The Influence of Liquidity Ratios, Leverage, Profitability and Activity on Financial Distress of Infrastructure Companies in the Building Construction Subsector for the Period 2018 – 2022

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Abstract

This research aims to determine the effect of liquidity, leverage, profitability and activity ratios on the financial distress of infrastructure companies in the building construction subsector listed on the Indonesia Stock Exchange in 2018 - 2022. The approach used is quantitative research. This research uses secondary data accessed through the official website of the Indonesia Stock Exchange with a population of 22 companies and a sample of 16 companies selected using the purposive sampling method and obtaining a sample of 80 observations. The data analysis technique uses panel data regression analysis with the Eviews9 test tool. The research results show that the Liquidity Ratio as proxied by the Current Ratio has a positive effect on financial distress, the Leverage Ratio as measured by the Debt to Asset Ratio (DAR) has a negative effect on financial distress, the Profitability Ratio as measured by Return on Assets (ROA) has a positive effect on financial distress, while the Activity Ratio which is proxied by Total Asset Turnover (TATO) does not affect financial distress. The calculation technique uses the Altman Z-Score method and financial ratio calculations. Therefore, researchers recommend utilizing this test model to predict financial distress because the accuracy that can be given is quite good so that companies can anticipate financial difficulties.

Keywords: *Activity Ratio; Financial Distress, Leverage Ratio; Liquidity Ratio; Profitability Ratio.*

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A. INTRODUCTION

The infrastructure sector has become the main focus of the Indonesian government in recent years. This is because infrastructure development is one of the key aspects in accelerating national development and is a driver of economic growth. (https://pu.go.id). Infrastructure development such as the construction of toll roads, railway lines, airports and ports has a significant impact on increasing accessibility, reducing logistics costs and increasing private investment (https://www.setneg.go.id). In addition, infrastructure aims to increase inter-regional connectivity and investment attractiveness, thus, investment in infrastructure development is not only the foundation for current economic

development but also prepares the basis for sustainable economic growth in the future. (https://www.setneg.go.id).

However, the challenges that emerged in 2020, namely the outbreak of the Covid-19 pandemic, resulted in a significant impact on company activities in various sectors, including the infrastructure sector. One of the infrastructure subsectors that has been significantly impacted is the building construction subsector. Restrictions on activities imposed to tackle the spread of the virus have resulted in delays in several infrastructure development projects which have resulted in delays in ongoing development in several sectors. The negative impact was felt especially in terms of company revenues and financial performance, where there was a decline in the company's profit items. According to Hertina & Tsaniya (2022), declining revenues result in relatively low company profitability and tend to have high debt projections. This phenomenon will also have an impact on the company's ability to pay off its obligations.

The manifestation of good company management can be seen from the company's performance, one of which can be assessed through profit growth. The higher the profit achieved by the company, the better the company's performance (Hapsari et al., 2017). The following is the development of profits for infrastructure companies in the building construction subsector listed on the Indonesia Stock Exchange (BEI) for the period 2018 - 2022:

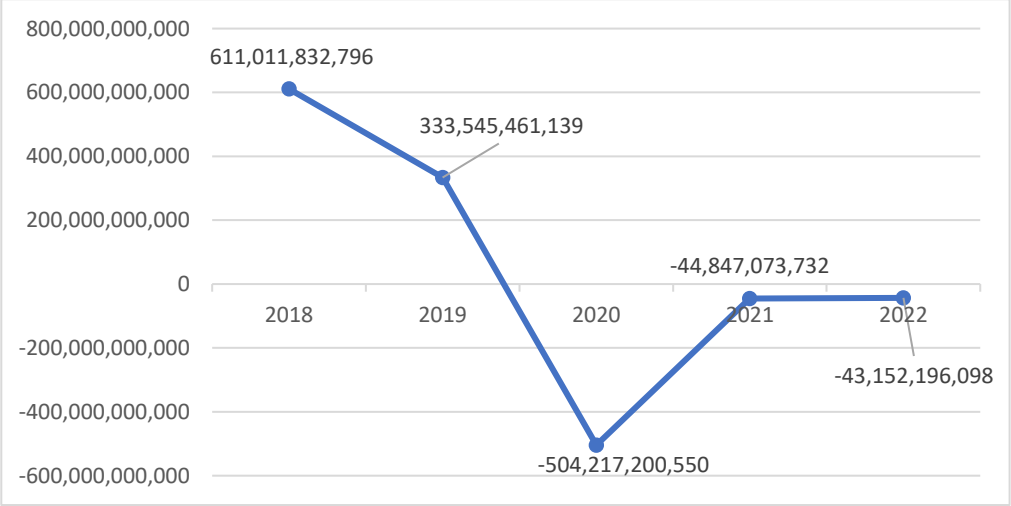

Figure 1. Development of Net Profit 2018 – 2022

Source : data proceed, 2024

Based on the graph above, it can be seen that the average net profit of companies in the building construction subsector during the 2018 - 2022 period is fluctuating and tends to decline. In 2019 there was a decrease in net profit of 45.41%, in 2020 the building construction subsector again experienced a significant decrease in net profit, namely 251.17% as a result of the Covid-19 pandemic. In 2021, the

building construction subsector experienced an increase in profit of 91.11%, but the average net profit was still negative. In 2022, the building construction subsector will again experience an increase in profit of 3.78% with the average net profit still being negative. If things like this continue to happen and there are no significant changes, it will make investors hesitate to invest so that companies operating in the building construction subsector could be threatened with bankruptcy.

According to Whitaker (1999) in Silanno & Loupatty's (2021) research, it is stated that a company can be said to be in a state of financial distress if the company has had a negative net profit for several years. Financial distress is a phenomenon that shows a downward trend in a company's financial performance. Usually, financial distress is the initial stage before bankruptcy and can be experienced by all companies, especially if the economic conditions in the country where the company operates experience an economic crisis.

Companies that experience delisting or elimination generally experience financial distress or financial difficulties which result in them being unable to fulfill their obligations (Susilowati & Fadlillah, 2019). One of the state-owned companies in the building construction sub-sector whose financial performance continues to decline and is undergoing a Debt Postponement Obligation Process (PKPU) due to difficulty fulfilling its obligations is PT. Waskita Karya Tbk and PT. Amarta Karya Tbk (www.sindonews.com). IDX has issued a warning to PT Waskita Karya (Persero) Tbk (WSKT) regarding the potential for delisting of shares, aka delisting. This occurred as a result of the suspension of the company's shares which had been going on for 6 (six) months since May 8 2023 because WSKT was unable to pay a number of interest bills on debt securities (http://www.idx.co.id). IDX also announced the temporary suspension of PT Nusantara Infrastructure Tbk shares. (META) or suspension because the issuer plans to go private and voluntarily delist. META reported a net loss attributable to the owner entity of IDR 156.86 billion in the third quarter of 2023. (https://www.cnbcindonesia.com). This gives the conclusion that there is no guarantee that large companies can avoid this problem, the reason is because financial distress is related to the company's financial condition where every company will definitely deal with finances to achieve profit targets and company survival.

To overcome and minimize the occurrence of bankruptcy, companies can monitor financial conditions by using financial report analysis techniques. In this way, the company's financial condition and development, weaknesses and the potential for company bankruptcy can be known. Apart from that, we can also identify weaknesses and results that are considered quite good and the potential for bankruptcy of the company. (Ramadhani & Lukviarman, 2009). This happens because financial reports can be used as information regarding the company's financial position and management achievements in a certain period, financial

reports can also be used as a reference in decision making. (Purnajaya & Merkusiwati, 2014).

The liquidity ratio is one of the financial ratios used to predict the occurrence of financial distress. The company's ability to meet its short-term obligations is shown by the liquidity ratio. According to Hertina et al., (2020) stated that financial distress is characterized by the company's inability to fulfill its obligations, especially short-term obligations including liquidity, also in the solvency category. Current ratio (CR) is one of the liquidity ratio assessments that is usually used to determine a company's ability to fulfill its short-term obligations using current activities. According to Sudaryanti & Dinar (2019) in Utaminingsih & Nursiam (2023), when the liquidity ratio is higher, it indicates that the company has a greater ability to fulfill its short-term obligations using the current assets it has. This reduces the possibility of companies experiencing financial distress or serious financial difficulties because they can pay their obligations easily using available assets. Research by Hidayat et al., (2021) states that the liquidity ratio which is proxied by the current ratio has a positive and significant effect on financial distress conditions, research by Susilowati & Fadlillah (2019) states that the liquidity ratio has a negative effect on financial distress. Meanwhile, according to Dewi et al., (2022), their research shows that the liquidity ratio has no effect on the company's financial distress.

The Leverage Ratio indicates the extent to which a company uses debt as a source of funding for its operations. When a company relies excessively on debt, the risk it faces is that the company may not be able to pay back the debt when it matures. The higher the company's leverage level, the greater the amount of debt used to fund its operations and the greater the business risks it faces. (Nuzurrahma and Fahmi, 2022). Debt to Asset Ratio (DAR) is one of the assessments in the leverage ratio which is usually used to measure the ratio between total debt and total assets. In other words, how much of the company's assets are financed by debt or how much the company's assets have an influence on asset management. Several studies have shown that the leverage ratio proxied through DAR has an effect on financial distress, including Utaminingsih & Nursiam (2023) stating that the leverage ratio has a negative effect on financial distress. However, this is different from research by Hidayat et al., (2021) which states that the leverage ratio has a positive and significant influence on financial distress, whereas according to Sitompul (2022) states that DAR has no effect on financial distress.

Profitability ratios reflect a company's ability to generate profits or profits. A high profitability ratio is usually interpreted as a sign that the company has healthy financial capabilities and is efficient in managing its resources and operations (Utaminingsih & Nursiam, 2023). One measurement of profitability is Return on Assets (ROA). ROA is a ratio that measures how efficiently a company manages its assets to generate profits during a period. According to Mamduh (2016) in Hidayat et al., (2021) stated that the effectiveness of asset management can be demonstrated

through a high level of ROA. With sufficient funds, the company's chances of experiencing financial distress in the future will be smaller. Several studies have shown that profitability ratios are proxied through ROA, including research conducted by Dewi et al., (2022) which states that profitability using ROA has a positive and significant effect on financial distress, whereas according to Curry & Banjarnahor (2018) states that profitability has a negative effect. against financial distress. This is different according to research by Sitompul (2022) which states that the profitability ratio as proxied by ROA has no effect on financial distress.

The activity ratio, which is often known as the turnover ratio, is a ratio used to measure a company's ability to manage its resources effectively and efficiently. The use of these resources for operational activities will increase the production produced by the company. Increased production is expected to increase sales. By increasing sales, it will have an impact on increasing profits that the company will earn so that which will provide cash inflow for the company (Azky, Suryani, and Tara, 2021). The activity ratio is measured using Total Asset Turnover (TATO). This ratio is used to measure the turnover of all assets owned by the company and measure how many sales are obtained per rupiah of assets. According to Hasty & Nursiam (2023), the activity ratio proxied by TATO has a positive effect on financial distress. This is different from research by Sitompul (2022) which states that TATO has a negative effect on financial distress. Meanwhile, according to Azky et al., (2021) stated that the activity ratio proxied by TATO does not affect the occurrence of financial distress.

There are various methods for predicting financial distress in companies, but in this research the analysis method used is the Altman Z-Score because apart from being accurate in determining bankruptcy predictions, this model is suitable for various types of companies, from private to public. The interesting thing about Z-Score is its reliability as an analysis tool regardless of company size (Sari & Diana, 2020).

The Altman method is a discriminant tool that is useful for predicting the level of probability of bankruptcy of a company using the Z-Score, this method was discovered by Edward I Altman at New York University in the mid-1960s. Altman developed a bankruptcy method with a reliable level of accuracy in predicting bankruptcy. The Altman Z-Score model as a measure of bankruptcy performance and bond risk is not stagnant or fixed, but develops over time, in line with the condition of the company and the conditions where the method is applied. (Ramadhani & Lukviarman, 2009). This is in line with research by Nirmalasari (2018) on companies in the property, real estate and building construction sectors which shows that the Altman-modified Z-Score method is the most accurate method for analyzing financial distress whether the economic situation is bad or good with a high level of accuracy. high and low error rate compared to the other two methods, namely the Springate method and the Zmijewski method, with an accuracy rate of

89.52%. Meanwhile, according to Wahyuni EDT & Seriska (2022), the Altman Z-Score method can provide a greater level of accuracy in calculating bankruptcy predictions compared to the Springate method for infrastructure, utility and transportation sector companies with an accuracy level of 73.91%.

The existence of gap phenomena and research gaps in research on financial distress makes researchers interested in conducting research related to this matter by highlighting several factors that are quite dominant in influencing financial distress, including the liquidity ratio which is proxied by the Current Ratio, the leverage ratio which is proxied by the Debt to Asset Ratio, profitability ratio proxied by Return on Assets and activity ratio proxied by Total Asset Turnover. The differences in research lie in the period, variables, unit of analysis and significance of financial ratios between the companies to be studied. The objectives of this research are 1) measuring the effect of the liquidity ratio on financial distress, 2) measuring the leverage ratio on financial distress, 3) measuring profitability on financial distress, 4) measuring the activity ratio on financial distress of infrastructure companies in the building construction subsector listed on the IDX period 2018 – 2022.

B. LITERATURE REVIEW

Agency Theory

According to Jensen and Meckling (1976) in Silanno & Loupatty (2021), agency theory is a contract between the manager (agent) and the owner (principal). An agency relationship is a contract where one or several people (employer or principal) employ another person (agent) to carry out some services, delegating the authority to make decisions to the agent. Meanwhile, according to Rahardjo (2019), agency theory is the main theory underlying the management of a company. This theory applies if there is a separation between owners (shareholders) and company management. Shareholders delegate their duties and authority to management to manage the company they own. Agency conflict can occur due to information asymmetry between owners and managers, namely when one party has information that the other party does not have. The relationship between agency theory and this research is that financial distress occurs if company management is not good so there will be a conflict of interest which begins with information asymmetry.

Signalling Theory

Signaling theory is a theory that reveals that companies provide signals to users of financial reports. Information that has been conveyed by the company and received by investors will be interpreted and analyzed first whether the information is considered a positive signal (good news) or a negative signal (bad news) (Jogiyanto, 2017). In the financial reports you will be able to see whether the company is in a healthy condition or experiencing financial distress. Financial reports are used

to give investors confidence that the company is able to distribute dividends. However, if the financial statements show a decrease in profits and small cash flows, investors will think that the company is experiencing financial distress.

Financial Distress

According to Kristanti (2019), financial distress is a situation when a company is unable to fulfill its obligations and can be an early sign before the company eventually experiences bankruptcy. Financial distress experienced by a company will damage the entire company system, both financial systems and human resources. Meanwhile, according to Platt and Platt (2006) in research by Silanno & Loupatty (2021), financial distress is defined as a stage of decline in financial conditions that occurs before bankruptcy or liquidation occurs. A condition where a company experiences financial pressure which will gradually lead to bankruptcy. So it can be concluded that financial distress is the stage of decline in the financial condition of a company that is experiencing financial difficulties due to its inability to pay obligations to debtors to continue its business.

According to Platt and Platt (2006) in research by Carolina et al., (2017) the criteria for companies experiencing financial distress include layoffs or not making dividend payments, Interest Coverage Ratio, and cash flow that is smaller than current long-term debt. In this case, net operating income is negative, there is a change in equity prices, the company's operations have been suspended with the authority of the government and the company is required to carry out restructuring planning, the company has experienced a technical violation in debt and it is predicted that the company will experience bankruptcy in the coming period, has negative Earnings per Share (EPS).

Altman Z-Score Model

The Altman Z-Score model is a multi-variate formula used to measure the financial health of a company. The Altman Z-Score model was discovered in 1968 by Edward Altman, a professor at New York University, and has an accuracy rate of 72% in predicting bankruptcy. As time goes by, the accuracy of this model continues to improve, having an accuracy rate of 82% to 94% in predicting bankruptcy. This Z-Score model is a tool for calculating and combining certain financial ratios in a company into a discriminant equation which produces a certain score indicating the likelihood of the company's bankruptcy occurring. (Adhikara, 2018). In its development, three formula models can be used to calculate the Altman Z-Score, namely as follows:

1. First Altman Model

Pada model pertama ini, Altman melakukan penelitian dengan kondisi sampel perusahaan diambil dari perusahaan publik manufaktur yang berlokasi di Amerika

sebanyak 66 perusahaan baik dalam kondisi bangkrut dan tidak bangkrut dan jumlah rasio yang diuji adalah sebanyak 22 rasio. Dari hasil penelitiannya, Altman merumuskan Altman Z-*Score* dengan menggunakan 5 rasio yang memiliki pengaruh yang paling kuat dan secara bersama berkorelasi dengan kebangkrutan. Menurut Altman dalam Rahadi & HS (2019), model Altman pertama diukur dengan rumus (1).

$Z = 1.2X_1 + 1.4X_2 + 3.3X_3 + 0.6X_4 + 1.0X_5$ ……………………………………………(1)

Information :
Z = Z-Score for the first Altman model
X_1 = Working Capital to Total Assets
X_2 = Retained Earnings to Total Assets
X_3 = Earnings Before Interest and Taxes (EBIT) to Total Assets
X_4 = Market Value of Equity to Book Value of Total Debt
X^5 = Sales to Total Assets
Value category:
"Z < 1.8" = The company is in bankruptcy
"1.81 < Z < 2.99" = The company is in the gray area
"Z > 2.99" = The company is considered healthy

2. Revised Altman Model

This model can not only be used in manufacturing companies that have gone public, but can also be used in private companies. According to Altman in Rahadi & HS (2019), the revised Altman model is measured by formula (2).

$Z' = 0.717X_1 + 0.847X_2 + 3.107X_3 + 0.420X_4 + 0.998X_5$ ……………………………(2)

Information:
X_l=Working Capital to Total Assets
X^2=Retained Earnings to Total Assets
X_3=Earnings Before Interest and Tax (EBIT) to Total Assets
X_4=Book Value of Equity to Book Value of Total Debt
X5=Sales to Total Assets
Z' = Z-Score for the revised Altman model
Value criteria:
"Z' < 1.23" = The company is in bankruptcy
"1.23 < Z' < 2.9" = The company is in the gray area
"Z' > 2.9" = The company is in healthy condition.

3. Modified Altman Model

In this model, Altman eliminates the variable X5, namely the ratio of sales to total assets (sales to total assets) because the value varies greatly in various industries. According to Altman in Rahadi & HS (2019), the modified Altman model is measured by formula (3).

$$Z" = 6.56X_1 + 3.26X_2 + 6.72X_3 + 1.05X_4 \quad \text{.....(3)}$$

Information :
Z" = Analysis results of the Modified Altman Z-Score method
X1 = Working Capital to Total Assets
X2 = Retained Earnings to Total Assets
X3 = Earnings Before Interest and Taxes (EBIT) to Total Assets
X4 = Book Value of Equity to Total Liabilities

Criteria value:
"Z\" < 1.11" = The company is in bankruptcy
"1.11 < Z\" < 2.6" = The company is in the gray area
"Z\" > 2.6" = The company is in healthy condition

Liquidity Ratio

Liquidity Ratios are ratios that describe a company's ability to meet short-term obligations (debt). This means that if the company is charged, the company will be able to fulfill the debt, especially debt that is due. The current ratio or current ratio is an indicator of the liquidity ratio. The current ratio is a ratio to measure a company's ability to pay short-term obligations or debts that are due when they are collected in full. (Kashmere, 2022). According to Fahmi (2024), the current ratio is a commonly used measure of short-term solvency, the ability of a company to meet debt needs when they mature. Meanwhile, according to Handini (2020), the current ratio is the ability to pay debts which must be immediately met with current assets. A low current ratio indicates that the company's liquidity is poor. Conversely, if the current ratio is relatively high, the company's liquidity is relatively good. According to Kasmir (2022), CR is measured by formula (4).

$$\text{Current Ratio} = \frac{Current\ Asset}{Current\ Liabilities} \quad \text{.....(4)}$$

Leverage Ratio

The leverage ratio is a ratio used to measure the extent to which a company's assets are financed with debt. This means how much debt the company bears compared to its assets. Debt to Asset Ratio is an indicator of the leverage ratio, DAR is a debt ratio which is used to measure the comparison between total debt and total assets. In other words, how much of the company's assets are financed by debt or how much debt the company has has an effect on asset management. (Kashmere, 2022). The higher the resulting DAR value means the higher the amount of debt the company has to creditors, which means the company must pay off these obligations. The higher the amount of debt, the higher the rate of return because the company also has to pay interest charges on the loans obtained. Likewise, if the ratio is low, the smaller the company is financed with debt. According to Kasmir (2022), DAR is measured by formula (5).

$$\text{Debt to Asset Ratio} = \frac{Total\ Liabilities}{Total\ Asset} \quad \text{.....(5)}$$

Profitability Ratio

Profitability Ratios are ratios to assess a company's ability to make a profit. This ratio also provides a measure of the level of effectiveness of a company's management. Return on Assets is a profitability ratio that measures a company's ability to generate profits from the use of all the resources or assets it owns. As a profitability ratio, ROA is used to assess the quality and performance of a company in generating net profits from the use of its assets. (Kashmere, 2022). The greater the ROA value produced means the greater the ability to generate profits, and vice versa. The greater the ROA value produced, the less likely the company will experience financial distress. According to Kasmir (2022), ROA is measured by formula (6).

$$\text{Return on Asset Ratio} = \frac{Earning\ After\ Tax}{Total\ Asset} \quad \text{.....(6)}$$

Activity Ratio

The activity ratio is a ratio used to measure a company's effectiveness in using its assets. Or it could also be said that this ratio is used to measure the level of efficiency (effectiveness) of company resource utilization. Total Asset Turnover is an activity ratio used to measure the turnover of all assets owned by a company and measure how many sales are obtained from each rupiah of assets. (Kashmere, 2022). The greater the TATO value produced, the better it is indicated because it means the company's total asset turnover is faster and more efficient in generating sales. The more efficient the company is in generating sales, the more profits the company will earn. That way, there is little chance that the company will experience financial distress. According to Kasmir (2022), TATO is measured by formula (7).

Total Asset Turn Over = $\frac{Sales}{Total\ Asset}$ .....(7)

Relationship between Variables

Agency theory is a form of separation between ownership and control. The company's debt and receivable decisions are under the agent's control. Therefore, the existence of financial obligations that are currently due is the result of agents' decisions in the past who decided to make loans or credit to parties outside the company. According to Finky, et al. (2013) in Pertiwi & Darmayanti (2018) companies that have high liquidity will cause a decrease in debt because companies with high levels of liquidity prefer company funding using internal funds first before using external funding through debt. Several studies have shown that the liquidity ratio as proxied by the current ratio has a positive and significant effect on financial distress, including research by Stephanie et al., (2020), Hidayat et al., (2021) and Utaminingsih & Nursiam (2023). Meanwhile, research by Curry & Banjarnahor (2018) and Susilowati & Fadlillah (2019) shows that the liquidity ratio proxied by the current ratio has a negative effect on financial distress. This is different from the research of Carolina et al., (2017), Sari & Diana (2020), Azky et al., (2021), Samara (2021), Silanno & Loupatty (2021), Dewi et al., (2022) and Sitompul (2022) shows that the liquidity ratio has no effect on financial distress.

H1: Liquidity Ratio (CR) influences the financial distress of infrastructure companies in the building construction subsector listed on the Indonesia Stock Exchange for the period 2018 - 2022

Agency theory is a form of separation between ownership and control. The company's operational activities are the agent's job. Agents are required to be able to maximize the use of their assets for company operational activities so that they can increase sales. The leverage ratio can be used to measure how much of a company's spending or financing comes from debt (Sudana, 2015). A company will be said to be quite healthy if it has a leverage ratio that tends to be low. In research, Utaminingsih & Nursiam (2023) stated that the leverage ratio proxied through DAR has a negative effect on financial distress. Meanwhile, research by Susilowati & Fadlillah (2019) and Hidayat et al., (2021) states that the leverage ratio has a positive effect on financial distress. This is different from the research of Carolina et al. (2017), Curry & Banjarnahor (2018), Hasty & Nursiam (2023), Stephanie et al. (2020), Azky et al. (2021) and Sitompul (2022) state that the leverage ratio proxied by DAR has no effect on financial distress.

H2: The Leverage Ratio (DAR) influences the financial distress of infrastructure companies in the building construction subsector listed on the Indonesia Stock Exchange for the period 2018 - 2022

Agency theory is a form of separation between ownership and control. The company's operational activities are the agent's job. Therefore, if a company has high profits, it can be said that the agent has succeeded in making the best decisions in managing the company. With high profits, it can attract investors to invest in the company so that the chance of the company experiencing financial distress is smaller. In previous research Carolina et al. (2017), Christine et al. (2019), Sari & Diana (2020), Silanno & Loupatty (2021), Dewi et al. (2022) and Utaminingsih & Nursiam (2023) show that the profitability ratio proxied by ROA has a positive effect on financial distress. In research by Curry & Banjarnahor (2018) and Hidayat et al. (2021) stated that profitability ratios have a negative effect on financial distress. Meanwhile, Sitompul's research (2022) states that the profitability ratio as proxied by ROA does not affect financial distress.

H3: Profitability Ratio (ROA) influences the financial distress of infrastructure companies in the building construction subsector listed on the Indonesia Stock Exchange for the period 2018 – 2022

Agency theory is a form of separation between ownership and control. The company's operational activities are the agent's job. Agents are required to be able to maximize the use of their assets for company operational activities so that they can increase sales. One of the financial ratios that can be used to measure the ability of funds embedded in all assets rotating in a period or the ability of invested capital to generate income is the activity ratio. If the use of company assets cannot be maximized, the company's income cannot be maximized, and the possibility of the company experiencing financial difficulties or financial distress is greater. In Hasty & Nursiam's (2023) research, it shows that the activity ratio proxied by TATO has a positive effect on financial distress. Meanwhile, research by Susilowati & Fadlillah (2019) and Sitompul (2022) shows that the activity ratio proxied by TATO has a negative effect on financial distress. In research while research by Azky et al. (2021) and Dewi et al. (2022) shows that the activity ratio proxied by TATO does not affect financial distress.

H4: The Activity Ratio (TATO) influences the financial distress of infrastructure companies in the building construction subsector listed on the Indonesia Stock Exchange for the period 2018 – 2022

C. METHOD

This research uses quantitative methods and is included in causal associative research, namely to determine the effect of liquidity ratios, leverage, profitability and activity on financial distress. The data source used is secondary data originating from financial report documentation of infrastructure companies in the building construction subsector on the IDX and accessed via the Indonesian Stock Exchange

(IDX). The research population includes all infrastructure companies in the building construction subsector listed on the IDX for the 2018-2022 period. The sample for this research consisted of 16 companies taken using a purposive sampling technique with the following criteria: (1) infrastructure companies in the building construction subsector listed on the IDX for the period 2018 - 2022 respectively; (2) infrastructure companies in the building construction subsector that present complete financial reports on the IDX during the observation period. The data analysis technique used is panel data regression analysis supported by the Eviews version 9 program.

D. RESULT AND DISCUSSION

Descriptive Statistics Results

Descriptive statistics display the number of samples (N), sample average (mean), maximum value (max), minimum value (min), and standard deviation of each variable. These results can be seen in Table 1 as follows:

Table 1. Descriptive Statistics

	FD	CR	DAR	ROA	TATO
Mean	3.969125	1.605696	0.628145	0.003863	0.552426
Median	3.495000	1.417227	0.590492	0.012439	0.480948
Maximum	16.77000	4.286042	2.666238	0.155838	1.274405
Minimum	-1.900000	0.675187	0.259793	-0.433114	0.117992
Std. Dev.	2.900021	0.614973	0.301056	0.084347	0.268025
Observations	80	80	80	80	80

Source: Eviews9 (2024, data proceed)

Regression Model Selection Test Results

The Chow test results show that the Common Effects Model is more appropriate than the Fixed Effects Model. The Hausman test results show that the Random Effects Model is more appropriate than the Fixed Effects Model. The Langrange Multiplier (LM) test results show that the Common Effects Model is more appropriate than the Random Effects Model. Therefore, the model selection was continued with the Common Effects Model for use in research.

Classic Assumption Test Results

The results of the multicollinearity test show that the coefficient between variables has a value <0.9. This is by the test criteria that in the results of the multicollinearity test there is no correlation coefficient value between variables that is > 0.9. So it can be concluded that it is free from multicollinearity or passes the multicollinearity test. The results of the heteroscedasticity test show that the probability of each variable is > 0.05 so it can be concluded that the heteroscedasticity assumption has been fulfilled or that there are no symptoms of heteroscedasticity in the regression model.

Results of Panel Data Regression Analysis

The data analysis technique used in this research is panel data regression. Panel data is a combination of cross-section data and time series data, where the same cross-section units are measured at different times (Napitupulu et al., 2021).

Table 2. Results of Panel Data Regression Analysis

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.050261	1.146171	-0.043851	0.9651
CR	2.626303	0.368492	7.127164	0.0000
DAR	-1.817378	0.801107	-2.268584	0.0262
ROA	6.192085	2.651251	2.335533	0.0222
TATO	1.665382	0.884776	1.882265	0.0637

Source: Eviews9 (2024, data proceed)

Based on Table 2, the panel data regression equation is obtained with formula (8).

Y = -0.050 + 2.626*CR - 1.817*DAR + 6.192*ROA + 1.665*TATO……(8)

A constant value of -0.050 indicates a negative value which can be explained that without the influence of the independent variables used in this research, the Z"-Score (FD) value would decrease by 0.050. The liquidity regression coefficient (CR) of 2.626 units states that every increase of 1 unit of liquidity (CR) will cause an increase in the Z"-Score (FD) value of 2.626 units. The leverage regression coefficient (DAR) of -1.817 units states that every 1 unit increase in leverage (DAR) will cause a decrease in the Z"-Score (FD) value of 1.817 units. The profitability regression coefficient (ROA) of 6.192 units states that every 1 unit increase in profitability (ROA) will cause an increase in the Z"-Score (FD) value of 6.192 units. The activity regression coefficient (TATO) of 1.665 units states that every increase of 1 unit of activity (TATO) will cause an increase in the Z"-Score (FD) value of 1.665 units.

Hypothesis Test Results (T-Test)

The results of the liquidity variable calculation test (CR) showed that the calculated t value was greater than the t table, namely 7.12716 > 1.99085 and a significant value of 0.0000 < 0.05, meaning that the liquidity variable (CR) had a positive effect on the financial distress of infrastructure companies in the construction subsector buildings listed on the IDX for the period 2018 - 2022. The results of the leverage variable (DAR) calculation test obtained a calculated t value greater than t table, namely 2.26858 > 1.99085 and a significant value of 0.0262 < 0.05, meaning the leverage variable (DAR) has a negative effect on the financial distress of infrastructure companies in the building construction subsector listed on the IDX for the period 2018 - 2022. The results of the profitability variable (ROA) calculation test show that the calculated t value is greater than the t table, namely 2.33553 > 1.99085 and a significant value of 0, 0222 < 0.05, meaning that the profitability

variable (ROA) has a positive effect on the financial distress of infrastructure companies in the building construction subsector listed on the IDX for the period 2018 - 2022. The results of the activity variable calculation test (TATO) show that the calculated t value is smaller than the t table, namely 1, 88226 < 1.99085 and a significant value of 0.0637 > 0.05 meaning that the activity variable (TATO) TATO does not affect the financial distress of infrastructure companies in the building construction subsector listed on the BEI for the period 2018 - 2022.

Coefficient of Determination Test Results (R^2)

The adjusted R2 value is 0.6158 or 61.58%, this shows that the independent variables consisting of liquidity ratio (X1), leverage (X2), profitability (X3) and activity (X4) are able to explain the dependent variable, namely financial distress (Y) amounted to 61.58%, the remaining 38.42% was influenced by other variables outside of this research.

The Influence of Liquidity Ratios on Financial Distress

The research results show that the liquidity ratio (current ratio) has a positive effect on the financial distress of infrastructure companies in the building construction subsector listed on the IDX in 2018 - 2022. The research results are in line with research conducted by Hidayat et al., (2021), Stephanie et al. , (2020) and Utaminingsih & Nursiam (2023) which states that the liquidity ratio (CR) has a positive effect on a company's financial distress. However, the results of this research are not in line with research by Hasty & Nursiam (2023), Dewi et al., (2022), Azky et al., (2021), Silanno & Loupatty (2021) and Sitompul (2022) which states that the liquidity ratio (CR) has no effect on the company's financial distress. The company's ability to pay current debts with its current assets is a liquidity assessment. The results of the research show that liquidity has a positive effect on financial distress, this indicates that the higher the liquidity value, the Z-Score value will follow so that financial distress is lower because the company is able to cover its current debts using the current assets it owns.

The results of this research are in line with signaling theory which explains that with high liquidity a company can meet its current liabilities, indicating that the company is in a healthy condition or not experiencing financial distress, thus making investors more interested in investing their funds. These results can be used as a reference for subsequent research that liquidity data influences a company's financial distress. Practical implications for infrastructure companies in the building construction subsector are expected to be able to increase their liquidity by monitoring the availability of liquid assets that are easy to find and not investing in the most illiquid types in very large amounts to be able to pay short-term debts and avoid financial problems.

The Influence of Leverage Ratios on Financial Distress

The research results show that the leverage ratio (debt to asset ratio) has a negative effect on the financial distress of infrastructure companies in the building construction subsector listed on the IDX in 2018 - 2022. The results of this research are in line with research conducted by Utaminingsih & Nursiam (2023) which states that the leverage (DAR) has a negative effect on a company's financial distress. However, the results of this study are not in line with research conducted by Hasty & Nursiam (2023), Sitompul (2022), Azky et al., (2021), Stephanie et al., (2020), Carolina et al., (2017) which states that the leverage ratio (DAR) has no effect on the company's financial distress. The financial composition of companies that have debts greater than their assets is at risk of experiencing financing difficulties. This is because debt is a company's fixed expense which will increase due to interest. The debt ratio provides an overview of the company's debt risk level. The research results show that leverage has a negative effect on financial distress, meaning that the higher the debt ratio value, the lower the Z"-Score value. The lower the Z"-Score value, the higher the possibility of financial distress problems because it will be more difficult for the company to pay its debts.

The results of this research are in line with signaling theory which explains that high leverage indicates that the percentage of the company's debt usage in financing is too high, so it will experience difficulty in making payments, indicating that the company is in an unhealthy condition or experiencing financial distress, making investors not interested in investing their funds. Practical implications for infrastructure companies in the building construction subsector are that they are expected to be able to utilize debt wisely to increase operational activities so that companies remain able to pay off obligations on time and avoid financial distress.

The Effect of Profitability Ratios on Financial Distress

The research results show that the profitability ratio (return on assets) has a positive effect on the financial distress of infrastructure companies in the building construction subsector listed on the IDX in 2018 - 2022 so that the third hypothesis (H3) is accepted. The research results are in line with research conducted by Silanno & Loupatty (2021), Sari & Diana (2020), Carolina et al., (2017) and Christine et al., (2019) which stated that profitability ratios (ROA) have a positive effect on company financial distress. However, the results of this research are not in line with research conducted by Sitompul (2022) and Azky et al., (2021) which states that profitability ratios have no effect on a company's financial distress. The decline in profitability causes the company to experience financial distress. The research results show that profitability has a positive effect on financial distress, this indicates that the higher the profitability value, the higher the Z"-Score value. The higher the Z"-Score value, the lower the possibility of financial distress problems because the company's ability to earn higher profits will influence good financial conditions, so that financial

distress will not occur. But for companies that have low profitability, they do not have the economic strength that will push the company into financial distress.

The results of this research are in line with signaling theory which states that the level of profitability of a company in generating profits indicates a good signal that the company is in a healthy condition or is not experiencing financial distress so that it can increase investor interest. Practical implications for infrastructure companies in the building construction subsector are expected to increase the percentage of profitability by optimizing sales and managing cash income from sales so that the profits generated can be used as internal funds to pay for operations and avoid financial distress.

The Effect of Activity Ratios on Financial Distress

The research results show that the activity ratio (TATO) has no effect on the financial distress of infrastructure companies in the building construction subsector listed on the IDX in 2018 - 2022 so that the fourth hypothesis (H4) is rejected. This means that the level of a company's ability to manage assets for its daily operational activities cannot be used as a reference for assessing the financial difficulties experienced by the company. The research results are in line with research conducted by Dewi et al., (2022) and Azky et al., (2021) which stated that the activity ratio (TATO) has no effect on a company's financial distress. However, the results of this research are not in line with research conducted by Hasty & Nursiam (2023) which states that the activity ratio (TATO) has a positive effect on a company's financial distress, while research by Sitompul (2022) states that the activity ratio (TATO) has a negative effect on financial distress. company.

The results of this research do not support agency theory which states that agents are required to maximize the use of their assets for company operational activities so that they can increase sales. If the use of company assets cannot be maximized, the company's income cannot be maximized, and the possibility of the company experiencing financial difficulties or financial distress is greater. Practical implications for infrastructure companies in the building construction subsector are expected to increase activity ratios by monitoring the management of asset activities so that they run effectively and efficiently so that they can increase sales and avoid financial distress.

E. CONCLUSION

The research concludes that the liquidity ratio proxied by current assets has a positive effect on the financial distress of infrastructure companies in the building construction subsector listed on the Indonesia Stock Exchange for the period 2018 - 2022. The leverage ratio proxied by the debt-to-asset ratio has a negative effect on the financial distress of infrastructure companies in the building construction subsector which is listed on the Indonesia Stock Exchange for the period 2018 - 2022. The

profitability ratio proxied by return on assets has a positive effect on the financial distress of infrastructure companies in the building construction subsector listed on the Indonesia Stock Exchange for the period 2018 - 2022. Meanwhile, the activity ratio does not affect the financial distress of infrastructure companies in the building construction subsector listed on the Indonesia Stock Exchange for the 2018-2022 period, which means that an increase or decrease in the activity ratio cannot affect financial distress.

Companies, especially infrastructure companies in the building construction subsector, need to pay attention to liquidity, leverage and profitability ratios because they can affect the company's financial distress. The high level of liquidity, leverage and profitability will be a good signal for investors because the company is in a healthy condition or not experiencing financial distress, making investors more interested in investing their funds. The limitation of this research is that the research object is only focused on liquidity ratios as measured by the current ratio, leverage ratios as measured by the debt to asset ratio, profitability ratios as measured by return on assets, activity ratios as measured by total asset turnover and financial distress as measured. with a modified Altman Z"-Score model. For future researchers, it is recommended to expand the observations to be researched, such as extending the observation year or expanding the research population in other business sectors. Future researchers are advised to add other variables related to financial distress.

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