kanuri & Malm (2018), director gender diversity has a large effect on the long-term value created by the company because there are difference behavior between men and women. Evidence shows that women tend to focus more attention on strategies that can avoid adverse consequences and provide a higher level of security. Gupta & Mahakud (2019). This includes lower levels of financial misreporting and less tendency to take on debt, thereby reducing the risk of financial distress (García & Herrero, 2021).

Research shows that in terms of the cost of debt, companies that have gender diversity in the board of directors tend to have a lower cost of debt. This is because the presence of female directors can reduce managerial opportunistic behavior and information asymmetry (Usman et al., 2019). In the context of psychology, gender differences are seen in leadership attitudes. Men tend to show courage and tend to take risks in decision making, while women tend to pay attention to details and are sensitive to unwanted things (Qian, 2016). From an investor's perspective, the presence of female directors has received a positive response because it is believed that the presence of women can improve the company's ability to implement more effective strategies when facing economic, social, and environmental challenges (Loukil et al., 2019).

Studies also show that women are more likely to implement long-term strategies and outcomes that take into account the interests of all parties, which is an important factor in the success of environmental practices (Glass et al., 2016). Overall, gender diversity in the board of directors can enhance ESG considerations (Arayssi et al., 2020) ESG considerations, and better performance in ESG helps to attract investor interest, which in turn generates greater cash inflows. Positive cash inflows and an increase in the company's market value help to reduce the risks faced by the company (Shakil, 2021). Thus, based on the

above arguments, the third and fourth hypotheses can be formulated as follows:

H3: Gender diversity moderates the relationship between sustainability performance and financial distress.

H4: Gender diversity moderates the relationship between managerial ownership and financial distress.

### 3. RESEARCH METHODS

#### 3.1 Data and Samples

This study uses secondary data obtained from annual reports and sustainability reports available on each company's website. The population of this study are all manufacturing companies listed on the Indonesia Stock Exchange for the period 2021-2022. The manufacturing sector was chosen because the author adopted the Altman (1968) which uses Altman's Z-score to measure the probability of bankruptcy of public manufacturing companies. In addition, manufacturing companies play a very important role in economic growth in Indonesia by being the largest contributor to the National GDP. (Ministry of Industry RI, 2021). The research period 2021-2022 was chosen because many companies are still trying to recover from the economic impact of the pandemic that peaked in 2020 (Goyal et al., 2021).

Sample selection using purposive sampling method with the following criteria: (1) The company remains listed on the Indonesia Stock Exchange and reports the company's sustainability performance in its sustainability report during the 2021-2022 period; (2) Annual reports are available during the study period; (3) The data required for the analysis of each variable is available. The total number of manufacturing companies listed on the IDX is 214 companies, but only 149 companies meet the sample criteria, with a final total sample of 298 observation.

#### 3.2 Operational Variables

##### Financial Distress

Financial distress refers to the likelihood of a company's financial difficulties, calculated with the Altman Z-score bankruptcy likelihood model (Habib, 2023). Altman's Z-score model (1968) is considered the most effective tool in predicting the financial condition of listed companies. (Younas et al., 2021). The Altman Z-score is a frequently used measure to assess the risk of corporate financial distress, where a higher Z-score indicates a lower risk of financial distress. (Lee & Thong, 2023). The Altman Z-score model is shown in equation 1, and it can be interpreted that the higher the score for Distress, the better the financial status:

$$Z = 1.2 X1 + 1.4X2 + 3.3X3 + 0.6X4 + 1.0X5 \quad (\text{equation 1})$$

where, X1=Working capital / total assets; X2=Retained earnings / total assets; X3=Earning before interest and tax (EBIT) / total assets; X4=Market value of equity / total liabilities; X5=Revenues / total assets.

##### Sustainability performance

Sustainability performance (SP) is measured using content analysis techniques to calculate disclosure scores. This study uses the Global Reporting Initiatives (GRI) framework and the list of items given in this framework for content analysis. This measurement method has been widely used in research in this field (Hussain, 2015; Laskar, 2018).). Based on this structure, researchers measured the level of disclosure and quality of each sustainability dimension disclosure in each sustainability report. The overall disclosure score is calculated by comparing the total disclosure score with the total score that should be for each item. The sustainability performance measurement is shown in equation 2.

$$CSP_j = \frac{\sum_{i=1}^n X_{ij}}{N_j} \quad (\text{equation 2})$$

where, CSP<sub>j</sub>=the sustainability performance disclosure score for the jth company; N<sub>j</sub>=the total number of items estimated for the jth company; X<sub>ij</sub>=assumes a value of 1 if the item is disclosed in the report and 0 otherwise; i=items specified in the GRI framework.

##### Managerial ownership

Managerial ownership (MO) is measured by the percentage of shares owned by managers. This measurement method has been used in previous studies (e.g. Alves, 2023). According to Pramudena (2017) if the shares of a company are owned by members of the management team, the supervision and implementation of policies will be tighter, thereby reducing the potential for financial distress. Managerial ownership measurement is shown in equation 3.

$$MO = \frac{\text{shares owned by management}}{\text{total number of shares outstanding}} \times 100\% \quad (\text{equation 3})$$

### Gender diversity

Gender diversity (GD) shows the number of women in the board of directors, so the measurement of gender diversity is done by comparing the number of female boards with the total board of the company. gender diversity measurement is shown in equation 4.

$$GD = \frac{\text{number of female board members}}{\text{total number of company board members}} \times 100\% \quad (\text{equation 4})$$

In full, the research variables are described in table 1.

**Table 1: List of variables**

Variable	Symbol	Description
Financial distress	DISTRESS	the likelihood of a company's financial distress
Sustainability performance	SP	Level of disclosure of sustainability dimensions in the sustainability report
Managerial ownership	MO	percentage of shares owned by the manager
Gender diversity	GD	number of women on the board of directors
Age of firm	AGE	The age of the firm prior to 2023
Size of firm	SIZE	The log value of the company's total assets
Leverage ratio	DER	The company's ability to pay off its obligations
Current ratio	CR	The company's ability to pay short-term debt with current assets
Quick ratio	QR	The company's ability to pay off short-term liabilities with its most liquid assets.

## 4. RESULT & DISCUSSION

The research data is normally distributed, according to the *Jarque Berra* test results, where the significance value is  $0.0567 > 0.05$ . Furthermore, there is no multicollinearity problem for all independent variables, where the multicollinearity test shows VIF values  $< 10$  and tolerance values  $> 0.01$ . The heteroscedasticity test shows that all independent variables are free from heteroscedasticity problems, with a probability value  $> 0.05$ . Furthermore, the data is free from autocorrelation problems, according to the autocorrelation test.

The average value of financial difficulties is 3.04, with a minimum value of 1.28, a maximum value of 5.67, and a standard deviation of 1.69, which indicates that the companies sampled in this study are on average free from financial difficulties because they have a Z score above 1.81 (Younas et al., 2021). The average value of sustainability performance is 0.3793, with a minimum value of 0.08 and a maximum of 0.96, and a deviation of 0.1444, indicating that sustainability disclosures in the Indonesian context do not fully cover the information required by the GRI, so they still do not meet the needs of stakeholders. It also shows that sustainability disclosure has not achieved good performance, as it has an average of below 70% (Adeney et al., 2023). Furthermore, the managerial ownership variable has an average of 0.1055 with a minimum of 0.00 and a maximum of 0.91, which indicates that the average sample company is managerially owned, with a high variance. board gender diversity is 0.1492, with a minimum value of 0.00, a maximum value of 0.75,

and a standard deviation of 0.14, which indicates that some of the companies sampled in this study have a female presence on the board of directors, and the data is less varied because the standard deviation value is lower than the average value.

**Table 2. Descriptive Statistics**

Variables	N	Mean	Min	Max	SD
Financial distress	298	3.0356	1.28	5.67	1.6960
Sustainability performance	298	0.3794	0.083	0.964	0.1444
Managerial ownership	298	0.1055	0	0.912	0.2028
Gender diversity	298	0.1492	0	0.7500	0.14108
Age of firm	298	36.5067	6	105	16.7686
Size of firm	298	12.4084	10.79	14.62	0.7496
Leverage ratio	298	0.8139	-30.15	17.04	3.2029
Current ratio	298	2.6640	0.14	24.80	2.8759
Quick ratio	298	3.1434	0.06	439.00	25.4116

Table 3 presents the correlations between the variables in this study and shows that most of the variables have significant correlations with each other. Financial distress has a significant and positive correlation with the variables of sustainability performance, managerial ownership, gender diversity, current ratio and quick ratio, but a negative and significant correlation with firm size, and firm age. Financial distress is not correlated with leverage. Sustainability performance has a significant and positive correlation with Firm size and Firm age, but a negative correlation with DER. Managerial ownership is positively and significantly correlated with gender diversity, and negatively and significantly correlated with firm size and DER. Meanwhile, gender diversity is only negatively and significantly correlated with firm size.

**Table 3. Pearson Correlation Coefficient**

	FD	SP	MO	GD	SIZE	AGE	DER	CR	QR
FD	1								
SP	0.145*	1							
MO	0.189*	-0.057	1						
GD	0.143*	-0.055	0.156*	1					
SIZE	-0.212**	0.222**	-0.265**	-0.220**	1				
AGE	-0.143*	0.174**	-0.057	-0.072	0.361**	1			
DER	0.039	-0.125*	-0.112*	-0.101	-0.022	0.049	1		
CR	0.827**	-0.050	0.096	0.012	-0.069	0.001	-0.025	1	
QR	0.146*	0.076	-0.035	0.007	-0.002	0.073	-0.011	0.255**	1

Notes: \*\*, \* indicate significance of coefficients at 1%, 5% level.

Table 4 shows the estimation results of multiple regression, there is no significant difference from the regression results of model 1 and model 2. In model 1, namely without moderation, sustainability performance and managerial ownership have a positive and significant effect on financial distress with a significance level of 5%. Furthermore, the control variables firm size and firm age have a negative and significant effect at the 1% level, while the current ratio and quick ratio have a positive and significant effect at the 1% level. Meanwhile, leverage has no significant effect for either model 1 or 2.

**Table 4. Regression analysis**

	Model 1		Model 2		Hypotheses status
	Non-moderation		Moderation		
	Coeff	t-value	Coeff	t-value	



SP	0.3985*	2.7126	0.3644*	2.776	H1 supported
MO	0.4256*	3.9745	0.5225*	4.2704	H2 supported
GD			0.7234**	6.1657	
SP*GD			8.7464**	93.8309	H3 supported
MO*GD			6.3445**	54.3486	H4 supported
FS	-0.1691**	-2.6255	-0.1635**	-2.7027	
FA	-0.008073**	-3.007	-0.005076*	-2.1426	
DER	-0.000656	-0.1153	0.000132	0.0230	
CR	0.6403**	18.913	0.6397**	22.0408	
QR	0.4511**	4.2694	0.4643**	4.3308	
Constanta	5.2385		4.9953		
R-squared	0.7273		0.7737		
Observations	298		298		
Prob (F-Stat)	0.0000		0.0000		

Notes: \*\*, \* indicate significance of coefficients at 1%, 5% level.

In model 2, which is with moderation, shows results that are not different from model 1. Variable gender diversity as a moderator is proven to have a positive and significant effect on financial distress, and plays a role in strengthening the positive influence of sustainability performance and managerial ownership on financial distress. This is also evident from the coefficient of determination (R square) of 0.7737 (model 2) which shows a higher value than 0.7273 (model 1).

This research shows that implementing corporate sustainability practices has a positive impact on financial performance, and can consequently reduce the level of financial distress (e.g., Bai et al., 2015; Calomiris & Carlson, 2016; Eccles et al., 2014; Grewatsch & Kleindienst, 2017).. As stated by Habib (2023), effective sustainability practices assist companies in developing capabilities and resources that strengthen their competitive position. The results of this study are consistent with stakeholder theory, where strategic management considers the reciprocal relationship between the company and its environment. In other words, how the firm affects its environment and how this environment affects the firm (Freeman & McVea, 2005).

This study successfully proved that sustainability performance and managerial ownership have a positive influence on financial distress. The results of this study support the results of previous studies which show that the existence of managerial ownership will reduce the risk of financial distress (Cui & Wang, 2023; Shan et al., 2021).. Share ownership by managers in a company allows them to be more careful in managing the company, so as to avoid mistakes in decision making that can harm the company in which they own shares. Managerial ownership contributes to increased supervision of management and policy implementation, which helps companies avoid the risk of financial distress more effectively (Pramudena, 2017). The results of this study support previous research showing that companies with higher levels of managerial ownership have a greater tendency to avoid risk and maintain the financial stability of the company (e.g. Ashraf et al., 2016; Udin et al., 2017). This result is in line with the principles of agency theory (Shan et al., 2024) Since managerial ownership encourages managers to prioritize actions that optimize shareholder value rather than acting opportunistically in their own self-interest (Shan et al., 2021), the results are consistent with the principles of agency theory (Shan et al., 2021).

Furthermore, this study successfully proved that gender diversity moderates the relationship between sustainability performance and managerial ownership with the risk of financial distress. Previous research results show that company performance is not only influenced by relevant economic factors but also by social and demographic characteristics (Stefanovic & Barjaktarovic, 2021). A diverse board of directors brings a variety of ideas, viewpoints, experiences, and business knowledge to the decision-making process,

which ultimately improves firm performance (Ahmed et al., 2024). The effectiveness of a board of directors is considered optimal when it has an adequate number of members and an equal gender distribution between women and men (Zaid et al., 2020). Kristanti et al. (2016); Mittal & Lavina (2018) stated that higher gender diversity results in lower risk of financial distress because female directors tend to have conservative preferences towards risk.

In the context of bankruptcy, research shows that firms that have more diverse boards are less at risk of bankruptcy. This is due to the presence of female directors on the board which reduces opportunistic behavior and managerial information imbalance (Usman et al., 2019). Companies that have female and male directors show difference behavior in investment decision-making that have a significant impact on financial performance. Men tend to be more confident, while women are more likely to be conservative and cautious in making investment decisions (Zhou, 2019). Glass et al. (2016) stated that women are more likely to adopt long-term, results- and stakeholder-oriented strategies, which may contribute to the success of environmental practices. Previous research shows that women practice environmentally friendly behaviors more often than men, which can contribute positively to a company's environmental performance (Glass et al., 2016; Kassinis et al., 2022; Li et al., 2017). In addition, the presence of gender diversity can strengthen executive oversight by reducing agency costs, as well as enabling greater levels of public disclosure and improving the quality of financial reporting (La Rosa et al., 2018).

## 5. CONCLUSION

This study aims to examine whether the company's sustainability performance and managerial ownership affect the risk of financial distress. Furthermore, this study also examines whether gender diversity can moderate the relationship between corporate sustainability performance and managerial ownership with financial distress. The results of this study indicate that sustainability performance and managerial ownership of the company have a positive effect on financial distress. The results also found that gender diversity moderates the positive effect of sustainability performance and managerial ownership on financial distress. Thus, it can be concluded that the presence of women on the board of directors can reduce the risk of financial distress.

This research has both practical and academic implications. First, this study provides insight into the link between gender diversity in the board of directors' role in strengthening sustainability performance and managerial ownership in avoiding financial distress in the context of governance, thus encouraging companies to increase the presence of women in their board of directors. Second, this study proves that higher managerial ownership has a greater tendency to avoid risks and maintain the financial stability of the company. Third, this study proves that corporate sustainability performance can help companies overcome financial distress, this implication emphasizes the importance of supporting sustainable and inclusive business practices that not only reduce environmental and social risks but also improve the financial stability of companies. This can increase trust and collaboration between companies and stakeholders, and encourage the adoption of sustainable business practices.

Although this study has significant implications, there are some limitations, especially regarding sustainability performance. One of the limitations is the use of analytical techniques that only involve one code to state the presence or absence of disclosure items in analysing the company's sustainability performance. This study suggests that future research consider using more than one code so that content analysis can consider a more comprehensive picture. In addition, in this study only the level of reporting is taken into account, whereas the quality of disclosure is also important in decision making. Therefore, this study suggests that future studies take into account both the level and quality of disclosure for a better assessment of the company's sustainability performance. Furthermore, this study has limitations in accessing corporate sustainability reports in Indonesia for the long term, so the research period is limited to 2021-2022. We recommend that future research use a longer indicator year so that the research results can see the effect of sustainability performance and managerial ownership on financial distress for a long period of time.

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## Disclosure Statement

No potential conflict of interest was reported by the author(s).

## Author Contributions

Both authors contributed equally to the conception and design of the study.

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