

**Article Type:** Research Paper

## The Effect of Board and Ownership Structure on the Possibility of Financial Distress

Joanne Jovita Jodjana\*, Sherin Nathaniel, Rinaningsih, and Titin Pranoto



**AFFILIATION:**

Department of Accounting,  
Universitas Prasetya Mulya,  
Jakarta Capital Special Region,  
Indonesia

**\*CORRESPONDENCE:**

[joanne.jodjana@gmail.com](mailto:joanne.jodjana@gmail.com)

**THIS ARTICLE IS AVAILABLE IN:**

<http://journal.umy.ac.id/index.php/ai>

**DOI:** [10.18196/jai.v22i3.12659](https://doi.org/10.18196/jai.v22i3.12659)

**CITATION:**

Jodjana, J.J., Nathaniel, S.,  
Rinaningsih, R., & Pranoto, T.  
(2021). The Effect of Board and  
Ownership Structure on the  
Possibility of Financial Distress.  
*Journal of Accounting and  
Investment*, 22(3), 602-624.

**ARTICLE HISTORY**

**Received:**

30 Aug 2021

**Revised:**

15 Sep 2021

**Accepted:**

15 Sep 2021

**Abstract:**

**Research aims:** This study aims to examine the effect of corporate governance, specifically relating to the ownership structure and board structure, on the possibility of financial distress.

**Design/Methodology/Approach:** The sample used in this study are companies listed on the Indonesia Stock Exchange (IDX) from 2015 to 2019, excluding the financial industry. Conditional logistic regression is used as the study uses paired data based on the total assets of the company.

**Research findings:** The results of this study indicate that board ownership, independent commissioners, and the board of directors can increase the likelihood of financial distress. On the other hand, institutional ownership and concentrated ownership are proven to have no effect on the likelihood of financial distress. The results of sensitivity testing using logistic regression showed different results on the variable institutional ownership, which is that institutional ownership can increase the likelihood of financial distress. Meanwhile, the other variables showed the same outcome as the main regression used in this study.

**Theoretical contribution/Originality:** This study contributes to the knowledge on the relationship of board ownership, institutional ownership, concentrated ownership, independent commissioners and board size and the possibility of financial distress. Also, this research found that the provision of incentives in the form of shares to the board may not be an effective way to overcome financial distress in Indonesian firms.

**Keywords:** Financial Distress; Corporate Governance; Ownership Structure; Board Structure

---

## Introduction

The monetary crisis that hit Asia in 1997 to 1998 was an extraordinary event that resulted in many companies experiencing financial distress (Helena & Saifi, 2018). The Asian Development Bank [ADB] (2000) stated that one of the main sources that caused a huge economic downturn in Indonesia was the weak corporate governance structure of Indonesian companies. This propelled the Indonesian government to establish a committee called Komite Nasional Kebijakan Corporate Governance (KNKCG) or National Committee on Good Corporate Governance in 1999

in hopes that Indonesian companies can implement better corporate governance (Otoritas Jasa Keuangan [OJK], 2014). However, today, weak implementation of corporate governance is still a recurring source of problems that can lead to a company's failure. One example is the case of PT Asuransi Jiwasraya, which is one of the state-owned enterprises in Indonesia, that failed to pay its customers' insurance claims amounting to Rp802 billion in 2018 (CNN Indonesia, 2020). Kompasiana (2021) stated that Jiwasraya failed to apply three main principles of good corporate governance. First is transparency, because the company did not present their financial statements objectively and did not display its actual figures, which can be seen from the audit done by PricewaterhouseCoopers in 2017, who corrected Jiwasraya's previous income of Rp2.4 trillion to Rp428 billion. There is also accountability and responsibility, which was violated because the company invested in risky assets, causing them to be unable to fulfill their insurance claim obligations (Kompasiana, 2021). From this case, it can be seen how important it is for companies to implement good corporate governance as a mechanism for controlling and managing the company (Kholis, 2015).

Kaen (2003) stated that corporate governance is about who controls the company and why control must be carried out. The word "who" refers to a company's shareholders, the board of commissioners, the board of directors, creditors, and other related parties in the company, while "why" is because there are conflicts of interests between these parties which can lead to asymmetric information and harm the company. This conflict of interest can lead to wrong decision making by management which leads to financial distress (Cinantya & Merkusiwati, 2015).

Shleifer and Vishny (1986) stated that concentrated ownership is one of the corporate governance variables that can help companies minimize the possibility of financial distress. This is because shareholders will get incentives in return for maximizing firm value and reducing information asymmetry through monitoring opportunistic management behavior, thus avoiding financial distress (Claessens, Djankov, & Klapper, 2003; Deng & Wang, 2006). However, Jensen (1993) and Younas et al. (2021) said that concentrated ownership can lead to information asymmetry, monopolistic decision-making and hinder the management from running the company, thereby increasing the possibility of financial distress.

According to Manzanegue, Priego, and Merino (2016) another corporate governance mechanism that can affect the probability of financial distress is institutional ownership, which are financial institutions that have shares in the company. Cinantya and Merkusiwati (2015), Helena and Saifi (2018) and Li, Crook, Andreeva and Tang (2020) found that institutional parties have expertise in detecting companies that are eligible for investment and the ability to supervise management in carrying out company activities and detect potential risks, so they can help reduce the possibility of financial distress. However, Donker, Santen, and Zahir (2009) argue that institutional investors will act passively because most times they also provide financial services to the companies they have ownership in, and so they do not want to oppose the management in fear of damaging business relationships.

Board ownership can also reduce the likelihood of financial distress (Miglani, Ahmed & Henry, 2015; Salloum, Schmitt & Bouri, 2013). Board ownership can make the board members' goals align with the goals of other shareholders, which is the long-term performance of the company (Donker et al., 2009). Therefore, the board members will feel compelled to supervise and lead the management properly so that the company's performance increases, which prevents financial distress (Li et al., 2020; Manzanque et al., 2016; Miglani et al., 2015). However, Wang and Deng (2006) and Hui and Jing-jing (2008) argue that large board ownership can be used for personal welfare which in turn, harms the company. In addition, Bodroastuti (2009), and Cinantya and Merkusiwati (2015) say that share ownership by the company's board does not have an impact on the possibility of financial distress because sometimes the board only have a small or insignificant amount of the company's shares, so it does not provide an incentive to lead and supervise management.

The corporate board structure can also be used to address agency problems (Manzanque et al., 2016). Previous research found that the proportion of independent commissioners can reduce the possibility of financial distress because one of the board of commissioners' duty is to control the potential for opportunism made by management, hence this can reduce agency problems (Freitas Cardoso, Peixoto, & Barboza, 2019; Hui & Jing-jing, 2008; Li et al., 2020; Manzanque et al., 2016; Salloum et al., 2013). However, Cinantya and Merkusiwati (2015) and Miglani et al. (2015) found that the number of independent commissioners can actually increase the possibility of financial distress because often times, independent commissioners have a lack of independence, so the monitoring of the performance and behavior of company's management becomes weak. This will result in an increase in agency problems and may result in financial distress.

In their research, Bodroastuti (2009) and Manzanque et al. (2016) found that the board of directors can reduce the likelihood of financial distress. A large board of director size can help to monitor a more optimal financial reporting process (Bodroastuti, 2009; Manzanque et al., 2016). However, Helena and Saifi (2018) and Salloum et al. (2013) found that a larger board of director size can actually increase the possibility of financial distress. This is because a size that is too large can actually make communication and coordination less effective, so that the company's decision making becomes less optimal (Helena & Saifi, 2018).

This study follows previous research by Manzanque et al. (2016) conducted in Spain regarding the effect of corporate governance on the possibility of financial distress. The difference in application of corporate governance, legal systems, and different codes of ethics in each country causes contradictions in the results obtained by several researchers, therefore it is important to investigate this further in different countries (Manzanque et al., 2016). Another thing that makes this research interesting is the measurement of financial distress used by Manzanque et al. (2016), which follows the ex-ante model by Pindado, Rodrigues, and de la Torre (2008). The ex-ante method, which can be used as an early warning for companies, is found to be more effective compared to the bankruptcy prediction model that was previously widely used (Farooq, Jibrán Qamar & Haque, 2018). Unlike bankruptcy, the definition of financial distress itself is not

something that can be determined legally, so the application of this ex-ante model can be generalized to different industries and countries (Farooq et al., 2018; Pindado et al., 2008).

Through this ex-ante model, this research wants to address the ongoing issue regarding the weak implementation of corporate governance in Indonesian firms, such as the case of Jiwasraya, despite having KNKCG since 1999. Therefore, this becomes the motivation of this research to discover which implementation of good corporate governance can help companies reduce the possibility of financial distress in Indonesia. This study uses a sample of companies listed on the Indonesia Stock Exchange (IDX) in the 2015-2019 period.

More than that, this research is expected to provide benefits to the academic world by adding and being a reference for further research regarding board and ownership structure in overcoming and preventing the possibility of financial distress. This study can also help company's management in evaluating their implementation of corporate governance to help minimize the possibility of financial distress. Lastly, this can aid investors in examining which company to invest by considering their implementation of corporate governance.

This research is divided into five parts, first the introduction, which consists of the background, problem formulation, objectives, and benefits. Second, the literature review and hypothesis development which is then followed by the research methods used. After that, the results and discussion of the results are given, alongside with the results from the sensitivity test. The last section of this research shows the conclusions, limitations, suggestions, and implications of this study.

## **Literature Review and Hypotheses Development**

### **Agency Theory**

According to Jensen and Meckling (1976), agency theory explains about the relationship between two parties referred to as principal and agent. The principal assigns tasks and delegates the agent to make the best decision in the principal's favor. However, sometimes the agent does not always act in the interests of the principal, and this is what is known as the agency problem. Generally, the principal monitors and provides incentives or special rewards to agents. The costs incurred to minimize agency problems are referred to as agency costs. Jensen and Meckling (1976) said that agency costs are the accumulation of 3 costs, namely monitoring costs, bonding costs, and residual loss. In a company, shareholders are the principal, while management is the agent who should act in the interests of the shareholders. However, it is not uncommon for management to prioritize their own interests, therefore it is necessary to implement good corporate governance in order to minimize agency problems (Dwiridotjahjono, 2009). Bonazzi and Islam (2007) said that building an effective board structure is important in implementing corporate governance because it helps minimize the possibility of management acting in their own interests, thus minimizing agency problems.

### Resource Dependency Theory

Resource Dependence Theory (RDT) was introduced by Pfeffer and Salancik (1978). This theory focuses on the importance of external relations for a company to have in order to obtain sufficient resources for the survival of the company. Hillman and Dalziel (2003) stated that when an organization appoints a board of directors, there is an expectation that the board of directors will support, involve themselves in the problems that exist and help the organization. The structure of the board of directors, such as the number of boards of directors and the number of foreign directors, can have a good influence in identifying problems, evaluating strategies, giving advice and creating relationships with the external environment (Singh, 2007). Therefore, a large board of directors is expected to be able to provide solutions, information and wider resources so to overcome company problems and improve the company's performance which will minimize the possibility of companies experiencing financial distress (Haynes & Hillman, 2010; Widhiastuti, Nurkhin & Susilowati, 2019; Zahra & Pearce, 1989).

### The Effect of Board Ownership on the Likelihood of Financial Distress

Li et al. (2020), Miglani et al. (2015), and Manzaneque et al. (2016) found that board ownership has the potential to reduce agency problems and the possibility of financial distress. In the company, the board has a significant role in determining the strategy to achieve the company's goals (Tarigan & Hadiprajitno, 2018). In general, a board that owns shares in a company will have the same goals as other shareholders as they will have an incentive to further monitor the performance of the company's management and ensure operational activities run well (Budiarti & Sulistyowati, 2016; Hastuti, 2014). Ownership owned by the board can make them feel the same risks and responsibilities as other shareholders, so the board will be motivated to reduce the potential for financial distress. Thus, board ownership will greatly affect the company's financial performance and lessen the probability of financial distress (Jensen & Meckling, 1976).

On the other hand, Wardhani (2007) and Kirana (2018) found that board ownership can increase the likelihood of financial distress. According to Wardhani (2007), one of the reasons why the ownership of shares by the board of commissioners and the board of directors can increase the possibility of financial distress is because the board tends to carry out expropriation actions through decisions or voting rights that they own, which can harm the company. Kirana (2018) also found that the control rights owned by the board of commissioners and directors can be used to involve rules that deviate from good corporate governance practices as a tool to maintain their careers even though they are no longer competent.

According to Jensen and Meckling (1976), board ownership can increase the value of the company and reduce the possibility of financial distress. Board ownership is one example of what Jensen and Meckling (1976) call bonding costs and monitoring costs, therefore, following the agency cost by Jensen and Meckling (1976), the hypotheses to be studied is:

***H<sub>1</sub>: Board ownership can reduce the likelihood of financial distress.***

### **The Effect of Institutional Ownership on the Likelihood of Financial Distress**

Helena and Saifi (2018) and Younas et al. (2021) found that companies with large institutional ownership can avoid financial distress. Li et al. (2020) explains that the presence of institutional investors will reduce the possibility of financial distress to occur because institutional investors have the expertise and ability to detect companies that are eligible for investment, so companies with large institutional ownership will be trusted to have better performance. Claessens and Djankov (1999) in their research in the Czech Republic, said that a company owned by a bank would be valued higher because it can carry out a good monitoring function and is trusted not to expropriate the company's assets and can more easily provide an injection of funds to the company. According to Shleifer and Vishny (1986), large institutional ownership will have a stronger voice to encourage monitoring activities of investment developments. Thus, with large institutional ownership, it is hoped that they can contribute to controlling and monitoring the behavior of company management and reducing agency problems so the potential of financial distress can be further suppressed.

Contrarily, Donker et al. (2009) argued that institutional investors have a passive nature in carrying out supervisory activities on company management. This is because institutional investors often also provide financial services to the companies they own, so they are believed to not oppose the company's management in fear of damaging their business relationship. Passive supervision can lead to agency problems or decision making that are detrimental to the company, and this will increase the potential for financial distress to happen (Pramudena, 2017).

Based on the agency theory by Jensen and Meckling (1976) regarding monitoring costs, supervisory acts by institutional investors can help companies reduce agency problems. Therefore, following the agency theory, the second hypotheses to be studied is:

*H<sub>2</sub>: Institutional ownership can reduce the likelihood of financial distress.*

### **The Effect of Concentrated Ownership on the Likelihood of Financial Distress**

Companies with concentrated ownership will be followed by high controlling rights by the controlling shareholder, where this controlling right can affect the company's performance and minimize the possibility of the company experiencing financial distress (Wang & Deng, 2006; Mariano, Izadi & Pratt, 2021). In the situation of company failure, the controlling shareholders will suffer huge losses due to their participation in the company. Thus, controlling shareholders will monitor management behavior to prevent opportunism, or in other words, controlling shareholders have incentives to monitor management and prevent conflicts of interest that can cause harm to the company (Mariano et al., 2021).

On the other hand, Tarigan and Hadiprajitno (2018) and Younas et al. (2021) found that concentrated ownership can increase the likelihood of financial distress because it can

lead to monopolistic decision making and can reduce the independence of the company. In addition, Jensen (1993) also said that concentrated ownership can lead to information asymmetry between majority and minority shareholders, thereby increasing the probability of financial distress. The party with the largest ownership can use their power to influence the management and use it for their own benefit, which in turn can harm minority shareholders and increase the likelihood of financial distress (La Porta et al., 2000; Lee & Yeh, 2004).

Based on the research by Wang and Deng (2006) and Mariano et al. (2021), controlling shareholders will have more incentives to monitor management behavior because their participation or investment in the company is quite significant. In accordance with the agency theory of Jensen and Meckling (1976), the supervision carried out by the controlling shareholder is an example of monitoring cost. Therefore, following the agency theory, the third hypotheses to be studied is:

*H<sub>3</sub>: Concentrated ownership can reduce the likelihood of financial distress.*

#### **The Effect of Independent Commissioner on the Likelihood of Financial Distress**

Freitas Cardoso et al. (2019), Li et al. (2020), Wang and Deng (2006), Hui and Jing-jing (2008) and Salloum et al. (2013) found that the proportion of independent commissioners can reduce the possibility of financial distress. This is because the independent commissioner plays a role in controlling the potential for opportunism and preventing managers from making decisions that can harm shareholders, so with the presence of an independent commissioner, agency problems will be reduced (Li et al., 2020).

On the other hand, Cinantya and Merkusiwati (2015) and Miglani et al. (2015) found that independent commissioners can actually increase the likelihood of financial distress. This happens because sometimes independent commissioners have a lack of independence, so their monitoring and advisory roles are not optimal and can lead to financial distress.

Based on Subrata (2020), the role of independent commissioners is to reduce risk and increase shareholder's welfare. This independent commissioner's supervision is an example of the agency theory proposed by Jensen and Meckling (1976), namely monitoring cost. Therefore, following the theory, the hypotheses to be studied is:

*H<sub>4</sub>: Independent commissioners can reduce the likelihood of financial distress.*

#### **The Effect of Board Size on the Likelihood of Financial Distress**

Helena and Saifi (2018) and Salloum et al. (2013) found that the possibility of financial distress will increase if the size of the board is larger because it can increase communication and coordination problems within the board. Younas et al. (2021) also stated that a large board size can slow down the decision-making process, so this can

reduce the board's ability and effectiveness to manage the company and result in deteriorating company performance which can lead to financial distress.

However, Bodroastuti (2009), Manzanegue et al. (2016) and Mariano et al. (2021) found that a large board size can reduce the potential for financial distress. According to Manzanegue et al. (2016) and Mariano et al. (2021), a greater number of board members will be able to provide greater benefits and have wider connections to provide more resources to help the company.

This statement is in accordance with the resource dependence theory developed by Pfeffer and Salancik (1978) which implies that a larger board size can provide more benefits and advantages to the company, especially during difficult times. Therefore, following the resource dependence theory by Pfeffer and Salancik (1978), the hypotheses to be studied is:

*H<sub>5</sub>: The board of directors can reduce the likelihood of financial distress.*

### Theoretical Framework

Figure 1 shows a research framework consisting of one dependent variable, five independent variables and three control variables.

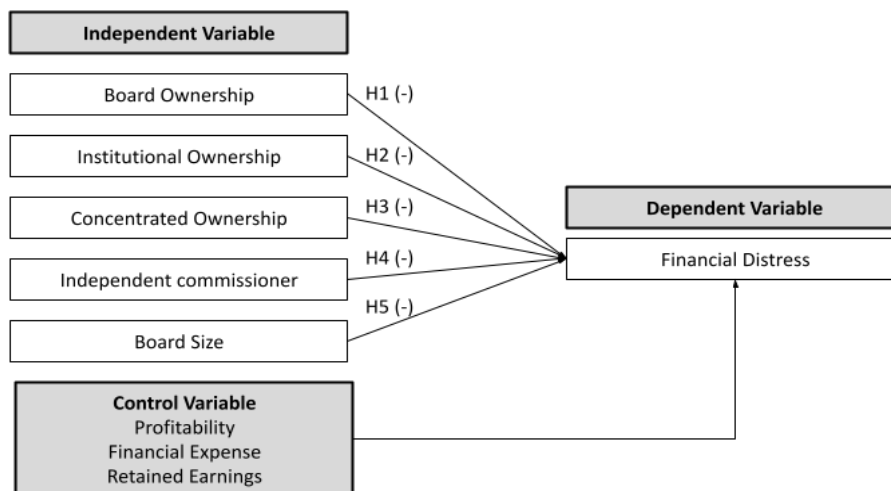


Figure 1 Theoretical Framework

The dependent variable of this study is a dummy variable, where '1' denotes companies that are in financial distress, while healthy companies are categorized as '0'. The independent variables of this study are board ownership, institutional ownership, concentrated ownership, independent commissioner, and board size while the control variables are profitability, financial expense, and retained earnings.



## Research Method

### Population and Sample

This study uses all companies listed on the Indonesia Stock Exchange (IDX) from recent years from 2015 to 2019, except companies in the financial industry because of the different regulations governing companies in the financial industry. Samples were taken using the match-pair method to control the size of companies that could cause bias. The data source of this research is the annual report published on the Indonesia Stock Exchange (IDX), data obtained from *www.idx.co.id*, the company's website and data from the Capital IQ database. The first stage of sampling is done by obtaining data from the Indonesia Stock Exchange (IDX), which contains 728 companies or equal to 3,640 observations. Among the 728 companies, 110 companies operate in the financial industry, so they were excluded. Furthermore, there were 249 companies that did not have complete data in their annual reports and/or financial statements during 2015 to 2019, so they were also eliminated. Finally, the data that has been obtained will be categorized as financially distressed or healthy and paired within the same industry category and period. Companies that do not have a suitable pair will be excluded from the sample. Overall, the research sample obtained is 344 companies or 990 observations. Of the 990 observations, 495 of them are companies with financial distress category and the other 495 observations are companies with healthy categories.

### Variable Measurement and Operation

The dependent variable in this study is financial distress, in the form of a dummy variable, where '1' denotes a company in financial distress and '0' means that the company is considered financially healthy. The measurement of financial distress used in this study follows the measurement created by Pindado et al. (2008), hence the companies in this research sample will be categorized as financially distressed if they meet one of the following two conditions: (1) financial expense is greater than EBITDA for two consecutive years and/or (2) there is a decline in the market value in two consecutive periods. The EBITDA and financial expense used are financial data for years  $t-2$  and  $t-1$ . Meanwhile, the market value used is the market value at the end of year  $t-3$ ,  $t-2$ , and  $t-1$  to determine the condition of the company in year  $t$ , which is obtained through Capital IQ.

The independent variables in this study are categorized into two main categories which are ownership structure and board structure. The variables that define ownership structure are board ownership, institutional ownership, and concentrated ownership. Meanwhile, the company's board structure consists of independent commissioners and board of directors.

Board ownership is measured using the percentage of shares owned by the board of directors and board of commissioners in the company to the number of shares in the company. The formula used is as follows:

$$BOARDOWN_{it} = \frac{\text{Shares owned by board}_{it}}{\text{Number of shares of the company}_{it}} \times 100\% \quad (1)$$

This measurement method follows the measurements used by a number of previous studies (Bodroastuti, 2009; Cinantya & Merkusiwati, 2015; Wang & Deng, 2006; Hastuti, 2014; and Manzanegue et al., 2016).

Institutional ownership is measured using the percentage of shares owned by an institution or financial institution. The formula used is as follows:

$$INSOWN_{it} = \frac{\text{shares owned by institutions}_{it}}{\text{Number of shares of the company}_{it}} \times 100\% \quad (2)$$

This measurement is in accordance with that used by Bodroastuti (2009); Cinantya and Merkusiwati (2015); Helena and Saifi (2018); Li et al. (2020); Manzanegue et al. (2016); Udin, Khan, and Javid (2017); Younas et al. (2021).

Concentrated ownership is measured using the percentage of shares owned by the largest shareholder in the company. Following Manzanegue et al. (2016), Miglani et al. (2015) and Paramastri and Hadiprajitno (2017), the formula used is as follows:

$$CONOWN_{it} = \frac{\text{shares owned by the largest shareholder}_{it}}{\text{Number of shares of the company}_{it}} \times 100\% \quad (3)$$

The variable independent commissioners are measured using the proportion of independent commissioners divided by the total number of members of the company's board of commissioners. The measurements used follow several previous studies (Cinantya & Merkusiwati, 2015; Tarigan & Hadiprajitno, 2018; Wardhani, 2007) as follows:

$$IND_{it} = \frac{\Sigma \text{Independent Commissioner}_{it}}{\Sigma \text{Member of the Board of Commissioners}_{it}} \times 100\% \quad (4)$$

The board of directors is measured using the number of members of the board of directors in the company. The formula used is as follows:

$$BSIZE_{it} = \text{Number of members of the board of directors}_{it} \quad (5)$$

This measurement follows the research of Bodroastuti (2009); Freitas Cardoso et al. (2019); Helena and Saif (2018); Manzanegue et al. (2016); Rahmawati and Hadiprajitno (2015).

This study also uses three control variables, which are profitability, financial expense and retained earnings. Profitability is measured using Return on Assets (ROA). This ratio

measures the company's ability to manage its assets efficiently to generate net income to meet its financial obligations, so the higher the net profit, the less likely it is the company to encounter financial distress (Pindado et al., 2008). Following previous research by Manzanegue et al. (2016) and Pindado et al. (2008), the ROA ratio used is as follows:

$$ROA_{it} = \frac{\text{Earning Before Interest and Tax (EBIT}_{it})}{\text{Beginning Total Asset (TA}_{it-1})} \times 100\% \quad (6)$$

Financial Expense is measured by dividing financial expenses with the total assets at the beginning of the year (Manzanegue et al., 2016; Pindado et al., 2008) found that financial expense has a significant impact on the probability of financial distress. If the financial expense is greater, then the possibility of the company to experience financial distress increases. Therefore, based on the research of Pindado et al. (2008), the Financial Expense ratio is as follows:

$$FE_{it} = \frac{\text{Financial Expense (FE}_{it})}{\text{Beginning Total Asset (TA}_{it-1})} \times 100\% \quad (7)$$

To predict future net income and self-financing capacity, this study will use Retained Earnings (RE) divided by the number of assets at the beginning of the company's year as follows:

$$RE_{it} = \frac{\text{Beginning Retained Earnings (RE}_{it-1})}{\text{Beginning Total Asset (TA}_{it-1})} \times 100\% \quad (8)$$

This measurement follows Manzanegue et al. (2016) and Pindado et al. (2008) who found that the greater the retained earnings, the less likely the company is to experience financial distress.

### Research Model

The research model used in this study is as follows:

$$FD_{it} = \beta_0 + \beta_1 BOARDOWN_{it} + \beta_2 INSOWN_{it} + \beta_3 CONOWN_{it} + \beta_4 IND_{it} + \beta_5 BSIZE_{it} + \beta_6 ROA_{it} + \beta_7 FE_{it} + \beta_8 RE_{it} + \epsilon_{it} \quad (9)$$

Where  $\beta_0$  is the constant and  $\beta_1 \beta_2 \beta_3 \beta_4 \beta_5 \beta_6 \beta_7 \beta_8 \beta_9$  is the Regression Coefficient. FD is the dependent variable which stands for financial distress (measured using a dummy, 1 if it is classified as financially distressed and 0 if it is classified as healthy). The independent variables are BOARDOWN, which is the percentage of board ownership, INSOWN, the percentage of institutional ownership, CONOWN, the percentage of concentrated ownership, IND is the proportion of independent commissioners in the company, and BSIZE is the number of board of directors in the company. For the control variable, return

on asset (ROA) is measured by profit before tax and interest divided by total assets at the beginning of the year, FE is financial expense, measured by interest expense divided by total assets at the beginning of the year, and lastly, retained earnings (RE) is measured by RE at the beginning of the year divided by total assets at the beginning of the year.  $i$  denotes the company number,  $t$  means the year of  $t$ ,  $t-1$  means year before  $t$ , and  $\epsilon$  means error.

This study uses conditional logistic regression method for paired subjects, which means that each company that is classified as financially distressed ( $Y=1$ ) is paired with a company that is classified as healthy ( $Y=0$ ). The assumption used in logistic conditional regression is that the variables do not have to be normally distributed, therefore do not require heteroscedasticity and autocorrelation tests because they have different characteristics from linear regression. However, to find out whether the independent variables are correlated with each other, a multicollinearity test is conducted. This study also uses a sensitivity test to compare the consistency results of hypothesis testing with different methods by using logistic regression. In the logistic regression method, the match-pair method is not used.

## Result and Discussion

### Descriptive Statistics

Data adjustment is done by changing the outliers using the calculation of the mean plus or minus three standard deviations to find the upper and lower limits (Leys et al., 2013). Following the empirical rule, normal distribution in the form of a bell-shape or normally distributed data is spread over plus and minus three standard deviations from the average or about 99.7% of observations. Therefore, data that are outside the normality are categorized as outliers (Lind, Marchal, & Wathen, 1999). Table 1 and 2 show the Descriptive Statistics after and before treatment, respectively.

**Table 1** Descriptive Statistics

Variable	Mean	Std. Dev.	Min	Max
<b>Dependent Variable</b>				
FD	0.500	0.500	0.000	1.000
<b>Independent Variable</b>				
BOARDOWN	0.055	0.137	0.000	0.953
INSOWN	0.123	0.202	0.000	0.897
CONOWN	0.521	0.217	0.044	0.976
IND	0.411	0.112	0.000	1.000
BSIZE	4.816	1.957	2.000	16.000
<b>Control Variable</b>				
ROA	0.045	0.120	-0.709	0.832
FE	0.026	0.047	0.000	0.844
RE	-0.267	3.159	-75.099	1.058

**Note:**

Number of observation = 990 companies; FD = financial distress (measured using a dummy code 1 if it is classified as financial distress and code 0 if it is classified as healthy); BOARDOWN = % board ownership; INSOWN = institutional ownership; CONOWN = concentrated ownership; IND = independent commissioner; BSIZE = board of directors; ROA = profit before tax and interest / total assets at the beginning of the year; FE = interest expense / total assets at the beginning of the year; RE = Retained earnings at the beginning of the year / total assets at the beginning of the year.

**Table 2** Descriptive Statistics After Treatment

Variable	Mean	Std. Dev.	Min	Max
<b>Dependent Variable</b>				
FD	0.500	0.500	0.000	1.000
<b>Independent Variable</b>				
BOARDOWN	0.053	0.126	0.000	0.683
INSOWN	0.121	0.198	0.000	0.869
CONOWN	0.520	0.217	0.044	0.976
IND	0.409	0.104	0.167	0.800
BSIZE	4.794	1.862	2.000	1.000
<b>Control Variable</b>				
ROA	0.045	0.109	-0.454	0.569
FE	0.024	0.023	0.000	0.166
RE	-0.126	1.401	-12.783	1.058

**Notes:**

Number of observation = 990 companies; FD = financial distress (measured using a dummy code 1 if it is classified as financial distress and code 0 if it is classified as healthy); BOARDOWN = % board ownership; INSOWN = institutional ownership; CONOWN = concentrated ownership; IND = independent commissioner; BSIZE = board of directors; ROA = profit before tax and interest / total assets at the beginning of the year; FE = interest expense / total assets at the beginning of the year; RE = Retained earnings at the beginning of the year / total assets at the beginning of the year.

**Correlation Matrix**

The correlation matrix is used to examine the multicollinearity between the independent variables through the Spearman's rho correlations shown in Table 3.

**Table 3** Correlation Matrix

	BOARDOWN	INSOWN	CONOWN	IND	BSIZE	ROA	FE	RE
BOARDOWN	1.00							
INSOWN	-0.15	1.00						
CONOWN	-0.19	-0.18	1.00					
IND	-0.07	0.01	0.07	1.00				
BSIZE	-0.016	0.12	0.02	0.01	1.00			
ROA	-0.01	-0.07	0.08	0.06	0.17	1.00		
FE	0.03	0.04	-0.13	0.01	-0.03	-0.07	1.00	
RE	-0.02	-0.09	0.16	-0.03	0.24	0.50	-0.42	1.00

**Notes:**

BOARDOWN = % board ownership; INSOWN = institutional ownership; CONOWN = concentrated ownership; IND = independent commissioner; BSIZE = board of directors; ROA = profit before tax and interest / total assets at the beginning of the year; FE = interest expense / total assets at the beginning of the year; RE = Retained earnings at the beginning of the year / total assets at the beginning of the year.

beginning of the year; RE = Retained earnings at the beginning of the year / total assets at the beginning of the year.

The result of the correlation matrix shows that all correlations are below 0.4, which shows that the variables are free from multicollinearity (Tabachnick & Fidell, 1996).

### Multicollinearity Test

To ensure that the independent variables did not have a linear relationship with each other, a multicollinearity test is carried out as shown in Table 4.

**Table 4** Multicollinearity Test

Variable	VIF	1/VIF
BOARDOWN	1.06	0.943
INSOWN	1.07	0.938
CONOWN	1.07	0.937
IND	1.03	0.976
BSIZE	1.06	0.947
ROA	1.14	0.875
FE	1.28	0.781
RE	1.39	0.722
Mean VIF	1.14	

Notes:

BOARDOWN = % board ownership; INSOWN = institutional ownership; CONOWN = concentrated ownership; IND = independent commissioner; BSIZE = board of directors; ROA = profit before tax and interest / total assets at the beginning of the year; FE = interest expense / total assets at the beginning of the year; RE = Retained earnings at the beginning of the year / total assets at the beginning of the year.

The results of the multicollinearity test show that all independent variables have a VIF value that does not exceed 10 and a tolerance value above 0.1. Therefore, the independent variables in this study are free from multicollinearity symptoms.

### Coefficient of Determination Test (McFadden R<sup>2</sup>)

Coefficient of determination test is conducted to see how much the independent variable can explain the dependent variable itself. The test results show the value of McFadden R<sup>2</sup> of 0.213 or 21.30%. This figure shows that the dependent variable, namely financial distress, can be explained by the independent variable by 21.30%. In his research, Hensher and Stopher (1977) stated that the range of McFadden R<sup>2</sup> values between 0.2 to 0.4 for regression models other than ordinary least squares is an excellent fit. Therefore, the value of McFadden R<sup>2</sup> in this study is included in the very good category or can be said to have a model that is already fit.

### Likelihood Ratio Test

The likelihood ratio test aims to see the effect of the variables used on the regression model. The model was tested by comparing the model with complete independent

variables (m1) with the model without incomplete independent variables (m2). The null hypothesis in this test is that the independent variable has no effect on the dependent variable simultaneously. If the prob value > chi2 resulting from this test does not exceed the alpha value, then the null hypothesis will be rejected.

The likelihood ratio test shows the chi-square value of 0.000, this number is lower than the alpha value of 0.05. Therefore, the null hypothesis is rejected, or that the independent variable has an effect on the dependent variable simultaneously.

### Wald Test

The Wald test is conducted to see whether the independent variables in the model have an influence on the regression model used (Stephanie, 2016). In Wald's test, the null hypothesis is the independent variable that has no significant effect on the dependent variable. If the p-value or prob > chi2 is greater than 0.05, the null hypothesis is accepted. The results show that the value of prob > chi2 is smaller than alpha 0.05, which is 0.0003. Therefore, the null hypothesis is rejected, which means that the independent variable in this study has a significant effect on the dependent variable.

### Hypothesis Test Results and Discussion

The results of hypotheses testing are shown in Table 5. It is found that board ownership can increase the possibility of the company experiencing financial distress. In Table 2, regarding the descriptive sample of this study, it can be seen that the ownership of the board of commissioners and the board of directors in this research sample has a fairly low average, which is 5.3%. This finding is in line with research done by Putri et al. (2017) which shows that low ownership can reduce the board's motivation in carrying out their roles optimally to monitor the management activities due to lack of incentives or encouragement. Therefore, this can increase opportunistic actions that can be done by management.

**Table 5** Results of Conditional Logistics Regression Hypothesis Testing

FD	Coef.	Std. Err.	Z	P >   z   Two-Tailed	P >   z   One-Tailed	Conclusion
BOARDOWN	0.837	0.613	1.37	0.172	0.086*	Not supported
INSOWN	0.091	0.384	0.24	0.811	0.406	Not supported
CONOWN	-0.044	0.365	-	0.903	0.452	Not supported
			0.12			
IND	1.158	0.733	1.58	0.115	0.058*	Not supported
BSIZE	0.132	0.045	2.89	0.004	0.002***	Not supported
ROA	-8.982	1.019	-	0.000	0.000***	Supported
			8.81			
FE	6.826	4.140	1.65	0.099	0.050**	Supported
RE	-0.081	0.076	-	0.285	0.143	Not supported
			1.07			

Notes:

\*\*\*, \*\*, \* significant at 1%, 5%, and 10% respectively; BOARDOWN = % board ownership; INSOWN = institutional ownership; CONOWN = concentrated ownership; IND = independent commissioner;

BSIZE = board of directors; ROA = profit before tax and interest / total assets at the beginning of the year; FE = interest expense / total assets at the beginning of the year; RE = Retained earnings at the beginning of the year / total assets at the beginning of the year.

The next variable, institutional ownership, has no effect on the possibility of financial distress. This finding is in line with research by Bodroastuti (2009), Manzanque et al. (2016), Paramastri and Hadiprajitno (2017) and Udin et al. (2017) which says that sometimes institutional investors do not carry out strict and effective monitoring, so the presence of institutional investors is only passive. Passive nature arises because institutional investors do not have sufficient incentives or authority to improve company performance, so this will increase the possibility of management making decisions that benefit themselves and increase the probability of financial distress (Manzanque et al., 2016; Sunarwijaya, 2017; Udin et al., 2017).

Like institutional ownership, concentrated ownership is also found to not have an effect on the possibility of the company experiencing financial distress. This finding is in line with the results from Hui and Jing-jing (2008), Manzanque et al. (2016), Nitami (2020), Paramastri and Hadiprajitno (2017), and Lee and Yeh (2004) who said that sometimes controlling shareholders do not have the ability to carry out the supervisory and control functions of company activities and result in inappropriate decisions taken by management (Nitami, 2020). Manzanque et al. (2016) also said that controlling shareholders have a passive nature so they do not carry out good monitoring of the company's management, hence controlling shareholders do not contribute to preventing the company from experiencing financial distress. In addition, concentrated ownership can lead to information asymmetry between majority shareholders and minority shareholders as well as reduced transparency in the use of funds (Lee & Yeh, 2004). Therefore, this study cannot empirically prove that concentrated ownership will monitor management behavior in order to protect its investment and have a significant influence in preventing companies from experiencing financial distress.

The regression results also show that independent commissioners can increase the likelihood of financial distress. Previous research by Baysinger and Hoskisson (1990), Cinantya and Merkusiwati (2015), Miglani et al. (2015), and Tabalujan (2002) said that sometimes independent commissioners lack independence, so they do not monitor the performance of the company's management well, which can lead an increase of agency problem and cause financial distress. Baysinger and Hoskisson (1990) also state that sometimes independent commissioners do not have good experience or knowledge related to the industrial sector and the company they hold, so they cannot provide good decisions to improve company performance. In addition, companies in Indonesia often determine independent commissioners only to fulfill regulations, so they do not carry out their functions optimally and do not help to improve company performance and avoid financial distress (Tabalujan, 2002).

The results of the fifth hypothesis test indicate that a larger board size can increase the likelihood of financial distress. This is similar to the findings of Helena and Saifi (2018), Salloum et al. (2013), Siagian (2010), and Younas et al. (2021). A larger board of directors usually causes an increase in two main problems, communication and coordination which



can slow down the decision-making process (Helena & Saifi, 2018; Salloum et al., 2013; Younas et al., 2021). Meanwhile, companies that are in distress will really need big decisions and considerations by the board of directors in order to influence the company's financial condition (Siagian, 2010). If the board of directors takes too long to coordinate and make decisions, it can increase the possibility of the company experiencing financial distress (Younas et al., 2021).

The results of testing control variables of profitability show that the higher the profitability, the less likely financial distress occurs. Claessens et al. (2003), Pindado et al. (2008) and Utami (2019) say that companies with a high level of profitability usually attract investors because the company has a high rate of return on investment and sales of high profits. Additionally, tests on the financial expense variable indicate that the higher the financial expense, the more likely the company will experience financial distress. These results are in accordance with the research of Utami (2019) and Pindado et al. (2008). Utami (2019) who said that a company with a high financial expense ratio can indicate that the company has a lot of debt to outsiders and tends to have high financial risk.

Table 5 shows that retained earnings have no effect on the possibility of financial distress. According to Rahmawati and Hadiprajitno (2015), the level of retained earnings does not necessarily indicate that the company will experience financial distress. This is because some companies use retained earnings for business expansion, so that company assets are planted in the form of factories not in bank accounts (Baridwan, 1982). In addition, this study found that 106 observations have negative retained earnings values, but still included in the category of healthy companies. So, this is not in line with the findings of Pindado et al. (2008) which states that there is a negative relationship between retained earnings and financial distress.

### **Sensitivity Test**

To test the robustness of the results of the hypothesis test, this study conducted a sensitivity test using a different method, which is logistic regression (Table 6). The difference between logistic regression and conditional logistic regression is that logistic regression does not need matching data, so this method uses a wider range of samples.

The sensitivity test shows different results on the INSOWN and CONOWN variables. Logistic regression suggests that institutional ownership can increase the likelihood of financial distress, while in conditional logistics regression, this variable is found to have no effect. Wei et al. (2016) said that institutional ownership can reduce company performance because sometimes financial institutions only focus on getting returns and are not interested in helping companies make strategic decisions, therefore this can increase the probability of financial distress.

**Table 6** Results of Sensitivity Testing

FD	Conditional Logistic Regression		Logistic Regression	
	Coef.	P >   z   <i>One-Tailed</i>	Coef.	P >   z   <i>One-Tailed</i>
BOARDOWN	0.837	0.086*	0.729	0.037**
INSOWN	0.091	0.406	0.402	0.071*
CONOWN	-0.044	0.452	0.210	0.207
IND	1.158	0.058*	0.919	0.037**
BSIZE	0.132	0.002***	0.103	0.001***
ROA	-8.982	0.000***	-9.111	0.000***
FE	6.826	0.050**	8.613	0.001***
RE	-0.081	0.143	-0.268	0.247

Notes:

\*\*\*, \*\*, \* significant at 1%, 5%, and 10% respectively; BOARDOWN = % board ownership; INSOWN = institutional ownership; CONOWN = concentrated ownership; IND = independent commissioner; BSIZE = board of directors; ROA = profit before tax and interest / total assets at the beginning of the year; FE = interest expense / total assets at the beginning of the year; RE = Retained earnings at the beginning of the year / total assets at the beginning of the year.

The difference in the results found in the INSOWN variable can occur because in the conditional logistic regression method, a lot of samples are eliminated during the matching process. In the logistic regression method, it was found that financially distressed companies had an average institutional ownership of 13.3%, while healthy companies had a lower average institutional ownership of 11.1%. So this implies that greater institutional ownership can increase the likelihood of financial distress occurring.

The variable CONOWN or concentrated ownership in logistic regression shows opposite coefficient values in comparison to the conditional logistic regression results, which shows a positive direction. However, the results show that the effect is not significant on the possibility of the company experiencing financial distress, so in the end, it has the same conclusion as the main test of the study.

## Conclusion

This study proves that board ownership can increase the possibility of financial distress due to lack of motivation to monitor and take control of the company. Independent commissioners are also proven to be able to increase the possibility of financial distress due to their lack of independence, thus making their supervision on company's management weak which can increase opportunistic actions that lead to financial distress. Also, the size of the board of directors can also increase the likelihood of financial distress because a large board of directors can create communication and coordination problems. Hence, this can slow down the decision-making process and reduce the effectiveness of controlling management. On the other hand, institutional ownership and concentrated ownership have no effect on the possibility of financial distress. Institutional investors sometimes do not have sufficient authority and incentives to closely monitor management behavior, so their presence is passive.

Meanwhile, concentrated ownership also does not have the ability to carry out the supervisory and control functions of the company's activities and result in inappropriate decisions made by management. Overall, this research has implications for several parties. First is for the academic world, by contributing to the research literature on the structure of board ownership, institutional ownership, concentrated ownership, independent commissioners, and the size of the board of directors against possible financial distress. Second, for the company's management, this research found that the provision of incentives in the form of shares has not been an effective way to overcome financial distress, hence, other methods might be needed, such as internal motivation and a supportive work environment. Lastly, for investors, to be more careful in determining the company they want to invest in so that they do not only use financial ratios as a consideration, but also analyze the implementation of corporate governance in overcoming the risk of financial distress.

This study has several limitations, first, this research uses a matching system which is done manually using excel and personal considerations, thus, allowing for less accurate installation. Therefore, it might be better for further research that uses the matching system to focus on certain industries so that the matching process can be more accurate. Second, this study uses decrease in market value for two consecutive years as one of the methods to measure financial distress. However, the study does not consider other factors such as stock split that might decrease the market value. This consideration can be done in future research in order to more accurately categorize financially distressed firms. Third, there is limited institutional ownership data for the companies studied in 2015 because some companies have not provided detailed types of shareholders in their financial statements for the year 2015. So, it is suggested for future research to use more recent year periods, especially regarding institutional.

## References

- Asian Development Bank. (2000). Asian Development Outlook 2000: The social challenge in Asia. Retrieved from <https://www.adb.org/publications/asian-development-outlook-2000-social-challenge-asia>
- Baridwan, Z. (1982). *Intermediate accounting, 3<sup>rd</sup> Edition*. Yogyakarta: BPFE Universitas Gadjah Mada.
- Baysinger, B., & Hoskisson, R. E. (1990). The composition of boards of directors and strategic control: Effects on corporate strategy. *The Academy of Management Review*, 15(1), 72–87. <https://doi.org/10.2307/258106>
- Bodroastuti, T. (2009). Pengaruh struktur corporate governance terhadap financial distress. *Jurnal Ilmiah Aset*, 11(2), 170-182. Retrieved from <https://widyamangala.ac.id/journal/index.php/jurnalaset/article/view/42>
- Bonazzi, L., & Islam, S. M. N. (2007). Agency theory and corporate governance: A study of the effectiveness of board in their monitoring of the CEO. *Journal of Modelling in Management*, 2(1), 7–23. <https://doi.org/10.1108/17465660710733022>

- Budiarti, E., & Sulistyowati, C. (2016). Struktur kepemilikan dan struktur dewan perusahaan. *Jurnal Manajemen Teori dan Terapan*, 7(3), 161-177.  
<https://doi.org/10.20473/jmtt.v7i3.2709>
- Cinanta, I., & Merkusiwati, N. (2015). Pengaruh corporate governance, financial indicators, dan ukuran perusahaan pada financial distress. *E-Jurnal Akuntansi*, 10(3), 897-915.  
Retrieved from <https://ojs.unud.ac.id/index.php/Akuntansi/article/view/10418>
- Claessens, S., & Djankov, S. (1999). Ownership concentration and corporate performance in the Czech Republic. *Journal of Comparative Economics*, 27(3), 498–513.  
<https://doi.org/10.1006/jcec.1999.1598>
- Claessens, S., Djankov, S., & Klapper, L. (2003). Resolution of corporate distress in East Asia. *Journal of Empirical Finance*, 10(1-2), 199-216. [https://doi.org/10.1016/S0927-5398\(02\)00023-3](https://doi.org/10.1016/S0927-5398(02)00023-3)
- CNN Indonesia (2020). *Kronologi kasus jiwastara, gagal bayar hingga dugaan korupsi*. CNN Indonesia. Retrieved from <https://www.cnnindonesia.com/ekonomi/20200108111414-78-463406/kronologi-kasus-jiwastara-gagal-bayar-hingga-dugaan-korupsi>
- Donker, H., Santen, B., & Zahir, S. (2009). Ownership structure and the likelihood of financial distress in the Netherlands. *Applied Financial Economics*, 19(21), 1687–1696.  
<https://doi.org/10.1080/09603100802599647>
- Dwiridotjahjono, J. (2009). Penerapan Good Corporate Governance: Manfaat Dan Tantangan Serta Kesempatan Bagi Perusahaan Publik Di Indonesia. *Jurnal Administrasi Bisnis*, 5(2). <https://doi.org/10.26593/jab.v5i2.2108.%25p>
- Farooq, U., Jibrán Qamar, M. A., & Haque, A. (2018). A three-stage dynamic model of financial distress. *Managerial Finance*, 44(9), 1101–1116. <https://doi.org/10.1108/mf-07-2017-0244>
- Freitas Cardoso, G., Peixoto, F. M., & Barboza, F. (2019). Board structure and financial distress in Brazilian firms. *International Journal of Managerial Finance*, 15(5), 813–828.  
<https://doi.org/10.1108/ijmf-12-2017-0283>
- Hastuti, I. (2014). Analisis pengaruh struktur kepemilikan dan karakteristik perusahaan terhadap kemungkinan kesulitan keuangan (Studi pada perusahaan manufaktur di Bursa Efek Indonesia tahun 2008–2012). *Doctoral dissertation*. Universitas Muhammadiyah Surakarta.
- Haynes, K. T., & Hillman, A. (2010). The effect of board capital and CEO power on strategic change. *Strategic Management Journal*, 31(11), 1145–1163.  
<https://doi.org/10.1002/smj.859>
- Helena, S., & Saifi, M. (2018). Pengaruh corporate governance terhadap financial distress (Studi pada perusahaan transportasi yang terdaftar di Bursa Efek Indonesia periode 2013-2016). *Jurnal Administrasi Bisnis*, 60(2), 143-152. Retrieved from <http://administrasibisnis.studentjournal.ub.ac.id/index.php/jab/article/view/2519>
- Hensher, D.A., & Stopher, P.R. (1979). *Behavioural travel modelling*. London : Croom Helm.
- Hillman, A. J., & Dalziel, T. (2003). Boards of directors and firm performance: Integrating agency and resource dependence perspectives. *The Academy of Management Review*, 28(3), 383-396. <https://doi.org/10.2307/30040728>
- Hui, H., & Jing-jing, Z. (2008). Relationship between corporate governance and financial distress: an empirical study of distressed companies in China. *The International Journal of Management*, 25, 654.
- Jensen, M. C. (1993). The modern industrial revolution, exit, and the failure of internal control systems. *The Journal of Finance*, 48(3), 831–880.  
<https://doi.org/10.1111/j.1540-6261.1993.tb04022.x>

- Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, 3(4), 305–360.  
[https://doi.org/10.1016/0304-405x\(76\)90026-x](https://doi.org/10.1016/0304-405x(76)90026-x)
- Kaen, F.R. (2003). *A blueprint for corporate governance: Strategy, accountability, and the preservation of shareholder value*. Amacom.
- Kholis, N. (2015). Analisis struktur kepemilikan dan perannya terhadap praktik manajemen laba perusahaan. *Addin*, 8(1). Retrieved from  
<https://journal.iainkudus.ac.id/index.php/Addin/article/view/595>
- Kirana, K. K. (2018). Pengaruh managerial entrenchment terhadap manajemen laba dan dampaknya pada nilai perusahaan (Studi empiris pada perusahaan manufaktur yang terdaftar di BEI tahun 2013-2017). *Skripsi*, Universitas Muhammadiyah Magelang.
- Kompasiana. (2021). *The Fall of Jiwarsaya: A Lapse in Corporate Governance*. Retrieved from  
[https://www.kompasiana.com/spafebui/60a70c188ede487b860a1902/the-fall-of-jiwasraya-a-lapse-in-corporate-governance?page=3&page\\_images=1](https://www.kompasiana.com/spafebui/60a70c188ede487b860a1902/the-fall-of-jiwasraya-a-lapse-in-corporate-governance?page=3&page_images=1)
- La Porta, R., Lopez-de-Silanes, F., Shleifer, A., & Vishny, R. (2000). Investor protection and corporate governance. *Journal of Financial Economics*, 58(1-2), 3–27.  
[https://doi.org/10.1016/s0304-405x\(00\)00065-9](https://doi.org/10.1016/s0304-405x(00)00065-9)
- Lee, T. S., & Yeh, Y-H. (2004). Corporate governance and financial distress: Evidence from Taiwan. *Corporate Governance: An International Review*, 12(3), 378-388.  
<https://doi.org/10.1111/j.1467-8683.2004.00379.x>
- Leys, C., Ley, C., Klein, O., Bernard, P., & Licata, L. (2013). Detecting outliers: Do not use standard deviation around the mean, use absolute deviation around the median. *Journal of Experimental Social Psychology*, 49(4), 764–766.  
<https://doi.org/10.1016/j.jesp.2013.03.013>
- Li, Z., Crook, J., Andreeva, G., & Tang, Y. (2021). Predicting the risk of financial distress using corporate governance measures. *Pacific-Basin Finance Journal*, 68, 101334.  
<https://doi.org/10.1016/j.pacfin.2020.101334>
- Lind, D. A., Marchal, W. G., & Wathen, S.A. (1999). *Statistical techniques in business and economics*. McGrawhill.
- Manzaneque, M., Priego, A. M., & Merino, E. (2016). Corporate governance effect on financial distress likelihood: Evidence from Spain. *Revista de Contabilidad*, 19(1), 111–121. <https://doi.org/10.1016/j.rcsar.2015.04.001>
- Mariano, S. S. G., Izadi, J., & Pratt, M. (2021). Can we predict the likelihood of financial distress in companies from their corporate governance and borrowing? *International Journal of Accounting & Information Management*, 29(2), 305–323.  
<https://doi.org/10.1108/ijaim-08-2020-0130>
- Miglani, S., Ahmed, K., & Henry, D. (2015). Voluntary corporate governance structure and financial distress: Evidence from Australia. *Journal of Contemporary Accounting & Economics*, 11(1), 18–30. <https://doi.org/10.1016/j.jcae.2014.12.005>
- Nitami, N. (2020). Kesulitan keuangan: Pengaruh struktur kepemilikan. *Conference on Business, Social Sciences and Innovation Technology*, 1(1), 93-102. Retrieved from  
<https://journal.uib.ac.id/index.php/cbssit/article/view/1405>
- OECD. (1999). *OECD Principles of Corporate Governance Organisation for Economic Co-operation and Development Organisation for Economic Co-operation and Development*. Meeting of the OECD Council at Ministerial Level, 1 of 46. Retrieved from  
[https://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=C/MIN\(99\)6&docLanguage=En](https://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=C/MIN(99)6&docLanguage=En)
- Otoritas Jasa Keuangan. (2014). *Roadmap tata kelola perusahaan Indonesia*. Otoritas Jasa Keuangan. Retrieved from <https://www.ojk.go.id/id/data-dan->

[statistik/ojk/Documents/ROADMAPTATAKELOLAPERUSAHAANINDONESIA\\_A\\_1391520776.PDF](https://statistik/ojk/Documents/ROADMAPTATAKELOLAPERUSAHAANINDONESIA_A_1391520776.PDF)

- Paramastri, W. W., & Hadiprajitno, P. B. (2017). Pengaruh mekanisme tata kelola perusahaan terhadap kesulitan keuangan (Studi empiris pada perusahaan manufaktur yang terdaftar di BEI tahun 2014-2015). *Diponegoro Journal of Accounting*, 6(4), 481-493. Retrieved from <https://ejournal3.undip.ac.id/index.php/accounting/article/view/19097>
- Pfeffer, J., & Salancik, G. (1978). *External control of organizations*. Stanford University Press.
- Pindado, J., Rodrigues, L., & de la Torre, C. (2008). Estimating financial distress likelihood. *Journal of Business Research*, 61(9), 995-1003. <https://doi.org/10.1016/j.jbusres.2007.10.006>
- Pramudena, S. M. (2017). Impact of good corporate governance on financial distress in the consumer goods sector company. *GATR Journal of Finance and Banking Review*, 2(4), 46-55. [https://doi.org/10.35609/jfbr.2017.2.4\(6\)](https://doi.org/10.35609/jfbr.2017.2.4(6))
- Rahmawati, A. I. E., & Hadiprajitno, P. B. (2015). Analisis rasio keuangan terhadap kondisi financial distress pada perusahaan manufaktur yang terdaftar di Bursa Efek Indonesia tahun 2008-2013. *Diponegoro Journal of Accounting*, 4(2), 737-747. Retrieved from <https://ejournal3.undip.ac.id/index.php/accounting/article/view/16511>
- Salloum, C., Schmitt, C., & Bouri, E. (2013). Does board structure affect financial distress? A study with reference to family firms in Lebanon. *Investment Management and Financial Innovations*, 9, 113-123.
- Shleifer, A., & Vishny, R. W. (1986). Large shareholders and corporate control. *Journal of Political Economy*, 94(3), 461-488. Retrieved from <http://www.jstor.org/stable/1833044>
- Siagian, D. (2010). Analisis pengaruh struktur corporate governance terhadap perusahaan yang mengalami financial distress (Studi empiris pada perusahaan publik yang tercatat di BEI pada tahun 2005-2009). *Media Riset Akuntansi, Auditing & Informasi*, 10(3), 46-64. <http://dx.doi.org/10.25105/mraai.v10i3.1035>
- Singh, V. (2007). Ethnic diversity on top corporate boards: a resource dependency perspective. *The International Journal of Human Resource Management*, 18(12), 2128-2146. <https://doi.org/10.1080/09585190701695275>
- Subrata, A. (2020). *Peran komisaris independen di perusahaan asuransi*. Institute of Compliance Professional Indonesia. Retrieved from <https://icopi.or.id/peran-komisaris-independen-di-perusahaan-asuransi/>
- Sunarwijaya, I. K. (2017). Pengaruh likuiditas, leverage, kepemilikan manajerial, dan kepemilikan institusional terhadap kemungkinan terjadinya financial distress. *Jurnal Ilmu Manajemen (JUIMA)*, 7(1), 1-16.
- Tabachnick, B. G., & Fidell, L. S. (1996). *Using Multivariate Statistics (3rd ed.)*. New York: Harper Collins.
- Tabalujan, B. S. (2002). Family capitalism and corporate governance of family-controlled listed companies in Indonesia. *University of New South Wales Law Journal*, 25, 486. Retrieved from <https://www.austlii.edu.au/au/journals/UNSWLJ/2002/30.html>
- Tarigan, K. B., & Hadiprajitno, P. B. (2018). Pengaruh mekanisme tata kelola perusahaan terhadap kemungkinan terjadinya financial distress (Studi Empiris pada Perusahaan Manufaktur yang Terdaftar di BEI Tahun 2014-2016). *Undergraduate Thesis*. Universitas Diponegoro.
- Udin, S., Khan, M. A., & Javid, A. Y. (2017). The effects of ownership structure on likelihood of financial distress: an empirical evidence. *Corporate Governance: The International Journal of Business in Society*, 17(4), 589-612.

- Utami, B.P. (2019). Analisis leverage, profit margin dan firm size terhadap stock return perusahaan manufaktur yang terdaftar di Bursa Efek Indonesia (BEI) (Survey pada perusahaan manufaktur yang terdaftar di Bursa Efek Indonesia). *Thesis*. Universitas Siliwangi.
- Wang, Z.-J., & Deng, X.-L. (2006). Corporate governance and financial distress: Evidence from Chinese listed companies. *The Chinese Economy*, 39(5), 5–27.  
<https://doi.org/10.2753/ces1097-1475390501>
- Wardhani, R. (2007). Mekanisme corporate governance dalam perusahaan yang mengalami permasalahan keuangan. *Jurnal Akuntansi dan Keuangan Indonesia*, 4(1), 95–114.  
<https://doi.org/10.21002/jaki.2007.05>
- Wei, C.-C., Fang, W.-X., Li, G.-H., Kao, Y.-W., Tsai, M.-L., & Yang, C.-Y. (2016). The relationship between ownership structure and the probability of a financial distress warning happening: evidence of listed common stock companies in Taiwan. *Applied Economics and Finance*, 4(1). <https://doi.org/10.11114/aef.v4i1.1847>
- Widhiastuti, R., Nurkhin, A., & Susilowati, N. (2019). Corporate Governance Terhadap Financial Distress. *Jurnal Economia*, 15(1), 34-47.  
<http://dx.doi.org/10.21831/economia.v15i1.22927>
- Younas, N., UdDin, S., Awan, T., & Khan, M. Y. (2021). Corporate governance and financial distress: Asian emerging market perspective. *Corporate Governance: The International Journal of Business in Society*, 21(4), 702–715. <https://doi.org/10.1108/cg-04-2020-0119>
- Zahra, S. A., & Pearce, J. A. (1989). Boards of directors and corporate financial performance: A review and integrative model. *Journal of management*, 15(2), 291-334.  
<https://doi.org/10.1177/014920638901500208>