



THE INFLUENCE OF LIQUIDITY, PROFITABILITY, LEVERAGE, AND COMPANY SIZE ON FINANCIAL DISTRESS (Studies on Corporate Sector infrastructure, utilities, and transportation listed on the IDX in 2018-2021)

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ABSTRACT: This study aims to analyze the effect of liquidity, profitability, leverage, and company size on financial distress. The population in this study is the transportation subsector which is listed on the IDX during the 2018-2021 period. The sample in this study was taken using purposive sampling, with a final sample of 72 data. This data analysis method uses multiple linear regression analysis. The results of this study indicate that profitability and leverage affect financial distress. Meanwhile, liquidity and firm size have no effect on financial distress.

Keywords: liquidity, profitability, leverage, company size, financial distress, transportation subsector

I. Introduction

According to Yustika (2015) financial distress is a condition in which a company's finances are in an unhealthy or critical state. Financial distress has a close relationship with company bankruptcy, due to declining financial conditions which are at risk of bankruptcy. This financial distress occurs if the company continues to experience failure to pay short-term liabilities, and affects the failure to pay long-term liabilities as well. This financial distress is very important for managers to serve as a signal for management to know their financial condition so that actions can be taken to anticipate conditions that lead to bankruptcy. In this study, an indicator or way to measure financial distress is by using the Interest Coverage Ratio. This ratio is a comparison between earnings before interest and taxes or operating profit (EBIT) with interest expenses. According to Wachowicz (2013) defines the Interest Coverage Ratio as a ratio that serves to measure the financial difficulties experienced by companies.

Platt and Platt (2002) stated that the usefulness of predicting financial distress information in companies is that it can accelerate management actions to prevent problems before bankruptcy occurs. Management can take merger or takeover actions. This means that the company is able to pay debts and manage the company better. And can provide an early warning sign of bankruptcy in the future. Schuppe (2003) adds that responsive management detects financial distress earlier.

Then acting actively analyzing the causes of financial distress and applying the right turnover strategy will be far more able to control this condition. Financial distress can be detrimental to a company if it is not recognized immediately. Cooperation between management and company leaders is needed to avoid financial distress in the company.

There are several ways that can be developed to prevent financial distress, namely by analyzing financial

statements. Financial statement analysis here is used to predict the bankruptcy of a company. If in conducting an analysis of financial statements unreasonable conditions are found or the company experiences a decline in its financial condition, management can anticipate this or predict the possibility of a financial distress condition in the related company (Faldiansyah, et al., 2020). Several researchers have formulated prediction methods using financial ratios that can assist managers in anticipating bankruptcy conditions, including the Altman Z-Score method (1968), Ohlson method (1980), Zmijewski method (1984), the Beaver method (1966) and the Wilcox method (1971). The method that has been developed by the researchers can be used as an early warning system to identify early symptoms of bankruptcy in the form of distress so that efforts can then be made to improve the condition before it reaches a more chronic condition. The Altman analysis method is a mathematical formula for predicting bankruptcy with a fairly accurate level of certainty and is included in the most popular research because it is often used by many researchers. (Mastuti et al., 2012). The method that has been developed by the researchers can be used as an early warning system to identify early symptoms of bankruptcy in the form of distress so that efforts can then be made to improve the condition before it reaches a more chronic condition. The Altman analysis method is a mathematical formula for predicting bankruptcy with a fairly accurate level of certainty and is included in the most popular research because it is often used by many researchers. (Mastuti et al., 2012). The method that has been developed by the researchers can be used as an early warning system to identify early symptoms of bankruptcy in the form of distress so that efforts can then be made to improve the condition before it reaches a more chronic condition. The Altman analysis method is a mathematical formula for predicting bankruptcy with a fairly accurate level of certainty and is included in the most popular research because it is often used by many researchers. (Mastuti et al., 2012).

Before the company went bankrupt, information about financial distress became very important information for a company, because it became an important signal for management regarding weaknesses that occurred inside or outside the company, so that it was hoped that management would quickly and responsively face this. The importance of financial distress encourages the conduct of many studies aimed at testing using various variables and various research samples to obtain information about financial distress in a company. These studies include: Yolando & Firmansyah (2019), Hikmah & Afridola (2019), Utari et al. (2018), Ariani & Swandari (2019), Suprayitno et al. (2019), Yuliastary & Wirakusuma (2014), Hikmah & Afridola (2019), and Prasetyani & Sofyan (2020). From these studies there are mixed results in predicting financial distress in various companies.

According to Hery (2015: 5), financial reports function as an information tool that connects companies with interested parties, which shows the condition of the company's financial health and company performance. The tool used to measure the company's financial performance is the analysis of financial ratios. Where, the purpose of financial ratio analysis is to help companies know the company's financial strengths and weaknesses, assess the performance of company financial reports in empowering all existing resources to achieve company targets (Sujarweni, 2017: 59). In evaluating financial performance, it can be done by comparing a company's financial ratios to the industry average of similar companies simultaneously (Surjoko, et.al., 2012).

There are several factors that are thought to influence the financial performance indicator variables used to predict financial distress in this study, namely liquidity ratios, leverage ratios, profitability ratios, because these ratios are considered to be able to show financial performance and company efficiency in general in predicting financial distress. also the size of the company which is thought to have an effect on financial distress. The first factor that is thought to determine the occurrence of financial distress is the liquidity ratio. This ratio shows the company's ability to fulfill its financial obligations that must be met, or regarding the company's ability to meet its financial obligations when billed (Hidayat, 2013). This liquidity ratio is usually measured using the current ratio, namely current assets divided by current liabilities (Deanta, 2009). Furthermore, the second factor that is suspected of influencing the occurrence of financial distress is the profitability ratio. ROA is used to measure a company's effectiveness in generating profits or profits by utilizing its assets (Hanifah, 2013). This ratio is the ratio used to measure a company's ability to generate company profits (Atika, et al., 2012). The profitability of a company also shows the financial health of a company itself (Alifiah, et al., 2011). In this study, the profitability ratio is measured using Return On Assets (ROA), namely the company's net profit divided by its

total assets. The second factor that is thought to influence the occurrence of financial distress is the profitability ratio. ROA is used to measure a company's effectiveness in generating profits or profits by utilizing its assets (Hanifah, 2013). This ratio is the ratio used to measure a company's ability to generate company profits (Atika, et al., 2012). The profitability of a company also shows the financial health of a company itself (Alifiah, et al., 2011). In this study, the profitability ratio is measured using Return On Assets (ROA), namely the company's net profit divided by its total assets. The second factor that is thought to influence the occurrence of financial distress is the profitability ratio. ROA is used to measure a company's effectiveness in generating profits or profits by utilizing its assets (Hanifah, 2013). This ratio is the ratio used to measure a company's ability to generate company profits (Atika, et al., 2012). The profitability of a company also shows the financial health of a company itself (Alifiah, et al., 2011). In this study, the profitability ratio is measured using Return On Assets (ROA), namely the company's net profit divided by its total assets. ROA is used to measure a company's effectiveness in generating profits or profits by utilizing its assets (Hanifah, 2013). This ratio is the ratio used to measure a company's ability to generate company profits (Atika, et al., 2012). The profitability of a company also shows the financial health of a company itself (Alifiah, et al., 2011). In this study, the profitability ratio is measured using Return On Assets (ROA), namely the company's net profit divided by its total assets. ROA is used to measure a company's effectiveness in generating profits or profits by utilizing its assets (Hanifah, 2013). This ratio is the ratio used to measure a company's ability to generate company profits (Atika, et al., 2012). The profitability of a company also shows the financial health of a company itself (Alifiah, et al., 2011). In this study, the profitability ratio is measured using Return On Assets (ROA), namely the company's net profit divided by its total assets. The profitability of a company also shows the financial health of a company itself (Alifiah, et al., 2011). In this study, the profitability ratio is measured using Return On Assets (ROA), namely the company's net profit divided by its total assets. The profitability of a company also shows the financial health of a company itself (Alifiah, et al., 2011). In this study, the profitability ratio is measured using Return On Assets (ROA), namely the company's net profit divided by its total assets. The profitability of a company also shows the financial health of a company itself (Alifiah, et al., 2011). In this study, the profitability ratio is measured using Return On Assets (ROA), namely the company's net profit divided by its total assets.

Then, the third factor that is thought to have an important influence on the probability of financial distress occurring is the leverage ratio. The leverage ratio is also often referred to as the solvency ratio, which includes short-term solvency and long-term solvency (Hanifah, 2013). This leverage ratio measures the comparison of funds provided by the owner with funds borrowed from creditors. The leverage ratio used is usually measured using the Debt to Asset Ratio (DAR), which is total debt divided by total assets (Deanta, 2009). This Debt to Asset Ratio shows the proportion of all company assets funded by debt (Fraser and Ormiston, 2008). In other words, it shows how much the company's assets are financed by debt or how much the company's debt affects the management of company assets. Analysis of this ratio needs to be done to measure the company's ability to pay off its obligations (short term and long term) if one day the company is liquidated or dissolved (Widarjo and Setiawan, 2009). Finally, company size is defined as the amount of total assets owned by the company. According to Nora (2016) large companies with high total asset values are considered capable and qualified to use and develop their capital compared to companies that have small assets. Fachrudin (2011), stated that the greater the total assets owned by the company, the greater the company's ability to pay off its obligations in the future, the company will avoid financial problems. The size of the company in this study is measured using the natural logarithm of the assets owned by the company concerned.

Rahma (2020) in his research regarding the analysis of the effect of profitability, leverage, and liquidity on financial distress. The study found that profitability and leverage have a negative effect on financial distress. On the other hand, this research finds that liquidity has no effect on financial distress. Then, Sitorus, et al (2022) regarding the effect of liquidity, leverage, profitability, and company size on financial distress in consumer goods companies listed on the IDX in 2016-2020. The results of the partial test of the liquidity variable with the proxy Cash Ratio have a positive and not significant effect on Financial Distress. Leverage using DAR and company size by calculating Ln Total Assets is partially insignificant and does not have a negative impact on Financial Distress. While profitability using RoA is partially significant and has a positive effect on Financial Distress.

Indiarti and Sapari (2021) in a study entitled the effect of profitability, liquidity, and leverage on financial distress. The results of this study indicate that profitability as measured by return on assets has a negative and

significant effect on financial distress, liquidity as measured by the current ratio has a negative and insignificant effect on financial distress, and leverage as measured by the debt to asset ratio has a positive and significant effect on financial distress. Taken together profitability, liquidity, and leverage affect financial distress. Asmarani and Lestari (2020) regarding the analysis of the effect of liquidity, leverage, and profitability on financial distress. The population in this study are manufacturing companies in the consumer goods industry sector which are listed on the Indonesia Stock Exchange in 2014-2018. The results of this study indicate that partially liquidity has a significant effect on financial distress in companies, while leverage and profitability have no effect in predicting financial distress in manufacturing companies in the consumer goods industry sector. Simultaneously there is a significant influence between liquidity, leverage, and profitability in predicting financial distress. Finally, Arie, Nugraha, and Aisyah (2018) regarding the effect of liquidity and leverage on financial distress in trading, service and investment companies listed on the IDX in 2016-2017.

II. Literature Review and Hypotheses Development

2.1. Agency Theory

Agency theory is the basis used to understand financial distress. Agency theory concerns contractual relationships between company members. To avoid these inappropriate relationships, a concept of good corporate governance is needed which aims to make the company healthier. The implementation of corporate governance is based on agency theory, namely a theory that can explain the relationship between management and owners, management as an agent is morally responsible for optimizing the profits of the owners (principals) and in return will receive compensation in accordance with the agreement.

2.2. Signal Theory

Signaling theory was first put forward by Spence (1973) which explained that the sender (owner of the information) gives a signal or signal in the form of information that reflects the condition of a company that is beneficial to the recipient (investor). According to Brigham and Houston (2011) signal theory explains management's perception of company growth in the future, which will affect the response of potential investors to the company. The signal is in the form of information that explains management's efforts to realize the owner's wishes.

2.3. Financial Distress

According to Altman (2005) financial distress is a broad concept consisting of several situations where a company faces financial problems, general terms to describe these situations are failure, bankruptcy, default, and bankruptcy. If the company shows a weakened financial condition, it can make stakeholders such as creditors and shareholders lose their trust. That way the stakeholders will withdraw to work with the company. If the company fails to find a way out, it is a sign that the company is in a state of financial distress on the verge of bankruptcy.

2.4. Liquidity

The liquidity ratio is useful for measuring a company's short-term liquidity capacity by looking at the company's current assets against its current debt. The liquidity ratio is represented by the current ratio (CR), which is the ratio to measure a company's ability to pay short-term obligations or debts that are due immediately when billed in full.

2.5. Profitability

Profitability is the company's ability to earn profits in relation to sales, total assets and equity (Sartono, 2000). Thus for long-term investors will be very concerned with this profitability analysis. Profitability shows the company's ability to generate profits from the assets used. Profitability analysis provides supporting evidence regarding the company's ability to generate profits and the extent to which the effectiveness of company management (Smith and Skousen 1992).

2.6. Company Size

Company size is one of the variables used in determining the value of a company. According to Pratama and Wiksuana (2016). Company size is the total assets owned by a company. Benchmarks that show the size of the company include total sales, average level of sales and total assets. Basically the size of the company is divided

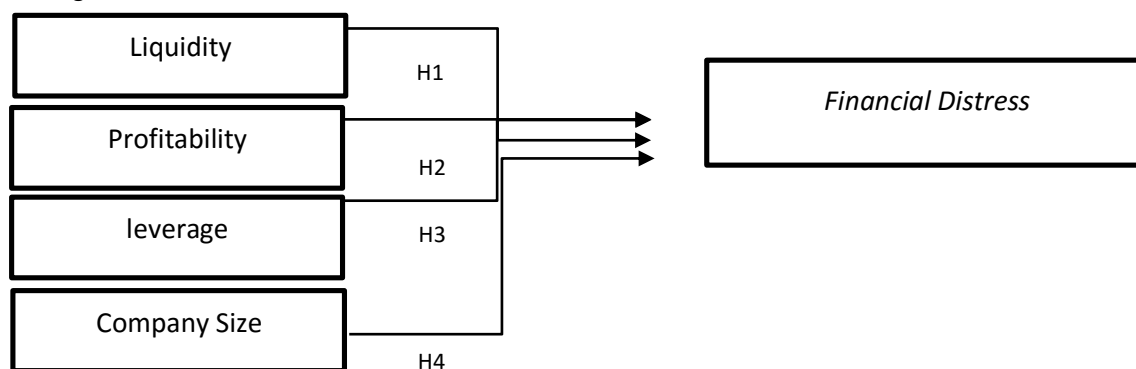
into three categories, namely large companies (large firms), medium companies (medium size) and small companies (small firms).

2.7. leverage

Shareholder value does not only depend on good investment decisions or profitable business operations, but also on financing decisions. When a company borrows money, it will be accompanied by an obligation to pay debts and interest on the debt. The interest rate has been determined from the beginning of the borrowing of funds. When an increase in profits occurs, the return received by investors will also be greater. Conversely, if there is a decrease in profits, the returns received by investors will also be smaller.

III. Conceptual Framework

The following is a framework that shows:



IV. Methods

This type of research is quantitative research. The population in this study are transportation sub-sector companies listed on the IDX in 2018-2021. In this study, researchers used a saturated sample, which according to Sugiyono (2009), a saturated sample is a sampling technique when all members of the population are used as samples. Whereas, The research sampling criteria was purposive sampling provided that the selected transportation sub-sector companies had all the complete data including:

1. Companies in the infrastructure, utilities and transportation sectors listed on the IDX in 2018-2021.
2. Companies in the infrastructure, utilities and transportation sectors that publish consecutive financial reports for 2018-2021.
3. Infrastructure, utilities and transportation sector companies that issued audited reports for 2018-2021.
4. Companies in the infrastructure, utilities and transportation sectors that present their financial reports in rupiah.
5. Infrastructure, utilities and transportation sector companies that provide complete data in this study.
6. Companies in the infrastructure, utilities and transportation sectors that experienced profits during the 2018-2020 research period.

For data analysis using linear regression analysis with the regression model as follows:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + e$$

$$\ln \frac{AS}{1-AS} = \alpha + \beta_1 LKD + \beta_2 PRF + \beta_3 LEV + \beta_4 SZE + e$$

V. Results

Table of Panel Data Regression Estimation Results

		B	SE	Wald	df	Sig.	Exp(B)	95% CI for EXP(B)	
								Lower	Upper
Step 1a	cra	0.163	0.208	0.616	1	0.433	1,777	0.783	1,768
	PRO	32,835	8,360	15,426	1	0.000	1,821E+14	13934423,3	2,379E+21
	DER	-5,717	2,310	6,124	1	0.013	0.003	0.000	0.304
	SZE	0.299	0.263	1,292	1	0.256	1,348	0.805	2,256
	Constant	-7,754	7,683	1.019	1	0.313	0.000		

a. Variable(s) entered on step 1: CRA, PRO, DER, SZE.

Source: Processed data

Based on the table above, the logistic regression equation is obtained as follows:

$$\text{FTD} = -7.754 + 0.163 \text{ CRA} + 32.835 \text{ PRO} - 5.717 \text{ DER} + 0.299 \text{ SZE} + e$$

Based on the table it can be explained that:

Based on this equation, the constant value shows -7.754. This value means that if there are no components of liquidity, profitability, leverage, and company size then financial distress can be predicted, assuming other factors are constant. The logistic regression coefficient equation for liquidity is 0.163 which means that if there is increased liquidity, the possibility of financial distress will increase assuming other factors are constant. The equation for the logistic regression coefficient of profitability is 32.835 which means that if profitability increases, the possibility of financial distress will increase assuming other factors are constant.

The logistic regression coefficient equation of leverage is -5.717 which means that if leverage increases, the possibility of financial distress will decrease assuming other factors are constant. The equation of the logistic regression coefficient of company size is 0.299 which means that if the size of the company increases, the possibility of financial distress will increase assuming other factors are constant.

VI. DISCUSSION

The Effect of Liquidity on Financial Distress

Liquidity is not affect financial distress in infrastructure, utility and transportation sector companies listed on the IDX for the 2018-2021 period. Based on the results of liquidity testing, it has a significance value of 0.433. Because the significance value is greater than $\alpha = 5\%$, the first hypothesis (H1) is rejected, which means that liquidity has no significant effect on financial distress. These results indicate that for companies in the infrastructure, utilities and transportation sectors, the level of liquidity does not have a significant difference between companies experiencing financial distress and those not experiencing financial distress.

Effect of Profitability on Financial Distress

Profitability affect financial distress in infrastructure, utility and transportation sector companies listed on the IDX for the 2018-2021 period. Based on the results of the profitability test it has a significance value of 0.000. Because the significance value is less than $\alpha = 5\%$, the second hypothesis (H2) is accepted, which means that profitability has a significant effect on financial distress. The results of hypothesis testing show that profitability has a significant effect on financial distress. These results are consistent with research conducted by Christine, et al (2019) which found that profitability has a significant effect on financial distress. The test results also show that profitability has a positive effect on financial distress. It means, the higher the level of profitability of a company, the higher the opportunity for financial distress to occur, so that the size of the value of return on assets will affect the size of the value of the z-score Profitability is useful for predicting company profits in the future. So that with the existing results the company can avoid the symptoms of bankruptcy, and the company can know very well that the symptoms of a company that will go bankrupt can be detected.

Effect of Leverage on Financial Distress

leverage affect financial distress in infrastructure, utility and transportation sector companies listed on the IDX for the 2018-2021 period. Based on the results of the leverage test, it has a significance value of 0.013. Because the significance value is less than $\alpha = 5\%$, the third hypothesis (H3) is accepted, which means that leverage has an effect on financial distress. These results are in line with research conducted by Rohmadini, et al (2018). Which generally, the higher the level of leverage of a company, the greater the possibility for financial distress to occur. However, the results of hypothesis testing in this study indicate that leverage has a negative effect on financial distress. The direction of this negative relationship was also found in research conducted by Kristanti, et al (2016), Pandegirot, et al (2019) and Masdupi, et al (2018), the higher the leverage level of a company, the lower the possibility of financial distress. Masdupi, et al (2018) said that the use of debt can increase company value and reduce financial distress. Furthermore, Masdupi et al (2018) also said that this negative relationship indicates that the company can manage debt well so that it can increase company profitability and avoid financial distress. Ross, et al (2013: 931) said financial distress can be used as an early warning system for a problem. Companies with higher debt levels will experience financial distress earlier than companies with low debt levels. However, Companies that experience financial distress earlier will have longer time to improve their situation and reorganize. Companies with low levels of leverage will experience financial distress later, and in many cases, are forced to liquidate.

Effect of Company Size on Financial Distress

No company size affect financial distress in infrastructure, utility and transportation sector companies listed on the IDX for the 2018-2021 period. Based on the results of testing the size of the company has a significance value of 0.256. Because the significance value is greater than $\alpha = 5\%$, the fourth hypothesis (H4) is rejected, which means that company size has no effect on financial distress. This means that large or small companies are not a guarantee that they can avoid bankruptcy problems. The results of this study are consistent with previous research conducted by Christine et al (2019), which proves that company size has no effect on financial distress.

VII. CONCLUSION

The results of this study indicate that profitability and leverage affect financial distress. Meanwhile, liquidity and firm size have no effect on financial distress.

VIII. REFERENCES

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