

## FINANCIAL RATIOS, CORPORATE GOVERNANCE, AND MACROECONOMIC INDICATORS IN PREDICTING FINANCIAL DISTRESS

<sup>a</sup> Dwivinna Nadine Dewi, <sup>b</sup> Werner Ria Murhadi, <sup>c</sup> Bertha Silvia Sutejo

### ABSTRACT

**Purpose:** This study analyzed the effect of financial ratios, corporate governance, and macroeconomic variables on financial distress. This research was conducted during the covid-19 pandemic when many companies experienced difficulties due to activity restrictions during the pandemic.

**Theoretical framework:** Prolonged financial difficulty can lead to the company's insolvency. As a result, understanding the company's health status is critical. Internal company factors, such as the firm's financial situation and company management, as reflected in corporate governance, and external company factors, such as macroeconomic conditions, can all influence the occurrence of financial hardship in the company.

**Design/Methodology/Approach:** This study uses a sample of property and real estate sector companies listed on the Indonesia stock exchange. The model used was 270 observations. This research is a quantitative approach using a logistic regression test. The unit of analysis in this study is property, real estate, and building construction sector companies listed on the Indonesia Stock Exchange, where each company is undoubtedly influenced by internal company factors, namely financial ratios and corporate governance, and external factors, namely macroeconomics.

**Findings:** The results showed that the relevant financial ratios are sales total assets and retained earnings to total assets. At the same time, the corporate governance included in the model is director size and macroeconomic variables in the form of inflation entering the financial distress model. The accuracy of the model in classifying its observations is 84.1%.

**Research, practical & social implications:** The implication of this study's results is that financial ratios, governance, and macroeconomic indicators can be used as a benchmark to detect the possibility of financial distress.

**Originality/Value:** This research was conducted in the real estate industry during the Covid-19 pandemic when many companies experienced financial difficulties. This research combines financial ratios, corporate governance, and macroeconomics that impact the possibility of financial distress. This research is different because it combines financial ratios that reflect company performance, governance practices, and macroeconomic indicators to predict bankruptcy.

<sup>a</sup> Bachelor of Economics, Management Department, University of Surabaya, Indonesia,  
E-mail: 130218360@students.ubaya.ac.id

<sup>b</sup> Doctor in Finance, Management department, University of Surabaya, Indonesia, E-mail: werner@staff.ubaya.ac.id,  
Orcid: <https://orcid.org/0000-0002-7297-861X>

<sup>c</sup> Doctor in Finance, Management department, University of Surabaya, Indonesia, E-mail: bertha@staff.ubaya.ac.id,  
Orcid: <https://orcid.org/0000-0003-2527-4764>



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## ÍNDICES FINANCEIROS, CONTROLE CORPORATIVO E INDICADORES MACROECONÔMICOS NA PREVISÃO DE PERTURBAÇÕES FINANCEIRAS

### RESUMO

**Objetivo:** Este estudo analisou o efeito dos raios financeiros, do governo das sociedades e das variáveis macroeconômicas sobre as dificuldades financeiras. Esta pesquisa foi realizada durante a pandemia da covid-19, quando muitas empresas enfrentaram dificuldades devido a restrições de atividade durante a pandemia.

**Quadro teórico:** Dificuldades financeiras prolongadas podem levar à insolvência da empresa. Como resultado, é essencial compreender o status de saúde da empresa. Fatores internos da empresa, como a situação financeira da empresa e a sua gestão, refletidos no governo da empresa, e fatores externos da empresa, como as condições macroeconômicas, podem influenciar a ocorrência de dificuldades financeiras na empresa.

**Design/Methodologia/Abordagem:** Este estudo utiliza uma amostra de empresas do setor imobiliário listadas na bolsa de valores da Indonésia. O modelo utilizado foi de 270 observações. Esta pesquisa é uma abordagem quantitativa usando um teste de regressão logística. A unidade de análise deste estudo é propriedade, imobiliário e empresas do setor da construção civil listadas na Bolsa de Valores da Indonésia, onde cada empresa é indubitavelmente influenciada por fatores internos da empresa, ou seja, raios financeiros e governança corporativa, e fatores externos, ou seja, macroeconomia.

**Constatações:** Os resultados mostraram que os índices financeiros relevantes são os ativos totais de vendas e lucros retidos para ativos totais. Ao mesmo tempo, o modelo de governo das sociedades inclui a dimensão dos administradores e as variáveis macroeconômicas sob a forma de inflação que entra no modelo de dificuldades financeiras. A precisão do modelo na classificação de suas observações é de 84,1%.

**Investigação, implicações práticas e sociais:** Os resultados deste estudo implicam que os raios financeiros, a governança e os indicadores macroeconômicos podem ser utilizados como referência para detectar a possibilidade de dificuldades financeiras.

**Originalidade/Valor:** Esta pesquisa foi realizada no setor imobiliário durante a pandemia da Covid-19, quando muitas empresas enfrentaram dificuldades financeiras. Esta investigação combina raios financeiros, governança empresarial e macroeconomia que têm impacto na possibilidade de perturbações financeiras. Esta investigação é diferente porque combina raios financeiros que refletem o desempenho da empresa, práticas de governança e indicadores macroeconômicos para prever falência.

**Palavras-chave:** dificuldades financeiras, raios financeiros, governo das sociedades, macroeconomia.



## 1 INTRODUCTION

The global transmission of the Coronavirus (Covid-19) in 2020 has been rapid. The pandemic has slowed worldwide economic growth, resulting in practically all countries, including Indonesia, enduring an economic recession. People prefer to postpone consumption during a pandemic, resulting in a fall in purchasing power and an impact on firm profitability. Companies use layoffs and salary cuts to keep their operations running. This condition, however, has exacerbated the loss of people's purchasing power. Furthermore, the government has introduced several new policies during the pandemic, disrupting various firm business activities. A circumstance like this undoubtedly reduces the company's cash inflow, even while the company still has operational expenses and responsibilities that must be met. This condition will cause many businesses financial difficulties, commonly known as financial distress.

Prolonged financial difficulty can lead to the company's insolvency. As a result, understanding the company's health status is critical. Internal company factors, such as the firm's financial situation and company management, as reflected in corporate governance, and external company factors, such as macroeconomic conditions, can all influence the occurrence of financial hardship in the company. Financial ratios produced from financial statements might reflect the company's financial condition. At the same time, the company's management performance can be demonstrated via the corporate governance system. Then, macroeconomic conditions, which are external variables, can be seen through the country's economic conditions.

Companies can also evaluate financial statements summarizing the company's overall financial situation to predict financial difficulty. Financial statements can be used to calculate financial ratios. This ratio will identify symptoms of financial distress in a corporation (Hamid et al, 2023). A company's financial status is also inextricably linked to the impact of managerial actions. Decisions made by ineffective management can put the organization in financial jeopardy. As a result, looking at the governance system (Corporate Governance) might help predict financial problems in the organization. GCG is applied through the performance and responsibility of firm management, which plays a significant role in increasing company performance. Companies that use GCG will generate a good relationship between corporate management and shareholders, resulting in a balance in company operations. Meanwhile, global economic conditions can impact a country's macroeconomic conditions, which in turn influence industry decisions and



affect the company's decisions and operating conditions. Macroeconomic conditions are those that are uncontrollable by the company and can have an impact on the company's financial state.

This research will employ three financial ratio variables: sales to total assets, retained earnings to total assets, and book-to-market value. The corporate governance category was then divided into three variables: director size, independent directorship, and block holder ownership. In addition, there are two macroeconomic variables to consider: inflation and the exchange rate. According to some prior research findings, there are still contradictions in the research findings on the influence of sales on total assets on financial distress. In theory, boosting sales is particularly important for businesses because it can improve earnings and demonstrate that the company has utilized its assets successfully. As a result, high sales to total assets indicate that the company's performance is positive, which can then prevent financial distress (Ernawati et al., 2018). However, Kristanti et al. (2016) found that sales to total assets do not significantly affect financial distress. Furthermore, many research findings were discovered on the effect of retained earnings on total assets on financial distress. Manzaneque et al. (2016) discovered that the retained earnings ratio to total assets hurt financial hardship. The company's high RE/TA indicates that the company has enough cash to fund expansion and lucrative investments, implying that the company is less likely to experience financial trouble. However, Ernawati et al. (2018) discovered that the retained earnings ratio to total assets did not affect financial distress. In principle, the book value to market value ratio can indicate that the market thinks the company's share price is lower than its book value. The low market price of the company's shares indicates that the company's performance is poor and is likely to face financial trouble (Ernawati et al., 2018), which differs from the result given by Kristanti et al. (2016).

Director size, a corporate governance indicator, has a significant positive association with financial distress (Manzaneque et al., 2016). However, according to agency theory, the board of directors represents the company's stockholders and other shareholders in managing and accessing the resources and information required to achieve its business objectives, thereby protecting the company from financial distress. For the independent director variable, Manzaneque et al. (2016) discovered that independent directors hurt financial hardship. A similar thing was discovered in Kristanti et al. (2016)'s investigation. According to agency theory, the presence of independent



directors in a corporation helps improve management performance supervision so that it is aligned with the interests of shareholders (Andayani & Wuryantoro, 2023). This supervision can help to avoid agency issues between management and shareholders. Thus, the bigger the number of independent directors in the firm, the better its performance will allow it to avoid financial difficulty. Blockholder ownership is a corporate governance element that has been researched by prior scholars and yielded diverse research outcomes. Ernawati et al. (2018) investigated the influence of block holder ownership on financial distress and discovered a significant negative relationship between the two. Another example is Manzaneque et al. (2016)'s research, which evaluates the influence of ownership concentration on financial hardship and discovers a positive but minor effect. According to agency theory, on the other hand, the largest shareholder has a strong interest and power in reviewing the performance of firm management and aligning management interests with shareholders in order to minimize agency difficulties. Blockholder ownership will likely put pressure on firm management to improve performance in order to avoid financial difficulty.

The impact of macroeconomic variables frequently utilized in research is inflation, where Oktarina (2017) revealed that inflation had no substantial effect on the company's financial difficulties. Rohiman and Damayanti (2019) discovered different results, claiming that inflation positively affects financial distress. In theory, the higher the inflation rate, the higher the price of things in general, causing a reduction in people's purchasing power. This drop in people's purchasing power will affect declining sales and profits and deteriorate the company's financial situation to the point of financial hardship. In the two previous investigations, the influence of the other macroeconomic variable, the exchange rate, on financial distress is likewise different. Oktarina (2017) discovered that the rupiah's exchange rate against the US dollar had no substantial impact on corporate financial difficulties. However, it differs from the findings of Rohiman and Damayanti's (2019) investigation, which discovered that the exchange rate strongly affected financial distress. In theory, the lower the exchange rate of the rupiah against the USD, the greater the potential that the firm would have financial difficulties, particularly if the company has international debt in USD, which will require the company to pay a more considerable amount. Not only that, but a drop in the value of the rupiah versus the USD hurts enterprises that import raw materials and perform derivative transactions, so the exchange rate can damage the company's financial state and be a source of financial difficulty.



This research will examine whether financial ratios, like sales to total assets, retained earnings to total assets, and book to market value, impact financial difficulty. This research also investigates whether corporate governance impacts financial distress, as measured by the board of director size, independent directors, and block holder ownership. Moreover, how can macroeconomic variables, such as inflation and the currency rate, affect financial distress?

## 2 THEORETICAL FRAMEWORK

According to Platt and Platt (2002), financial hardship is a stage that a firm goes through before bankruptcy or liquidation, defined by a decline in financial situation. Companies that cannot pay their maturing commitments show signs of financial hardship (Beaver et al., 2010). Companies that have had negative net operating income for years, have not paid dividends for one year or more, and have laid off workers are signs of a company's poor financial state when in financial trouble (Almilia & Kristijadi, 2003). As Altman pioneered, several financial ratio indicators can be used to indicate financial distress.

Sales to total assets is an activity ratio that indicates how effectively a company uses its assets to increase sales (Murhadi, 2013). This ratio can evaluate a company's capacity to expand sales based on its assets (Harahap, 2015; Kasmir, 2016). The sales to total assets (S/TA) ratio demonstrates the company's efficiency in utilizing its assets to create sales and profits. A low ratio implies a low level of corporate income, which may suggest the company's finances are not in good shape (Bahri & Widyawati, 2015; Chabachib et al., 2019). On the other hand, a high sale-to-total asset ratio suggests that the company has used its assets successfully to boost sales, increase profits, and protect the company from financial trouble (Ardiyanto & Prasetiono, 2011). The higher the company's sales, the higher the company's efficiency, which might be a good indicator for shareholders. This condition is related to signaling theory, in which profitability, as measured by revenue and sales, can convey signals to investors (Chabachib et al., 2019).

H1: The ratio of sales to total assets hurts financial distress.

Companies having a high retained earning to total assets (RE/TA) ratio imply that the company prefers to finance its assets using retained earnings (Altman, 1968). Furthermore, Adi and Rahmawati (2015) discovered that a higher RE/TA shows that the company generates large profits to finance its assets and pay dividends, indicating that



the corporation is in good health. Lakshan and Wijekoon (2013) provided similar findings, explaining that the higher the RE/TA ratio, the less likely the company will experience financial hardship.

H2: The ratio of retained earnings to total assets reduces financial distress.

According to Fama and French (1995), a high book-to-market value (BV/MV) signals poor performance and prospects and financial trouble. Companies with a high BV/MV value tend to have low and unpredictable profits, have higher leverage, and are likely to slash dividend payments, putting them at a higher risk of financial hardship (Chen & Zhang, 1998). This conclusion is corroborated by Vassalou and Xing's (2004) research, which says that the higher the BV / MV number, the greater the likelihood of financial trouble.

H3: Book to Market Value has a positive effect on financial distress.

Governance variables proxied by larger director size give organizations with numerous benefits in accessing resources and information controlled by directors, which are required to fulfill business goals. This statement is also consistent with Nurziah & Darmawati (2014), who state that a larger number of directors is beneficial for the company in terms of building a network with outsiders and ensuring the availability of resources. In contrast, more directors should be considered more capable of running the company optimally. Companies in good financial health have a bigger average director size, whereas companies in bad financial shape have a smaller average director size (Jensen, 1993). These assertions support agency theory, which holds that the board of directors can lessen the likelihood of agency problems by playing an essential role in determining company decisions and policies that can favorably impact the firm's performance and financial position.

H4: The size of the director hurts financial distress.

Independent directors are responsible for monitoring and limiting management's potential for opportunism and selfish behavior, ensuring that management's decisions are consistent with the interests of shareholders (Manzaneque et al., 2016). Independent directors can also help to avoid asymmetric knowledge and agency issues between management and shareholders (Chang & Wong, 2009). In the long run, the presence of independent directors can improve the efficiency with which firm activities are developed, as well as monitor and detect opportunistic behavior by management. This remark is consistent with the findings of Manzaneque et al. (2016), who discovered that



companies with more independent directors are less likely to face financial difficulties because monitoring and controlling management actions impact company performance.

H5: The presence of an independent director has a detrimental impact on financial distress.

Governance variables proxied by block-holder ownership provide sufficient incentives to maximize company performance by reducing asymmetric information between managers and shareholders and overcoming agency problems that benefit company recovery (Claessens & Fan, 2002). Blockholders are essential in monitoring and influencing management decisions to benefit the company (Donker et al., 2009). Because block holders have sufficient incentives to maximize the value of their shareholdings and minimize potential losses from financial distress by monitoring managers' decision-making actions, block holder ownership has a considerable negative influence on financial distress (Miglani et al., 2015). According to agency theory, the supervisory function of block holder ownership of firm management can alleviate agency difficulties.

H6: Blockholder ownership is detrimental to financial distress.

Inflationary pressures can have a wide-ranging impact, particularly on finance. High inflation will generally influence people's low purchasing power due to high production costs. The drop in people's purchasing power will reduce corporation income. If the organization cannot manage these situations correctly, revenue that continues to drop might lead to financial difficulty. Inflation has a considerable positive influence on financial distress since it raises manufacturing costs while decreasing firm earnings (Miglani et al., 2015). This finding is consistent with Rohiman and Damayanti's (2019) study, which discovered a substantial positive relationship between inflation and financial distress. It is claimed that low sensitivity to inflation will prevent corporate financial issues from occurring.

H7: Inflation is beneficial to financial distress.

Currency exchange rates significantly impact the financial position of businesses that conduct transactions in foreign currencies. Companies typically produce revenue in native currency, then deal in foreign currency to acquire raw materials, borrow funds, and purchase derivative products. When the domestic exchange rate falls, the volume of foreign currency loans grows (Fakhri & Darmawan, 2021). Furthermore, a depreciation of the home currency might raise the company's manufacturing costs, resulting in lower earnings and financial difficulty (Widarjo & Setiawan, 2009). The negative impact of





declining exchange rates on financial suffering is that when the rupiah falls against the dollar, the price of export products falls, and import products rise. This circumstance harms enterprises that import raw materials because manufacturing costs rise while revenues fall, causing financial difficulty (Rohiman & Damayanti, 2019).

H8: Exchange Rates Affect Financial Distress.

### 3 METHODOLOGY

This study uses panel data on real estate companies publicly traded on the Indonesia Stock Exchange. The dependent variable to be evaluated in this study is financial distress in the form of a category, with the code "1" assigned to companies classed as financial distress and the code "0" assigned to enterprises classified as healthy or non-financial distress (Platt & Platt, 2002). Each company's net income will be used to classify companies as financial distress or non-financial distress, where the financial distress standards for companies are typified by a decline in financial position in the form of negative net income for two or more consecutive years. Sales to total assets (STA), retained earnings to total assets (RETA), and book to market value (BMV) are all independent variables for financial ratios. The corporate governance category was then divided into three variables: director size (DS), independent director (ID), and block holder ownership (BO). In addition, there are two macroeconomic variables to consider: inflation (INF) and the exchange rate (ERT).

The logistic regression analysis is used in this investigation. Using Hosmer and Lemeshow's test, logistic regression analysis is used to measure goodness of fit. The Overall model fit, shown by the logit likelihood value (-2LogL value), is used to examine whether all independent variables in logistic regression concurrently affect the dependent variable. Nagelkerke R Square, a version of Cox and Snell's coefficient, will be employed to determine the proportion of the dependent variable that the independent variables can explain. The right and wrong values are calculated using the 2x2 Classification Table. The test is carried out using a logistic regression equation, which can be stated as follows:



$$\ln p/(1-p) = \alpha - \beta 1.STA_{it} - \beta 2.RETA_{it} + \beta 3.BMV_{it} - \beta 4.DS_{it} - \beta 5.ID_{it} - \beta 6.BO_{it} + \beta 7.INF_{it} - \beta 8.ERT_{it} + e$$

Where

$\hat{p}$  is the logistic regression probability calculated using the following formula:

$$p = 1 / (1 + e^{-\beta 1 STA_{it} - \beta 2 RETA_{it} + \beta 3 BMV_{it} - \beta 4 DIR\_SIZE_{it} - \beta 5 IND\_DIR_{it} - \beta 6 BLOCK\_OWN_{it} + \beta 7 INFL_{it} - \beta 8 EXCH_{it}})$$

The coefficient of each variable is interpreted using the formula to estimate the partial contribution of each variable to the chance of financial distress, as seen in the odds value. The odds value is the probability value presented in the SPSS output as the exp (B) value.

#### 4 RESULTS AND DISCUSSION

A total of 270 observations on real estate companies listed on the Indonesia Stock Exchange were used in this study. The chi-square value is 8.772 with a significant probability of 0.362 based on Hosmer and Lemeshow's test results, indicating that H0 is accepted and the model is fit. To evaluate the whole model, look at the Log Likelihood value, precisely -2Log Likelihood (-2LL), where the value at step-0 is 302.557, and the step-1 value becomes 200.321 once all independent variables are added. This decrease implies a reduction in value because the initial -2LL value is more significant than the final -2LL value, indicating that the predicted model fits the data. Nagelkerke R Square is a logistic regression version of the Cox and Snell's R Square coefficient, with a value of 0.86.

Logistic regression analysis with the stepwise technique is used to develop a financial distress model and determine which independent factors strongly predict the risk of financial distress. Only four variables with significant values remain in the final phase and will be included in the financial distress model. STA has a significance of 0.003, RETA has a significance of 0.000, DS has a significance of 0.026, and INF has a significance of 0.000. The processing results (Table 1) show that the four variables exhibit negative coefficient values. The b coefficient value of STA is -3.588, the b coefficient value of RETA is -4.314, the b coefficient value of DS is -0.254, and the b coefficient value of INF is -114.192. As a result, these four characteristics have a considerable negative impact on financial distress.



Table 1 shows the variables in the financial distress model.

Variable in the equation	B	Sig.
Sales to total asset	-3.588	0.003
Retained earnings to total asset	-4.314	0.000
Director size	-0.254	0.026
Inflation	-114.192	0.000
Constant	5.070	0.000

Source: Prepared by the authors (2023)

As a result, a financial hardship model can be constructed as follows:

$$\ln p / (1-p) = 5.070 - 3.588 STA - 4.314 RETA - 0.254 DS - 114.192 INF$$

The financial distress model can also be expressed in a non-linear or multiplicative manner to describe the effect of odds and independent variables, as follows:

$$p / (1-p) = e^{-5.070 - 3.588 S/TA - 4.314 RE/TA - 0.254 DIR\_SIZE - 114.192 INFL}$$

Table 2. Classification Accuracy

Observed	Predicted		
	Financial Distress		Percentage Correct
	Non-FD	FD	
Financial Non-FD	192	11	94.6
Distress FD	32	35	52.2
Overall Percentage			84.1

Source: Prepared by the authors (2023)

According to the results in Table 2, 192 of the 203 firm data labelled as non-financial hardship are consistently classified as such, whereas 11 other data are classed as experiencing financial difficulty. Meanwhile, of the 67-company data identified as experiencing financial difficulty, 32 continuously experienced financial distress, with the remaining 35 data classed as non-financial distress. The model's overall predictive power or accuracy in classifying its observations is 84.1%. This chart illustrates that the model's predictive validity is pretty good since it exceeds the 50% cut-off value.

Sales to total assets have a strong negative impact on financial distress. The findings of this study support the initial idea and are compatible with the findings of Ernawati et al. (2018). The findings revealed that the higher the ratio of sales to total assets, the lower the likelihood of financial difficulties for the organization. High sales-to-total assets ratios suggest that the company has utilized its assets to create sales to the best of its ability and has a solid asset turnover rate (Hanifah & Purwanto, 2013). Companies that effectively use their assets to generate sales would profit more (Ardiyanto



& Prasetyono, 2011). High company sales can undoubtedly boost the firm's profit, indicating that the company is in good financial shape and that the likelihood of facing financial trouble is low.

Retained earnings as a percentage of total assets hurt financial distress. The findings of this study support the primary research hypothesis and are supported by the findings of Lakshman and Wijekoon (2013). According to the study, the higher the RE / TA number, the lower the likelihood of financial trouble. The greater the value of retained earnings to total assets, the bigger the company's cumulative profit, allowing it to finance its assets and lower the danger of financial crisis (Kristian, 2017). The high value of the company's retained earnings to total assets also indicates that a more significant proportion of its assets are financed by retained earnings (Handoyo, 2017). Retained earnings can be used as capital by the company to fund the company's assets and make valuable expansions and investments. The level of profitability can be determined by the increase of retained earnings greater than the total assets the company possesses. This condition means that the higher the ratio of retained earnings to total assets, the less likely the company is to face financial difficulties.

Director Size hurts financial distress, and the findings of this study reflect the initial premise and are corroborated by Manzanique et al. (2016) research. The findings revealed that the higher the Director Size, the lesser the likelihood of financial hardship. This finding is consistent with the Resources Dependency Theory given by Pearce and Zahra (1992), Pfeffer (1972), and Manzanique et al. (2016), which states that organizations with a more significant number of directors have greater influence over management and access to superior resources and information. Similarly, according to agency theory, the board of directors plays a significant role in formulating policies and making decisions, as well as minimizing the emergence of agency problems, which can lead to financial difficulties in the long run. Jensen (1993) also makes a supportive argument, stating that the financial reporting process can be better controlled if the board of directors is more prominent in size.

According to the findings, inflation has a detrimental impact on financial distress. According to Taufik and Sugianto (2021), Indonesia's low inflation rate from 2016 to 2020 indicates a decrease in purchasing power or deflation, indicating that Indonesia's macroeconomy lacks sufficient economic fundamentals to cause financial distress in the company. This condition is also corroborated by inflation statistics from the Bank



Indonesia website ([www.bi.go.id](http://www.bi.go.id)), which shows that the inflation rate fell during the 2016-2020 research period and stabilized at 2% to 3%. Despite the government's initiatives to maintain price stability and inflation rates and to keep inflation at 3%, the company is nonetheless enduring bad financial conditions. This condition is because of the Covid-19 pandemic, which affects the fall in people's purchasing capacity and the company's financial state. According to data from the Central Bureau of Statistics ([www.bps.go.id](http://www.bps.go.id)), people's purchasing power, as indicated in household consumption, remains extremely low in 2020. It was discovered that national household consumption fell by 2.63% in 2020. As a result, even if inflation is minimal, the likelihood of a company encountering financial difficulties increases due to decreased purchasing power.

## 5 CONCLUSION

The financial distress model obtains four significant variables based on data processing results, which include financial ratio variables (sales to total assets and retained earnings to total assets), corporate governance variables (director size), and macroeconomic variables (inflation). According to the findings, the ratios of sales to total assets, retained earnings to total assets, director size, and inflation rate all substantially negatively impact financial hardship. The financial distress model can be used by interested parties such as corporate management and investors to assess the firm's financial health and evaluate whether the company is in financial distress. This model is helpful for the company to see the company's overall situation so that it can precisely foresee the financial crisis that may occur and instantly take the necessary actions. Thus, it is hoped that the corporation can conduct preventive and remedial steps to avoid financial trouble.

According to the findings of this study, businesses should boost their sales to total asset ratio by expanding firm sales. The corporation should target different categories with new, diverse products and strategic locations to improve sales. Furthermore, they are developing novel marketing tactics and methods by enhancing the concept of digital marketing, utilizing digital platforms, and hosting numerous events and promotions to attract consumers to improve sales. The corporation should then preserve the stability of retained earnings by paying attention to the ratio of retained earnings to total assets. To boost retained earnings, the company can increase net income through higher sales each period and use it as its primary source of capital. Consider the number of commissioners



in the company's organizational structure as an effort to improve organizational performance. Pay attention to the inflation rate, which can impact the company's financial state by modifying rental fees and property product pricing following the inflation rate. As a result, the company is expected to maintain the company's health and take preventative or corrective actions to avert financial trouble.

By initially examining the company's financial health, this research can be a reference for investors to consider when making investment selections. Investors who want to invest should first examine the company's financial condition using the ratios of sales to total assets and retained earnings to total assets because companies with a higher ratio of sales to total assets and retained earnings to total assets have a better financial situation. Then, consider the number of boards of directors in the company's organizational structure and inflationary fluctuations that may affect the company's financial state.

This study still has limits in terms of the number of factors and companies analysed, as well as the problem of not distinguishing between the common era (2016-2019), the recession period caused by the pandemic (2020-2021), and the post-pandemic period (2022 and above). This study can serve as a foundation for future research to include a wider variety of variables and companies to be researched and split the analysis between the normal and recession periods.



## REFERENCES

- Abimanyu, Y. (2004). *Memahami Kurs Valuta Asing*. Jakarta: Lembaga Penerbit Fakultas Ekonomi Universitas Indonesia.
- Adi, S.W., & Rahmawati, A. I. E. (2015). Analisis Rasio Keuangan terhadap Kondisi Financial Distress pada Perusahaan Manufaktur yang Terdaftar di Bursa Efek Indonesia Tahun 2008-2013. *Seminar Nasional Dan the 2nd Call for Syariah Paper*, 315–326. <http://hdl.handle.net/11617/6100>
- Almilia, L.S., & Kristijadi. (2003). Analisis Rasio Keuangan untuk Memprediksi Kondisi Financial Distress Perusahaan Manufaktur yang Terdaftar di Bursa Efek Jakarta. *Jurnal Akuntansi Dan Auditing Indonesia*, 7(2), 183–210. <https://journal.uui.ac.id/JAAI/%20article/view/846/765>
- Andayani, W., & Wuryantoro, M. (2023). Good Corporate Governance, Corporate Social Responsibility and Fraud Detection of Financial Statements. *International Journal of Professional Business Review*, 8(5), e01051. <https://doi.org/10.26668/businessreview/2023.v8i5.1051>
- Ardiyanto, F. D., & Prasetyono. (2011). Prediksi Rasio Keuangan terhadap Kondisi Financial Distress Perusahaan Manufaktur yang Terdaftar di BEI. *Jurnal Dinamika Ekonomi Dan Bisnis*, 8(1), 1–14. doi: <https://doi.org/10.34001/jdeb.v8i1>.
- Atlman, E. (1968). Financial Ratios, Discriminant Analysis and the Prediction of Corporate Bankruptcy. *Journal of Finance*, 22(4), 589–609. doi: <https://doi.org/10.1111/j.1540-6261.1968.tb00843.x>
- Badan Pusat Statistik. (2020). Laju Pertumbuhan PDB Seri 2020 (Persen), 2020. <https://www.bps.go.id/indicator/11/104/2/-seri-2010-laju-pertumbuhan-pdb-seri-2010.html>
- Bahri, S., & Widyawati, N. (2015). Analisis Prediksi Kebangkrutan pada Perusahaan yang Di-Delisting Di Bursa Efek Indonesia. *Jurnal Ilmu Dan Riset Manajemen*, 4(4), 1–22. <http://jurnal mahasiswa.stiesia.ac.id/index.php/jirm/article/view/3343>
- Bank Indonesia. (2020, March 24). Perkembangan Langkah-Langkah BI Dalam Hadapi Covid-19. <https://www.bi.go.id/id/publikasi/ruang-media/news-release/Pages/Perkembangan-Langkah-Langkah-BI-dalam-Hadapi-COVID-19.aspx>
- Beaver, W. H., Correia, M., & McNichols, M. F. (2010). Financial statement analysis and the prediction of financial distress. *Foundations and Trends in Accounting*, 5(2), 99–173. doi: <https://doi.org/10.1561/14000000018>
- Chabachib, M., Pamungkas, I. D., Kusmaningrum, R. H., & Hersugondo, H. (2019). Financial Distress Prediction in Indonesia. *WSEAS Transactions on Business and Economics*, 16, 251–260. <http://wseas.org/wseas/cms.action?id=19913>



- Chang, E.C., & Wong, S.M.L. (2009). Governance with multiple objectives: Evidence from top executive turnover in China. *Journal of Corporate Finance*, 15(2), 230–244. doi: <https://doi.org/10.1016/j.jcorpfin.2008.10.003>
- Chen, N., & Zhang, F. (1998). Risk and Return of Value Stock. *The Journal of Business*, 71(4), 501–535. doi: <https://doi.org/10.1086/209755>
- Claessens, S., & Fan, J. P. H. (2002). Corporate Governance in Asia: A Survey. *International Review of Finance*, 3(2), 71–103. doi: <https://doi.org/10.1111/1468-2443.00034>
- 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. doi: <http://dx.doi.org/10.1080/09603100802599647>
- Ernawati, E., Samantha, E. H., & Werner, R. M. (2018). Financial performance, corporate governance, and financial distress. Proceeding of the 15th International Symposium on Management (INSYMA 2018), 189, 36–39. doi: <https://doi.org/10.2991/insyma-18.2018.9>
- Fakhri, U. N., & Darmawan, A. (2021). Comparison of Islamic and conventional banking financial performance during the covid-19 period. *International Journal of Islamic Economics and Finance (IJIEF)*, 4(SI), 19-40.
- Fama, E.F., & French, K.R. (1995). Size and Book-to-Market Factors in Earnings and Returns. *The Journal of Finance*, 50(1), 131–155. doi: <https://doi.org/10.1111/j.1540-6261.1995.tb05169.x>
- Hamid, G. M., Mohammed, G. A., Omar, K. M. T., & Haji, S. M. R. (2023). Using Altman and Sherrod Z- Score Models to Detect Financial Failure for the Banks Listed on the Iraqi Stock Exchange (ISE) Between 2009 – 2013. *International Journal of Professional Business Review*, 8(4), e01329. <https://doi.org/10.26668/businessreview/2023.v8i4.1329>
- Handojo, S.E. (2017). Pengaruh Rasio Keuangan dan Good Corporate Governance terhadap Financial Distress pada Perusahaan Sektor Non-keuangan yang Terdaftar di Bursa Efek Indonesia Periode 2011-2015. *Jurnal Ilmiah Mahasiswa Universitas Surabaya*, 6(2), 858–876. <https://journal.ubaya.ac.id/index.php/jimus/article/view/962>
- Hanifah, O.E., & Purwanto, A. (2013). Pengaruh Corporate Governance dan Financial Indicators Terhadap Financial Distress. *Diponegoro Journal of Accounting*, 2(2), 1–15. <https://ejournal3.undip.ac.id/index.php/accounting/article/view/3310>
- Harahap, S. S. (2015). Analisis Kritis atas Laporan Keuangan. Rajawali Pers.
- Jensen, M.C. (1993). The Modern Industrial Revolution, Exit, and the Failure of Internal Control System. *The Journal of Finance*, 48(3), 831–880. doi: <https://doi.org/10.1111/j.1540-6261.1993.tb04022.x>
- Kasmir. (2016). Analisis Laporan Keuangan. Jakarta: Raja Grafindo Persada.





Kristanti, F. T., Rahayu, S., & Huda, A. N. (2016). The Determinant of Financial Distress on Indonesian Family Firm. *Procedia - Social and Behavioral Sciences*, 219, 440–447. doi: <https://doi.org/10.1016/j.sbspro.2016.05.018>

Kristian, M. (2017). Pengaruh Jumlah Dewan Direksi dan Shareholder Equity to Total Asset Ratio Terhadap Financial Distress. *Jurnal Ekonomi*, 22(3), 351–365. <http://repository.untar.ac.id/id/eprint/905>

Lakshan, A.M.I., & Wijekoon, W.M.H.N. (2013). The Use of Financial Ratios in Predicting Corporate Failure in Sri Lanka. *Journal on Business Review*, 2(4), 37–43. <http://dl6.globalstf.org/index.php/gbr/article/view/149>

Manzaneque, M., Priego, A. M., & Merino, E. (2016). Corporate governance effect on financial distress likelihood: Evidence from Spain. *Revista de Contabilidad-Spanish Accounting Review*, 19(1), 111–121. doi: <https://doi.org/10.1016/j.rcsar.2015.04.001>

Miglani, S., Ahmed, K., & Henry, D. (2015). Voluntary corporate governance structure and financial distress: Evidence from Australia. *Journal of Contemporary Accounting and Economics*, 11(1), 18–30. doi: <https://doi.org/doi:10.1016/j.jcae.2014.12.005>

Murhadi, W.R. (2008). Studi Kebijakan Deviden: Anteseden dan Dampaknya Terhadap Harga Saham. *Jurnal Manajemen Dan Kewirausahaan*, 10(1), 1–17. doi: <https://doi.org/10.9744/jmk.10.1.pp.%201-17>

Murhadi, W.R. (2015). *Analisis laporan keuangan, proyeksi dan valuasi saham*. Jakarta: Salemba Empat.

Nurziah, F., & Darmawati, D. (2014). Analisis pengaruh corporate governance, kepemilikan manajerial, dan kepemilikan institusional terhadap intellectual capital disclosure. *Jurnal Keuangan dan Perbankan*, 16(2).

Oktarina, D. (2017). Macroeconomic indicators and corporate financial ratios in predicting financial distress. *The Indonesian Accounting Review*, 7(2), 219. doi: <https://doi.org/10.14414/tiar.v7i2.1383>

Pearce, J. A., & Zahra, S.A. (1992). Board Composition From A Strategic Contingency Perspective. *Journal of Management Studies*, 29(4), 411–438. doi: <https://doi.org/10.1111/j.1467-6486.1992.tb00672.x>

Pfeffer, J. (1972). Size and Composition of Corporate Boards of Directors: The Organization and its Environment. *Administrative Science Quarterly*, 17(2), 218–228. doi: <https://doi.org/10.2307/2393956>

Platt, H. D., & Platt, M. B. (2002). Predicting corporate financial distress: Reflections on choice-based sample bias. *Journal of Economics and Finance*, 26(2), 184–199. doi: <https://doi.org/10.1007/bf02755985>

Rohiman, S. F., & Damayanti, C. C. (2019). Pengaruh Inflasi, Nilai Tukar dan Suku Bunga Terhadap Financial Distress. *Jurnal Administrasi Bisnis (JAB)*, 72(2), 186–195. <http://administrasibisnis.studentjournal.ub.ac.id/index.php/jab/article/view/2881>



Taufik, M., & Sugianto, C. V. (2021). Do Accounting, Market, and Macroeconomic Factors Affect Financial Distress? Evidence in Indonesia. *The International Journal of Applied Business*, 5(2), 166–182. doi: <https://doi.org/10.20473/tijab.v5.I2.2021.31061>

Vassalou, M., & Xing, Y. (2004). Default Risk in Equity Returns. *The Journal of Finance*, 59(2), 831–868. doi: <https://doi.org/10.1111/j.1540-6261.2004.00650.x>

Widarjo, W., & Setiawan, D. (2009). Pengaruh Rasio Keuangan Terhadap Kondisi Financial Distress Perusahaan Otomotif. *Jurnal Bisnis Dan Akuntansi*, 11(2), 107–119. doi: <https://doi.org/10.34208/jba.v11i2.174>