


**MODERATION ANALYSIS OF GOOD CORPORATE GOVERNANCE ON THE EFFECT OF FINANCIAL RATIO AND MARKET RATIO ON FINANCIAL DISTRESS**

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ARTICLE INFO	ABSTRACT
<p><b>Article history:</b></p> <p><b>Received</b> 07 April 2023</p> <p><b>Accepted</b> 07 July 2023</p>	<p><b>Purpose:</b> This study aims to analyze the influence of financial ratios and market ratios on the financial distress condition during the COVID-19 pandemic, as well as to determine the role of institutional ownership and the audit committee, which are mechanisms of corporate governance, in moderating the influence of financial ratios on financial distress.</p>
<p><b>Keywords:</b></p> <p>Financial Distress; Financial Ratio; Market Ratio; Institutional Ownership; Audit Committee.</p>	<p><b>Theoretical framework:</b> This study highlights the importance of identifying financial distress conditions in companies during the COVID-19 pandemic. The occurrence of the pandemic, which puts significant pressure on companies, poses a threat to their survival and can lead to bankruptcy. The combination of financial, market, and corporate governance analyses can be utilized to identify and predict financial distress.</p>
	<p><b>Design/Methodology/Approach:</b> This study refers to the Signalling Theory and the Agency Theory. It is a quantitative causal study, and the population of the research consists of companies in the infrastructure, trade, services, and investment sectors listed on the Indonesia Stock Exchange in the years 2020-2021. The study utilizes a purposive sampling method, and a total of 27 companies were obtained as samples. The data source for the study is secondary data obtained from company reports, and it was analyzed using SPSS software with logistic regression analysis and moderated regression analysis techniques.</p> <p><b>Findings:</b> The research findings indicate that financial ratio analysis, specifically profitability and solvability ratios, can be used to identify financial distress conditions during the COVID-19 pandemic. However, the other two financial ratios, liquidity and activity ratios, as well as the market ratio, do not provide predictive results for the financial distress of companies. Based on the results of moderate regression analysis, the corporate governance mechanism of institutional ownership can moderate the influence of profitability and solvability ratios. On the other hand, the monitoring mechanism of the audit committee cannot moderate this influence.</p> <p><b>Research, practical &amp; social implications:</b> The findings of this study can be used by companies, investors, and stakeholders as a guide in making decisions. In addition, these findings can serve as a stimulant and reference for future research and can add other predictors from a macroeconomic perspective.</p> <p><b>Originality/Value:</b> This research contributes by providing a combination of predictive models through financial ratio analysis and corporate governance mechanisms for financial distress, which can be utilized by companies in formulating preventive strategies and by investors in making financing decisions for companies.</p> <p>Doi: <a href="https://doi.org/10.26668/businessreview/2023.v8i7.2933">https://doi.org/10.26668/businessreview/2023.v8i7.2933</a></p>

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## ANÁLISE DA MODERAÇÃO DA BOA GOVERNAÇÃO EMPRESARIAL SOBRE O EFEITO DO RÁCIO FINANCEIRO E DO RÁCIO DE MERCADO EM PERTURBAÇÕES FINANCEIRAS

### RESUMO

**Objetivo:** Este estudo tem por objetivo analisar a influência dos rácios financeiros e dos rácios de mercado na situação de crise financeira durante a pandemia de COVID-19, bem como determinar o papel da propriedade institucional e do comitê de auditoria, que são mecanismos de governação empresarial, na moderação da influência dos rácios financeiros na crise financeira.

**Quadro teórico:** Este estudo destaca a importância de identificar condições de crise financeira em empresas durante a pandemia da Covid-19. A ocorrência da pandemia, que coloca uma pressão significativa sobre as empresas, constitui uma ameaça à sua sobrevivência e pode levar à falência. A combinação de análises financeiras, de mercado e de controle corporativo pode ser utilizada para identificar e prever dificuldades financeiras.

**Design/Metodologia/Abordagem:** Este estudo refere-se à Teoria de Sinalização e à Teoria da Agência. É um estudo quantitativo causal, e a população da pesquisa consiste em empresas nos setores de infraestrutura, comércio, serviços e investimento listados na Bolsa de Valores da Indonésia nos anos 2020-2021. O estudo utiliza um método de amostragem proposital, e um total de 27 empresas foram obtidas como amostras. A fonte de dados para o estudo são dados secundários obtidos a partir de relatórios da empresa, e foi analisada usando o software SPSS com análise de regressão logística e técnicas de análise de regressão moderada.

**Constatações:** Os resultados da pesquisa indicam que a análise do índice financeiro, especificamente os índices de lucratividade e solvabilidade, pode ser usada para identificar condições de dificuldades financeiras durante a pandemia da Covid-19. Contudo, os outros dois rácios financeiros, os rácios de liquidez e de atividade, bem como o rácio de mercado, não fornecem resultados previsíveis para as dificuldades financeiras das empresas. Com base nos resultados da análise de regressão moderada, o mecanismo de governo das sociedades de propriedade institucional pode moderar a influência dos rácios de rentabilidade e solvabilidade. Por outro lado, o mecanismo de acompanhamento do comitê de auditoria não pode moderar esta influência.

**Investigação, implicações práticas e sociais:** Os resultados deste estudo podem ser utilizados por empresas, investidores e partes interessadas como um guia para a tomada de decisões. Além disso, estes resultados podem servir como um estímulo e referência para a investigação futura e podem acrescentar outros preditores de uma perspectiva macroeconómica.

**Originalidade/Valor:** Esta investigação contribui para fornecer uma combinação de modelos preditivos através da análise do rácio financeiro e de mecanismos de governação empresarial para situações de crise financeira, que podem ser utilizados pelas empresas na formulação de estratégias preventivas e pelos investidores na tomada de decisões de financiamento para as empresas.

**Palavras-chave:** Dificuldades Financeiras, Rácio Financeiro, Rácio do Mercado, Propriedade Institucional, Comissão de Auditoria.

## ANÁLISIS DE LA MODERACIÓN DE LA BUENA GOBERNANZA EMPRESARIAL SOBRE LOS EFECTOS DE LA RELACIÓN FINANCIERA Y LA RELACIÓN DE MERCADO EN LAS DELITOS FINANCIEROS

### RESUMEN

**Objetivo:** Este estudio tiene por objeto analizar la influencia de los coeficientes financieros y de los coeficientes de mercado sobre la situación de crisis financiera durante la pandemia COVID-19, así como determinar el papel de la propiedad institucional y del comité de auditoría, que son mecanismos de gobernanza empresarial, en la moderación de la influencia de los coeficientes financieros sobre la crisis financiera.

**Gráfico teórico:** Este estudio destaca la importancia de identificar las condiciones de crisis financiera en las empresas durante la pandemia de Covid-19. La pandemia, que ejerce una presión importante sobre las empresas, constituye una amenaza para su supervivencia y puede conducir a la quiebra. La combinación de análisis financieros, de mercado y de gobernanza corporativa se puede usar para identificar y predecir las dificultades financieras.

**Diseño/Metodología/Enfoque:** Este estudio se refiere a la Teoría de Señalización y la Teoría de la Agencia. Se trata de un estudio cuantitativo causal y la población investigadora está formada por empresas de los sectores de infraestructura, comercio, servicios e inversión que cotizan en la Bolsa de Valores de Indonesia en los años 2020-2021. El estudio utiliza un método de muestreo al azar, y se obtuvieron como muestras un total de 27 empresas. La fuente de datos para el estudio son datos secundarios obtenidos a partir de informes de empresas, y se analizó utilizando el software SPSS con análisis de regresión logística y técnicas de análisis de regresión moderada.

**Hallazgos:** Los resultados de la investigación indican que el análisis del índice financiero, específicamente los índices de rentabilidad y solvencia, puede utilizarse para identificar las condiciones de dificultades financieras

durante la pandemia de Covid-19. Sin embargo, los otros dos coeficientes financieros, los coeficientes de liquidez y de actividad, así como la ratio de mercado, no proporcionan resultados previsible para las dificultades financieras de las empresas. Sobre la base de los resultados del análisis de regresión moderado, el mecanismo de gobernanza empresarial de las empresas de propiedad institucional puede moderar la influencia de los coeficientes de rentabilidad y solvencia. Por otra parte, el mecanismo de vigilancia del comité de auditoría no puede moderar esta influencia.

**Investigación, implicaciones prácticas y sociales:** Los resultados de este estudio pueden ser utilizados por empresas, inversores e interesados como guía para la toma de decisiones. Además, esos resultados pueden servir de estímulo y referencia para investigaciones futuras y pueden añadir otros predictores desde una perspectiva macroeconómica.

**Originalidad/Valor:** Esta investigación contribuye a proporcionar una combinación de modelos predictivos mediante el análisis de la relación financiera y los mecanismos de gobernanza empresarial para situaciones de crisis financiera, que pueden ser utilizados por las empresas para formular estrategias preventivas y por los inversores para tomar decisiones de financiación para las empresas.

**Palabras clave:** Dificultades Financieras, Ratio Financiero, Ratio de Mercado, Propiedad Institucional, Comité de Auditoría.

## INTRODUCTION

The confirmed cases of the Covid-19 virus pandemic in Indonesia since March 2020 have impacted all sectors, including the economy (Rizal, 2020). Two sectors of the Indonesian economy that have experienced significant pressure are the infrastructure sector and the trade, services, and investment sector, which have shown a decline in performance during the years 2020-2021 (Putra, 2021; Ulya, 2020). Companies, as economic performers, have faced significant pressure due to the Covid-19 virus, resulting in a decrease in corporate income and disrupted cash flows as companies are required to incur operating costs while consumer purchasing power declines (Sidik, 2020). This situation increases the potential for companies to face financial distress, as they struggle to obtain funds. In such a phase, companies need to take preventive measures because financial distress is considered a highly risky condition that may lead to bankruptcy in the future (Hamid *et al.*, 2022).

The condition of financial distress can be further exacerbated by management errors in decision-making and weak financial monitoring (Brigham & Daves, 2007). One approach that can be taken is through financial ratio analysis, as comparing specific financial indicators and identifying performance trends can reflect the financial condition of a company and assist management in making appropriate decisions for improvement (Hamid *et al.*, 2023; Loan *et al.*, 2019). Some financial ratios that can be analyzed include profitability ratios, liquidity ratios, solvency ratios, and activity ratios.

Profitability ratios indicate the efficiency and effectiveness of asset utilization in generating profits for the company (Kasmir, 2008:196). Previous studies have explained that the higher the profitability ratio indicated by a company, the lower the probability of

experiencing financial distress because effective asset management by the company can minimize the burden and costs incurred, thus providing stability to its financial situation (Chairunesia, 2021; Hastiarto, 2021; Mesak, 2019). However, some researchers also explain that a higher profitability ratio will be accompanied by a higher threat of financial distress (Destriwanti *et al.*, 2022; Dirman, 2020). Furthermore, different findings also explain that no influence of profitability ratio was found on the occurrence of financial distress in a company (Setyobudi *et al.*, 2017).

Liquidity ratios assess the condition of a company financial in terms of its ability to meet short-term obligations with the level of current assets it possesses (Khaliq *et al.*, 2014). Some researchers state that companies will have lower risk if they have a high percentage of liquidity ratio. When a company's finances are deemed illiquid, it can indicate that the financial status is in poor condition and experiencing difficulties (Hastiarto, 2021; Mesak, 2019). However, this opinion contradicts research findings that reveal a positive influence of liquidity ratio on the probability of financial distress (Setyobudi *et al.*, 2017). The influence of liquidity ratio on the financial distress condition of a company was also found to have no impact on other research findings (Chairunesia, 2021; Destriwanti *et al.*, 2022; Dirman, 2020; Saputri & Asrori, 2019).

On the other hand, solvency ratios indicate the level of financing obtained by the company from loans (Saputri & Asrori, 2019). The decision to finance in the form of debt will add difficulties for the company because it has to bear a significant burden of interest expenses, resulting in disruptions to the company's operational processes and a decrease in company profits, thereby triggering financial distress issues. Therefore, a higher solvability ratio indicates a large amount of debt owned by the company, which contributes to an increased threat of financial distress due to the high risk of default by the company (Hastiarto, 2021; Mesak, 2019). However, other findings contradict previous research and show a negative influence of solvability ratio on financial distress. Despite the need for companies to control high debt ratios, the risk of financial distress decreases because the company has good capabilities in fulfilling its debts (Destriwanti *et al.*, 2022; Saputri & Asrori, 2019; Setyobudi *et al.*, 2017). Meanwhile, Chairunesia (2021); Dirman (2020) explain that solvability ratio does not have any influence on the level of financial distress.

The occurrence of financial distress can also be seen in the activity ratio analysis. Activity ratios represent the effectiveness of asset turnover in sales activities (Putri, 2021). Previous studies have found that activity ratios have an impact on the threat of financial distress

and have revealed that an increase in the ratio values of a company can result in a lower likelihood of financial distress occurring because the company effectively manages its assets for operational activities (Larasati & Wahyudin, 2019; Putri, 2021). However, analysis of activity ratios in different findings identified a positive influence on the threat of financial distress (Yuriani *et al.*, 2020). Meanwhile, observations conducted by Chairunesia (2021); Kournikova & Nurasik (2021) yielded results indicating that activity ratios do not have an influence on the financial distress condition.

In addition to financial ratios, companies can also conduct analysis on market ratios. Market ratios reflect the prospects of a company from the perspective of the stock market (Balcaen & Ooghe, 2006; Kuncoro & Agustina, 2017). A higher market ratio indicates that shareholders have a positive outlook on the future progress of the company. As a result, shareholders are willing to invest a larger amount of funds in the company's stock ownership, which leads to a reduced threat of financial distress for the company. This statement is supported by previous research findings that describe a negative influence of market ratio on the risk of financial distress (Wilujeng & Yulianto, 2020). However, the research findings by Loan *et al.* (2019) show contrasting results, indicating that a higher market ratio increases the probability of financial distress. Meanwhile, other findings also demonstrate that there is no influence of market ratio on the occurrence of financial distress in companies (Kuncoro & Agustina, 2017).

Preventive measures to reduce the level of financial distress, apart from analyzing both types of ratios, can also be carried out through corporate governance (Manzaneque *et al.*, 2016; Md-Rus *et al.*, 2013). Corporate governance mechanisms, including ownership structures by institutional investors and the role of audit committees, are thought to improve oversight and control over management performance and decision-making (Destriwanti *et al.*, 2022; Wathne & Heide, 2000).

Institutional ownership in a company can enhance the efficient utilization of company resources and improve oversight over managerial decisions (Fathonah, 2017). Therefore, efforts to minimize the risk of financial distress can be controlled through the implementation of corporate governance through institutional ownership. It can be said that institutional ownership has a negative relationship with financial distress (Destriwanti *et al.*, 2022; Hu & Zheng, 2015; Maghfiroh & Isbanah, 2020). Institutional ownership is also capable of moderating the influence of financial ratios in predicting financial distress conditions (Setyobudi *et al.*, 2017). However, other study results show different influences, where

institutional ownership has a positive impact on the financial distress condition (Md-Rus *et al.*, 2013). Furthermore, other studies indicate that there is no influence of institutional ownership on the financial distress condition (Donker *et al.*, 2009; Manzaneque *et al.*, 2016; Shahwan, 2015; Udin *et al.*, 2016).

Similarly, the role of the audit committee can also serve as an indicator to determine the position of the company, including its qualification for financial distress or non-financial distress (Nuresa & Hadiprajitno, 2015). Effective performance by the audit committee can enhance optimal focus on shareholder wealth and prevent management actions aimed at maximizing personal interests, thus reducing agency problems and lowering the probability of the company experiencing financial distress (Wathne & Heide, 2000). Several studies have proven that the audit committee has a negative impact on financial distress (Salloum *et al.*, 2014). Other findings also state that the audit committee has the ability to moderate the influence of financial ratios on the occurrence of financial distress (Hastiarto, 2021; Saputri & Asrori, 2019). However, Maghfiroh & Isbanah (2020) present contrasting research that suggests more frequent meetings imply ongoing financial issues in the company and the audit committee's efforts to address those constraints. Meanwhile, Rahmat *et al.* (2009) state that the audit committee cannot influence the financial distress condition.

Based on the described phenomenon and background, this research is essential to be conducted so that companies and stakeholders can take preventive measures to reduce the threat of financial distress in increasingly unpredictable external conditions, such as the global Covid-19 pandemic in 2020. This research is also necessary because of the novelty that includes the use of moderating variables in the form of corporate governance mechanisms, namely institutional ownership and audit committees, as well as a combination of financial ratios and market ratios as independent variables to predict the condition of financial distress. It is believed that the combination of financial ratio analysis and market ratio analysis can improve the accuracy of identifying financial capability because the data comes from both financial reports and the stock market. (Hillegeist *et al.*, 2004; Loan *et al.*, 2019).

Therefore, the topic of this research is the role of corporate governance in moderating the influence of financial and market ratios on the condition of financial distress in companies in the infrastructure sector and the trade, services, and investment sector listed on the Indonesia Stock Exchange during the Covid-19 pandemic in the years 2020-2021.

## LITERATURE REVIEW

### Signalling Theory

Spence (1973) proposed that signaling theory is a causal relationship between information providers and receivers. As an information provider, management will try to improve its performance so that it can send good signals that can be captured by information receivers, namely stakeholders, which will then influence their behavior in assessing the company's prospects (Brigham & Daves, 2007:524; Scott, 2015:503). Financial ratios and market ratios are forms of signaling theory implementation because the data presented in financial reports and the stock market can indicate the financial condition and prospects of the company (Altman & Hotchkiss, 2006; Brigham & Houston, 2014).

### Agency Theory

Agency Theory is a concept that presents the existence of a contractual agreement for the delegation of authority from the principal to the agent (Jensen & Meckling, 1976), where the contractual arrangement gives rise to issues due to the diverging interests between the two parties, known as agency conflicts (Panda & Leepsa, 2017). Management can engage in actions that are not aligned with the goals and interests of stakeholders, which can ultimately harm the company in the long term (Chamidah & Asandimitra, 2017). Findings by Elloumi & Gueyié (2001); Klein (2002); Shleifer & Vishny (1997) reveal that agency problems can be controlled through corporate governance mechanisms, including institutional ownership structures and audit committees. The supervisory and control function of the implementation can curb opportunistic management actions that are detrimental to principals.

### Financial Distress

Financial distress describes the final stage of a decline in performance before the company enters the bankruptcy, which can be indicated by several conditions such as negative net income or cash flow, failure to fulfill obligations, and difficulties in financing operations (Platt & Platt, 2002). Financial distress can be caused by a series of mistakes in identifying weaknesses and making decisions by the company (Brigham & Daves, 2007:866). Therefore, based on these factors, management can analyze financial ratios and market ratios to produce the most appropriate decisions and actions for the survival of the company.

### **Financial Ratio**

Assessing performance depicted by financial ratios can interpret the level of optimization of the company's resources utilized to achieve targets (Sujarweni, 2017:59). Financial ratios can assist companies in managing and maintaining financial performance stability, thereby minimizing losses that could lead to the threat of financial distress (Chairunesia, 2021).

### **Profitability Ratio**

Profitability ratios measure a company's ability to manage capacity and resources to generate profit (Kasmir, 2008:114). Related to signaling theory, a high profitability ratio indicates that the company is in a favorable condition, which can attract investors to invest capital (Rahmadiani & Asandimitra, 2017). Consequently, the company will obtain sufficient funds so that financial performance improves and the threat of financial distress decreases (Saputri & Asrori, 2019). Significantly, profitability has a negative effect on the probability of financial distress occurring (Chairunesia, 2021; Mesak, 2019).

### **Liquidity Ratio**

Liquidity ratio is a ratio that shows the level of company liquidity to meet obligations with maturities of less than one year (Hastiarto, 2021). Based on signaling theory, a high level of liquidity ratio will trigger better performance from managers on asset utilization and can provide a good signal for stakeholders. So that the liquidity ratio has a negative effect on financial distress (Mesak, 2019; Tarighi *et al.*, 2022), the greater the ratio of current assets to current liabilities, the better the company's ability to meet its short-term obligations.

### **Solvability Ratio**

Solvency ratio is an indicator of a company's dependence on debt financing and measures its ability to fulfill all obligations (Kasmir, 2008:151). Companies that rely heavily on debt will face the risk of default due to high-interest rates, thereby increasing the occurrence of financial distress (Mesak, 2019). Signaling theory explains that the solvency ratio has a positive impact on financial distress. A solvency ratio that is too high is considered a negative signal and makes investors reluctant to invest in the company, further worsening the financial condition (Tarighi *et al.*, 2022).



### **Activity Ratio**

Activity ratio is a ratio to determine the effectiveness of using company resources to produce optimal levels of sales (Parker *et al.*, 2022). Referring to signaling theory, high asset turnover indicates that resource management is carried out optimally to optimize sales (Yuriani *et al.*, 2020). Therefore, a good level of activity ratio can provide a good signal for management and stakeholders regarding the company's financial condition that are further away from the risk of financial distress (Putri, 2021; Susilowati *et al.*, 2019)

### **Market Ratio**

Market ratio is a ratio that indicates a company's fundamental performance and business prospects through stock market information, that includes stock price or earnings per share (Brigham & Houston, 2014:150; Curry & Banjarnahor, 2018). Based on signaling theory, market ratios can be used to control a company's prospects that may not be reflected in financial ratios because efficient stock market information generally includes non-financial information such as management quality or product strategies concerning financial data (Kristanti *et al.*, 2016). This statement also supports the findings of Sakulpolphaisan & Hensawang (2022) that market ratios have a negative impact on the financial distress condition of a company.

### **Corporate Governance**

Corporate governance is a system designed to ensure that stakeholders, as providers of funds, get back their rights in the form of returns from operational activities carried out by management (Shleifer & Vishny, 1997). According to Jensen & Meckling (1976), corporate governance is closely related to agency conflicts between managers and shareholders due to differences in ownership and control. Corporate governance can enhance efficiency and growth because it contains principles that play a role in reducing manipulative actions and wastage of company resources (Hajjat *et al.*, 2023). Therefore, this issue can be prevented through corporate governance mechanisms, one of which can be implemented through the roles of institutional parties and audit committees.

### **Institutional Ownership**

Institutional ownership is defined as shares owned by institutions, corporations, or organizations whose significant ownership is represented by the percentage of the total outstanding shares (Manzaneque *et al.*, 2016; Md-Rus *et al.*, 2013). The role of institutional

ownership in mitigating agency problems and avoiding the risk of financial distress can be achieved through negotiations with management. Institutional shareholders tend to influence management before making financial decisions, ensuring that management decisions and performance related to financial management align with the interests of stakeholders (Manzaneque *et al.*, 2016; Parkinson, 2018:74). This statement aligns with agency theory, which explains that institutional ownership can reduce agency problems and improve management performance. Setyobudi *et al.* (2017) also found in their research that through the supervisory function of institutional ownership, companies can improve their performance, as reflected in financial ratios. Therefore, institutional ownership is considered a good mechanism to moderate the influence of financial ratios on financial distress.

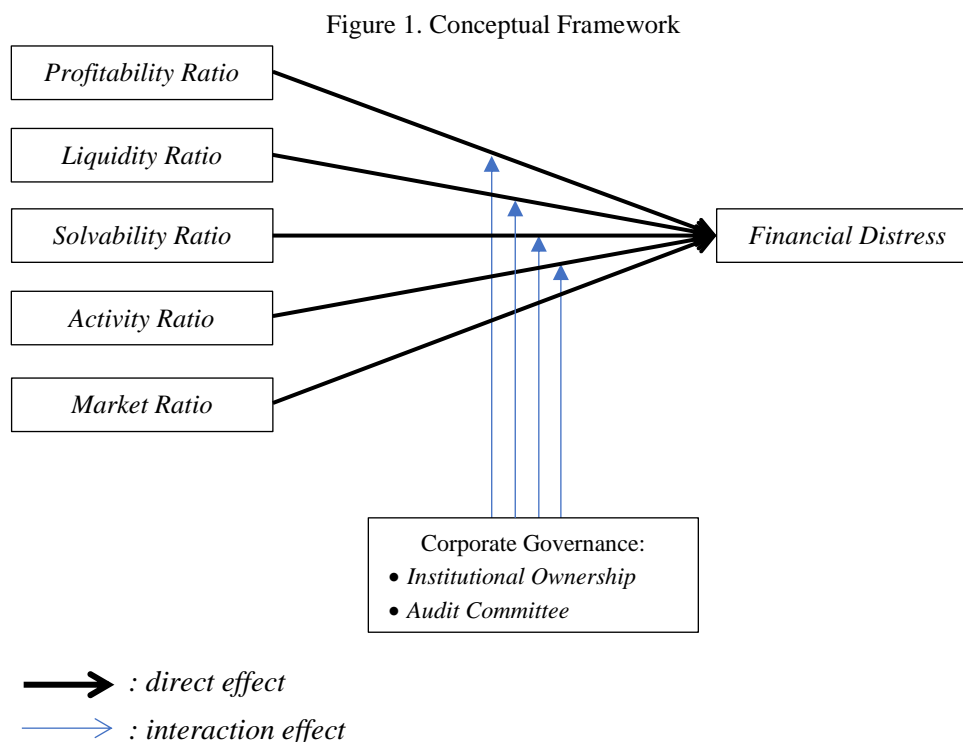
### **Audit Committee**

The audit committee is a committee formed by and responsible to the board of commissioners, who have responsibility for reviewing financial reports, internal controlling, and internal auditing (Salloum *et al.*, 2014). Kesner (1988); Vance (1983) state that important decisions made by the board of commissioners develop from the audit committee, as it can influence company activities. Therefore, the role of the audit committee is crucial in fulfilling responsibilities related to corporate governance mechanisms and reducing agency costs (Forker, 1992). This statement is also in line with agency theory, where independent oversight by the audit committee can stimulate management performance and result in decisions aimed at the well-being of the company and stakeholders (Negoro & Wakan, 2022). Research findings by Hastiarto (2021); Hermawan *et al.* (2022); Saputri & Asrori (2019) show that the effectiveness of audit committee is crucial in overseeing managerial performance and formulating policies related to financial utilization, thereby allowing the company to demonstrate good financial condition reflected in financial ratios. Based on these statements, the presence of the audit committee can moderate the influence of financial ratios on financial distress.

### **Conceptual Framework & Research Hypothesis**

The conceptual framework will explain that this research examines the influence of financial ratios, including profitability ratio, liquidity ratio, solvability ratio, activity ratio, and market ratio, on financial distress. It also considers corporate governance mechanisms, such as

institutional ownership and the audit committee, as moderating variables for the direct influence of financial ratios on financial distress.



Source: Adapted from Chairunesia (2021); Hastiarto (2021); Hermawan *et al.* (2022); Sakulpolphaisan & Hensawang (2022)

Based on the explanation from the theoretical study, the hypothesis of this research is:

H1 = profitability ratio has a negative effect on financial distress.

H2 = liquidity ratio has a negative effect on financial distress.

H3 = solvency ratio has a positive effect on financial distress.

H4 = activity ratio has a negative effect on financial distress.

H5 = market ratio has a negative effect on financial distress.

H6 = institutional ownership moderates the effect of the profitability ratio on financial distress.

H7 = institutional ownership moderates the effect of the liquidity ratio on financial distress.

H8 = institutional ownership moderates the effect of the solvability ratio on financial distress.

H9 = institutional ownership moderates the effect of the activity ratio on financial distress.

H10 = audit committee moderates the effect of the profitability ratio on financial distress.

H11 = audit committee moderates the effect of liquidity ratio on financial distress.

H12 = audit committee moderates the effect of the solvability ratio on financial distress.

H13 = audit committee moderates the effect of activity ratio on financial distress.

## RESEARCH METHODOLOGY

The design and approach in this study are quantitative causalities, aligned with its objectives of testing hypotheses and relationships between variables through statistical analysis techniques (Malhotra, 2009:161; Sarwono, 2006:81). The dependent variable in this study is financial distress, which is represented as a dummy variable categorized using the Altman Z-Score calculation. The independent variables consist of financial ratios, including profitability (proxied by return on assets), liquidity (proxied by the quick ratio), solvency (proxied by the debt to asset ratio), and activity (proxied by total asset turnover). The market ratio is measured using the price to earnings ratio. The moderating variables in this study are institutional ownership, calculated based on the percentage of all shares, and audit committee, measured by the number of meetings.

The population in this study comprises companies in the infrastructure sector and the trade, service, and investment sectors that are listed on the Indonesia Stock Exchange in 2020-2021. The research sample was determined using a purposive sampling technique, with criteria including (1) having negative EPS, (2) issuing annual reports during the study period, and (3) having complete data, resulting in a sample of 27 companies. The data used in this study are secondary data obtained from the company's financial and annual reports, which are available on the company's official website. Logistic regression analysis is employed to examine the impact of independent variables on the dependent variable, and moderated regression analysis is used to test the moderating variable. The following equation represents the research model's findings:

$$\text{Ln} \frac{p}{p-1} = \alpha + \beta 1. \text{ROA} + \beta 2. \text{CR} + \beta 3. \text{DER} + \beta 4. \text{TATO} + \beta 5. \text{PER} + \beta 6. \text{ROA} * \text{INST} + \beta 7. \text{CR} * \text{INST} + \beta 8. \text{DER} * \text{INST} + \beta 9. \text{TATO} * \text{INST} + \beta 10. \text{ROA} * \text{AC} + \beta 11. \text{CR} * \text{AC} + \beta 12. \text{DER} * \text{AC} + \beta 13. \text{TATO} * \text{AC} + e$$

## RESULTS AND DISCUSSION

The following are the results of data processing in this study:

## Descriptive Statistics

The data in this research were processed using SPSS software version 23 to conduct logistic regression testing, moderated regression analysis, and descriptive analysis of the company data for each variable. The descriptive statistical results are shown in Table 1.

Table 1 – Descriptive Statistics

Variable	N	Minimum	Maximum	Mean	Std. Deviation
Financial Distress	54	0	1	0.74	0.442
Profitability	54	-62.33	-0.93	-12.05	10.48
Liquidity	54	6.65	221.76	52.90	41.33
Solvability	54	19.35	203.58	70.32	40.58
Activity	54	2.62	451.00	63.53	84.28
Market Ratio	54	-87.81	-0.55	-14.51	17.04
Institutional Ownership	54	19.02	91.98	64.69	20.03
Audit Committee	54	2	20	4.80	2.71
Valid N (listwise)	54				

Source: Output SPSS

The descriptive statistics results show that the financial distress variable has a standard deviation of 0.442 and a mean value of 0.74, indicating a low level of disparity in the financial distress status among the sampled companies. The profitability ratio has a standard deviation of 10.48, which is higher than the mean value of -12.05, indicating a level of disparity in the profitability ratio among the companies. The mean value of the liquidity ratio is 52.90, higher than the standard deviation of 41.33, indicating a relatively low level of disparity in the liquidity ratio among the sampled companies. No significant disparity was found in the solvability ratio data, with a standard deviation of 40.58, which is lower than the mean value of 70.32. The activity ratio has a mean value of 63.53, which is lower than the standard deviation of 84.28, indicating a level of disparity in the activity ratio among the sampled companies. The market ratio variable has a standard deviation of 17.04 with a lower mean value of -14.51, indicating a disparity in the market ratio level among the sampled companies. The mean value of institutional ownership is 64.69, which is higher than the standard deviation of 20.03, indicating that institutional ownership among the companies is relatively consistent. The average number of audit committee meetings is 4.80, which is larger than the standard deviation of 2.71, indicating that the sampled companies hold meetings at a similar rate.

## Logistic Regression

Overall model fit

Table 2 – Overall Model Fit

Model Fit Test	Results
-2 Log Likelihood block 0	61.806
-2 Log Likelihood block 1	16.808

Source: Output SPSS

Through Table 2. it can be identified that the -2LogL value in block 0 is 61.806, then the -2LogL value in block 1 is smaller at 16.808, so it can be said that the -2Log Likelihood decrease is significant. This indicates that the addition of independent variables to the model can improve the data or the logistic regression model in the study as a whole fit with the data.

Omnibus test of model coefficient

Tabel 3 – Omnibust Test of Model Coefficients

		<i>Chi – square</i>	<b>Df</b>	<b>Sig.</b>
Step 2	Step	5.998	1	0.014
	Block	44.999	2	0.000
	Model	44.999	2	0.000

Source: Output SPSS

Table 3 shows that the resulting significance value is 0.000, which is smaller than the significance level of 0.05. This indicates that the research data can be deemed suitable for use in regression analysis.

Regression model fit

Table 4 – Hosmer Lemeshow's Test

Step	<i>Chi – square</i>	<b>df</b>	<b>Sig.</b>
2	1.264	8	0.996

Source: Output SPSS

The Hosmer-Lemeshow's value is 1.264 with a significance value of 0.996 ( $>0.05$ ). Therefore, it can be concluded that the model is acceptable as it meets the goodness-of-fit with the observed data.

## Coefficient of Determination

Table 5 – Model Summary

Step	-2Log Likelihood	Cox & Snell R Square	Nagelkerke R Square
2	16,808	0,565	0,829

Source: Output SPSS

The Nagelkerke R Square value is 0.829, indicating that the ability or variability of the independent variables in explaining the dependent variable is 82.9%, while the remaining 17.1% can be explained by other variables not used in this study.

## Regression Accuracy

Table 6 – Model Summary

	<i>Observed</i>	<i>Predicted</i>		<i>Percentage Correct</i>	
		<i>Financial Distress</i>	<i>Financial Distress</i>		
Step 2	<i>Financial Distress</i>	<i>Non Financial Distress</i>	12	2	85,7
		<i>Financial Distress</i>	2	38	95,0
<i>Overall Percentage</i>				92,6	

Source: Output SPSS

The results from Table 6 show that the logistic regression model can classify companies with an accuracy of 92.6%. The high percentage approaching 100% supports the absence of significant differences between the predicted data and the observed data, indicating a good regression model.

## Parameter Estimation and Interpretation

Tabel 7 – Variables in the Equation

	<b>B</b>	<b>Sig.</b>	
Step 2	X1_ROA	-0,343	0,048
	X3_DAR	0,155	0,001
	Constant	-9,232	0,002

Sumber: Output SPSS

Tabel 8 – Variables not in the Equation

	<b>Variables</b>	<b>Score</b>	<b>Sig.</b>
Step 2	X2_QR	0,471	0,492
	X4_TATO	0,038	0,845
	X5_PER	1,369	0,242

Source: Output SPSS

The logistic regression output shows that the profitability ratio has a coefficient value of -0.343 with a significance of 0.048, indicating that the profitability ratio has a negative influence on financial distress. The solvability ratio has a coefficient value of 0.155 with a significance of 0.001, meaning that the solvability ratio can positively affect financial distress. On the other hand, liquidity ratio, activity ratio, and market ratio do not have an impact on financial distress as their significance values are greater than 0.05.

### Moderated Regression Analysis

The moderated regression analysis was conducted on independent variables that were found to have a direct impact on financial distress.

Tabel 9 – Moderated Regression Analysis

<i>Variables in the Equation</i>		<b>B</b>	<b>Sig.</b>
Step 1	X1_Z1	-0,005	0,006
Step 2	Z1_IO	-0,097	0,014
	X3_Z1	0,002	0,001

Source: Output SPSS

The results of the moderated regression analysis shown in Table 9 reveal that the interaction variable between institutional ownership and profitability ratio (X1\_Z1) has a significance value of  $0.006 < 0.05$ , with a  $\beta$  value of -0.005. This indicates that institutional ownership can moderate by weakening the influence of profitability ratio on financial distress. The moderation variable, institutional ownership (Z1\_IO), yields a p-value of  $0.014 < 0.05$  and a  $\beta$  value of -0.097, indicating that institutional ownership also plays a role as an independent variable and negatively affects financial distress. The interaction variable between institutional ownership and solvability ratio (X3\_Z1) has a significance value of  $0.001 < 0.05$ , with a  $\beta$  value of 0.002, suggesting that institutional ownership moderates and strengthens the influence of solvability ratio on financial distress. Based on the logistic regression and moderated regression analysis results, the resulting equation is as follows:

$$\ln \frac{p}{p-1} = -9,232 - 0,343 X_1 + 0,155 X_3 - 0,097 Z_1 - 0,005 X_1 Z_1 + 0,002 X_3 Z_1 + e$$

## DISCUSSION

### The Effect of Profitability Ratios on Financial Distress

The research findings indicate that Hypothesis 1 is accepted. The negative effect generated by profitability ratio suggests that a company's ability to manage assets effectively



and efficiently to generate profits and sufficient funds reduces the level of financial distress risk. Conversely, a low ratio indicates that the company experiences a funding shortage and requires borrowing, which increases the risk of default and further exacerbates the financial distress risk. The research findings also support signaling theory, where information related to a high profitability ratio sends a positive signal that the company is capable of generating profits and avoiding financial distress. These findings are also supported by previous research conducted by Chairunesia (2021); Hastiarto (2021); Masdupi *et al.* (2018); Mesak (2019); Negoro & Wakan (2022); Restianti & Agustina (2018).

### **The Effect of Liquidity Ratios on Financial Distress**

The research findings indicate that Hypothesis 2 is rejected. The absence of an influence of liquidity ratio on financial distress implies that the high or low level of liquidity ratio does not have an impact on the level of financial distress threat. A low liquidity ratio in a company does not always indicate that the company has a low ability to meet its short-term debts and increase the risk of financial distress. In certain situations, the low ratio is caused by a large amount of short-term debt. However, this significant debt is used by the company to expand its business to generate optimal profits. This finding is supported by studies that demonstrate that liquidity ratio has no impact on the condition of financial distress, as conducted by Chairunesia (2021); Destriwanti *et al.* (2022); Dirman (2020); Negoro & Wakan (2022).

### **The Effect of Solvability Ratios on Financial Distress**

The research findings indicate that Hypothesis 3 is accepted. The positive impact of solvability ratio on financial distress implies that the higher the solvability ratio, the greater the company's debt will contribute to the risk of default, resulting in a higher likelihood of facing financial distress. Conversely, a low solvability ratio indicates a lower proportion of debt financing, reducing the risk of default and mitigating the risk of financial distress. These findings confirm the signaling theory, which suggests that a higher solvability ratio sends a negative signal indicating a higher threat of financial distress. This research also aligns with previous studies conducted by several researchers Larasati & Wahyudin (2019); Mesak (2019); Susilowati *et al.*, 2019; Tarighi *et al.* (2022).

### **The Effect of Activity Ratios on Financial Distress**

The research findings indicate that Hypothesis 4 is rejected. The high activity ratio cannot be used as a validation that the company's financial condition is good, nor can the opposite be inferred. A high activity ratio in a company may indicate that the company is able to achieve high sales through asset turnover. However, the occurrence of financial distress cannot be indicated solely by high sales, but rather should be measured by the level of profitability in terms of profit (loss) obtained. The research results show that the information provided by the activity ratio cannot be used as a guide to determine the financial distress condition. Therefore, a more in-depth study is needed to generate more accurate information. This finding is supported by previous studies which show that activity ratios do not have a significant effect on financial distress (Chairunesia, 2021; Kuncoro & Agustina, 2017).

### **The Effect of Market Ratios on Financial Distress**

The logistic regression output provides results indicating that Hypothesis 5 is rejected. The high market ratio does not ensure that a company has high future prospects. On the contrary, a ratio that is too high may suggest that the stock price will have difficulty growing in the future, potentially resulting in lower capital gain opportunities. Likewise, a low market ratio does not always reflect poor performance of a stock. A decreasing market ratio often increases investor interest because a low stock price may lead to the assumption that the stock price will rise in the future, allowing investors to profit from purchasing stocks at a lower price. The findings of this research are in line with previous studies that suggest that market ratio does not significantly impact financial distress (Kuncoro & Agustina, 2017).

### **The Effect of Profitability Ratios on Financial Distress with Institutional Ownership as a Moderating Variable**

The findings indicate that Hypothesis 6 is accepted. The moderating effect of institutional ownership weakens the influence of profitability ratio on financial distress because institutional shareholders can cause conflicts of interest and strategic alignment that trigger a negative impact on company performance (McConnel & Servaes, 1990; Pound, 1988). Conflict of interest occurs because managers prioritize the desires of institutional shareholders as majority shareholders. On the other hand, significant institutional share ownership based on the strategic alignment hypothesis suggests cooperation between the parties involved, but this cooperation diminishes the beneficial effects for the company. According to Masulis *et al.*

(2009) this impact occurs because institutional shareholders can excessively utilize the company's resources for purposes that are not aligned with the company. This, in turn, has a relationship with the profitability ratio since the greater the use of assets as one of the company's resources, the lower the turnover rate that will be used to generate profit.

### **The Effect of Solvability Ratios on Financial Distress with Institutional Ownership as a Moderating Variable**

The findings indicate that Hypothesis 8 is accepted. Institutional ownership strengthens the influence of the solvability ratio on financial distress, consistent with the research conducted by Komala & Triyani (2020). The study's findings imply that institutional ownership will fulfill a monitoring function over managerial decisions related to debt proportion. Through this monitoring, institutional ownership can protect the company from the threat of default and financial distress. These findings are also in line with Chamidah & Asandimitra (2017), who revealed that institutional ownership focuses on long-term performance monitoring of the company, one aspect of which is related to the solvability ratio. These findings confirm the agency theory, which states that monitoring by institutional shareholders can influence management decisions related to debt financing, thereby minimizing the risk of default and maintaining a low solvability ratio, protecting the company from financial distress threats.

### **The Effect of Profitability Ratios on Financial Distress with Audit Committee as a Moderating Variable**

The audit committee cannot moderate the influence of profitability ratio on financial distress, thus Hypothesis 10 is rejected. The meetings held by the audit committee do not discuss the substantive policy regarding profitability that will be set by the managerial party. Instead, they only address the current state of the company, while decision-making is the absolute right carried out entirely by the company's management and board of directors. Therefore, the function held by the audit committee cannot have an impact on the influence of profitability ratio on financial distress, in line with the research conducted by Negoro & Wakan (2022).

### **The Effect of Solvability Ratios on Financial Distress with Audit Committee as a Moderating Variable**

The findings indicate that Hypothesis 12 is rejected. Based on the research results, it means that the audit committee's role in a company is limited. The obligations of audit committee members in a company are limited to identifying risks, conducting evaluations, and carrying out inspections, as well as providing recommendations on decisions made by the company's management. The audit committee does not have the capability to directly engage in the decision-making process. Therefore, the absence of this correlation indicates that the audit committee is unable to moderate the influence of solvability ratio on the prediction of financial distress. These findings align with the findings of Negoro & Wakan (2022), which explain that the intensity of audit committee meetings cannot influence debt policy decisions, proxied through the solvability ratio, on financial distress.

### **CONCLUSION**

Based on the results of logistic regression, it shows that the profitability ratio has a significant negative effect, while the solvency ratio has a significant positive effect on financial distress. However, the liquidity ratio, activity ratio, and market ratio have no effect on financial distress. The results of moderate regression analysis show that institutional ownership weakens the effect of profitability ratios and strengthens the effect of solvency ratios on financial distress. Meanwhile, the audit committee cannot moderate the effect of profitability ratios and solvency ratios on financial distress.

The results of this study can contribute to academics as a stimulus and reference, especially regarding the analysis of profitability ratio, solvability ratio, financial distress condition, and the implementation of institutional ownership's role. This research can also be utilized by companies and stakeholders as study material to make decisions, especially those related to profitability, solvability, and institutional ownership, as these three aspects can affect the financial distress condition.

However, this study has limitations as it only examines companies in two sectors, namely infrastructure and trade, services, and investments, with a research period from 2020 to 2021, resulting in a small sample size. Therefore, the findings of this study may not be effectively applied to all types of company sectors.

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