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# LEVERAGE AND LIQUIDITY LEVELS: THE IMPACT ON FINANCIAL DISTRESS IN VARIOUS SECTORS OF VARIOUS INDUSTRIES

# Diana Rizki Cahyani Putri<sup>1\*</sup>, Sari Andayani<sup>2</sup>

<sup>1,2</sup>Universitas Pembangunan Nasional Veteran Jawa Timur, Indonesia Email: dianarizki473@gmail.com¹ sariandayani.ak@upnjati.ac.id²

#### Abstract

This study is useful to determine the effect of leverage and liquidity on financial distress in various industrial sectors. The population used in this study is companies in various industrial sectors listed on the Indonesia Stock Exchange (IDX) during 2019 to 2022, which was obtained by 56 companies. The sample collection technique used is purposive sampling, with criteria for companies in various industrial sectors that present complete financial statements in rupiah during 2019 to 2022. So that 30 companies were obtained with 120 observational data during 2019-2022. This research applies analytical techniques in the form of multiple linear regression analysis through normality tests, classical assumption tests, and hypothesis tests. This study used the help of the Statistical Program for Social Science 25 program. The results of this study revealed leverage has a negative effect on financial distress, while liquidity has a positive effect on financial distress.

Keywords: Leverage, Liquidity, Financial Distress

## INTRODUCTION

The economy of various industrial sectors in Indonesia develops fluctuatingly every year. The Automotive & Component Subsector, Textile & Garment, Machinery and Equipment are some of the subsectors that make up the various industrial sectors. Although Indonesia has great potential in these industries, fluctuations in global demand for industrial goods and internal factors such as changes in government policies and market conditions can affect the health of the sector. Weakening demand for industrial goods could put the sector vulnerable to collapse during a recession. When the economy experiences a downturn or recession, people tend to reduce spending on non-essential goods such as vehicles, clothing, or machinery and heavy equipment. This may result in a decrease in production and sales in these subsectors, affecting the performance and economic stability of the various industrial sectors as a whole.

Conversely, if the economy is rising, then this sector will also increase following the level of the economy. As the economy improves, demand for industrial goods usually increases along with an increase in people's purchasing power and investment in infrastructure and development projects. This provides opportunities for companies in various industrial sectors to expand production, increase sales, and create new jobs. In addition, stable economic growth can also provide certainty for investors to make long-term investments in technology development and increase production capacity, which in turn can strengthen the competitiveness of Indonesian industry in the global market. Therefore, the miscellaneous industry sector is very sensitive to changing economic conditions, and its ability to survive and thrive depends on its ability to adapt to ever-changing market dynamics. The level of

economy in Indonesia is calculated using the level of Gross Domestic Product (GDP). The following GDP rate chart for 2015-2022 is presented:

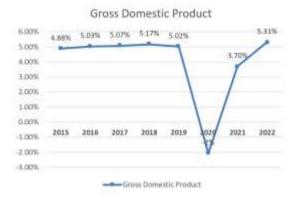


Figure 1 : Gross domestic product chart Source : BPS.go.id (2024)

Based on the chart presented, it shows that GDP tends to increase from 2015-2019. Then it experienced a sharp decline in 2020 due to the impact of the Covid19 pandemic. In 2021 and 2022, GDP was able to record a rapid increase of up to 5.31 percent (BPS, 2018). However, there are two companies in various industrial sectors that have the potential to be delisted. The phenomenon of delisting often occurs in IDX sectors every year. Delisting is the removal of an issuer from the stock exchange floor by the Indonesia Stock Exchange (IDX). In 2019 there were 6 issuers that were delisted. Furthermore, in 2020 there were 6 issuers delisted. In 2021 and 2022, there are 2 issuers that must be removed from the trading floor. IDX considers companies that do not have good business continuity, in accordance with regulations number 1-1 related to delisting and relisting shares, IDX will delist (Bahri & Widyawati, 2015). The two companies are PT. Grand Kartech Tbk. (KRAH) and PT. Steadfast Marine Tbk. (KPAL) (Damara, 2023).

Table 1: table of KRAH and KPAL financial statements for 2019-2022

Voor	KR	AH	KPAL		
Year	Liabilities	Profit	Liabilities	Profit	
2015	356,965,176	(7,624,768)	480,535,185	19,631,957	
2016	420,562,586	826,840	560,302,557	8,677,729	
2017	520,550,572	(53,758,268)	548,348,805	9,979,796	
2018	547,353,968	(66,997,053)	584,830,778	1,261,024	
2019			582,066,192	-1,303,819	

Source: Indonesia Stock Exchange (2024)

Based on table 1, during 2014-2015 KRAH experienced a loss of Rp7.6 billion, but in 2016 it increased by Rp826 million. Then during 2017-2018 KRAH again suffered losses of up to tens of billions of rupiah followed by increasing company obligations. PT. Grand Kartech Tbk. is a company that conducts engineering in the field of engineering and manufacturing which experienced a significant

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decrease in revenue during 2017-2019. And has not been able to return its operating income in 2021-2022.

While the shares of PT. Steadfast Marine Tbk. (KPAL) is also threatened with being removed from the stock exchange floor due to late submission of financial statements. KPAL has not deposited financial statements as of December 31, 2020 and has neglected to pay fines. In addition, KPAL must be faced with a lawsuit for Suspension of Debt Payment Obligations (Kontan.id, 2022). Based on table 1, KPAL also experienced a decline in profit for three years accompanied by an increase in company obligations.

In addition, according to the financial statements of 56 companies operating in the miscellaneous industry sector during 2019-2022, there are 11 companies that have not been able to return company profits or suffered losses during 2021-2022. Compared to other companies in various industrial sectors that were able to restore their business continuity after being hit by the Covid19 pandemic. In other words, the eleven companies are considered to have failed in managing their companies. Business failure may occur at any time and can be caused by several factors including not being able to compete with other companies. Companies that fail to maintain competitiveness are vulnerable to losses and result in financial distress.

Decreased competitiveness can be caused by a variety of factors, ranging from a lack of product or service innovation to an inability to adapt to market or technological changes. When companies are no longer able to meet market demand or consumer needs in an effective way, their revenues can erode, putting pressure on their cash flow and ability to meet their financial obligations. In addition, internal problems such as inefficient management or lack of proper business strategy can also be factors that contribute to a company's failure to maintain competitiveness and prevent it from falling into a financial crisis.

The company was reported to be in a state of financial distress when facing financial problems before filing for bankruptcy (Harahap et al., 2022). When a company experiences financial difficulties or liquidates before being declared bankrupt, the company will be suspected of experiencing financial distress. Usually, financial difficulties start from the company being unable to pay short-term debts. These difficulties are temporary, but can develop if the company is unable to overcome these difficulties. Financial issues within a company can be influenced by a variety of internal and external variables, including the company's financial health, management, as indicated by corporate governance, and macroeconomic conditions (Dewi et al., 2022). Companies that experience financial problems will affect Stakehorder (Hidayat et al., 2021).

The theory used is the signalling theory or signal theory imposed by Spence in 1973. By giving signals, informants will provide useful information to the recipient of information (Spence, 1973). Signal theory is a company signal to the recipient that is useful in the form of pieces of relevant information (Andari et al., 2023). Signal theory describes how company stakeholders get positive or

negative signals from the company in the form of details of the current state of the business. A company's financial statements can be used as a medium in providing signals to investors in the form of pictures and information of the company's condition is experiencing financial distress or not for the survival of the company. Where when making investment choices, investors need the information appropriately and relevantly.

Analysis of financial statements using several financial ratios can allow identifying the financial condition of companies that are under pressure. Meanwhile, management and business owners can obtain information related to finance and company progress through this analysis. According to Kasmir (2017), financial ratios are defined as the process of comparing numbers on financial statements by dividing or multiplying from each other. Many companies use financial ratios to analyze financial statements (Fitri & Dillak, 2020). With financial analysis, management and company owners can obtain information related to financial conditions for the progress of the company. The ratios used are the leverage ratio and liquidity ratio.

The leverage ratio focuses on how much loan is obtained to finance a company's investment (Dewi et al., 2022). Debt to Asset is a metric used in calculating the leverage ratio (DAR). Most financial distress conditions are caused by company debt and the possibility of the debt can be repaid with company assets (Mahaningrum & Merkusiwati, 2020).

According to signal theory, management will send good or bad signals about the high or low amount of debt to investors. To keep the company out of financial trouble, it requires the use of low debt. On the other hand, there is a high possibility of financial distress if the amount of debt financing assets is large enough. According to research by Dewi et al. (2022), financial hardship situations are affected by leverage ratios. The research is consistent with research from (Fitri & Dillak, 2020; Nasution, 2019; Safitri & Yuliana, 2021).

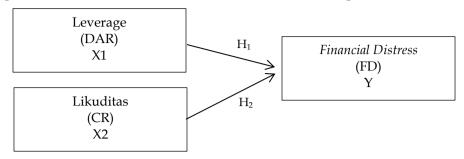
## **H**<sub>1</sub>: Leverage affects financial distress

Liquidity ratio is a ratio in assessing the company's capacity to pay its debts when the company matures The company can be declared liquid if the company is able to complete debt payments on time at maturity (Mahaningrum & Merkusiwati, 2020). When evaluating a company's performance, especially related to luculity, investors must consider its long-term financial health (Hamdiyah, 2020). The current flow ratio is one measure used to evaluate how smoothly a business meets its short-term obligations. If the CR value is more than 200%, it is considered profitable (Octavia et al., 2021).

According to signalling theory, the higher the liquidity value makes the business able to move away from financial distress conditions. The signal indicates that the company is in good health and a suitable place for investors to invest. In research, Nasution (2019) explained that there is an influence between liquidity and financial distress. This study is in accordance with previous research by Octavia et al. (2021) which proves that liquidity has financial distress.

# H<sub>2</sub>: Liquidity affects financial distress

From the explanation that has been described, the research model compiled is as follows:



**Figure 2 Framework** Source : Researcher (2024)

## **METHOD**

This study applies quantitative methodology to conduct statistical analysis and examination of numerical data. This research examines companies in various industrial sectors that are publicly traded on the Indonesia Stock Exchange (IDX) from 2019 to 2022. Sample selection is done through applying purposive sampling techniques, namely through considering companies operating in diverse industrial sectors and providing extensive information. financial statements. Rupiah is the name of the currency. In aggregate, 120 data points were obtained as research samples. The information is obtained from the IDX website in the form of secondary data.

Table 2 : Sample Criteria

No	Criteria	Not Accepted	Accepted	
1	Companies from various industrial sectors listed on the IDX during the period 2019 to 2022.	0	56	
2	Companies in various industrial sectors that present complete financial statements in rupiah during 2019-2022.	18	38	
3	3 Data Outliers 18			
Total observation data (20 x 4 Years)				

Source: Researcher (2024)

Financial distress was the dependent variable of this study. The Altman Z-Score model is used as a measurement of financial distress. There are five ratios used to distinguish between stable and unstable financial conditions in companies (Moch et al., 2019). The Altman Z-Score model formula is (Altman, 1968):

Z Score is calculated by multiplying the values  $X_1$ ,  $X_2$ ,  $X_3$ ,  $X_4$ , and  $X_5$  by their respective coefficients and summing them up.

 $X_1$  = ratio of working capital to assets.

 $X_2$  = ratio of retained earnings to assets.

 $X_3$  = ratio of Profit Before Interest and Tax to Total Assets.

 $X_4$  = equity to debt ratio, while

 $X_5$  = ratio of sales to assets.

Companies with a Z value below 1.1 are categorized in financial distress, companies with a Z value between 1.1 to 2.6 are categorized in the gray category, and companies are categorized as healthy if the Z value is above 2.6.

By utilizing the Debt to Asset Ratio (DAR), one can determine the extent to which a business uses leverage. It is determined by dividing the total debt of a company by its total assets. Which is measured by the Debt Asset Ratio (DAR), which is the proportion of a business's assets from debt funds. The DAR formula is expressed as follows:

$$DAR = \frac{Net\ Income}{Accept}$$
 (1)

When total debt exceeds total assets, it indicates that the company is charging too high a debt on assets which can result in a high DAR value. This condition allows the company to be threatened by financial distress.

The metric used in assessing liquidity is the Current Ratio (CR). The CR formula is as follows:

$$CR = \frac{Current \ Asset}{Current \ Liabilities} \tag{2}$$

Total current assets that are less than total current debt result in a lower CR value. This resulted in the company experiencing financial distress.

**Table 3: Operational Research Variables** 

No	Variable	Measurement	Scale
1	DAR (X1)	Measured by dividing net income by total assets $DAR = \frac{Net\ Income}{Total\ Asset}$	Ratio
2	CR (X2)	Measured by dividing current assets by current liabilities $CR = \frac{\text{Current Asset}}{\text{Current Liabilitie}}$	Ratio
3	FD (Y)	Measured by altman Z-Score model $Z = 1.21(X1) + 1.4(X2) + 3.3(X3) + 0.66(X4) + 0.999(X5)$	Ratio

Source: Researcher (2024)

Data analysis techniques play a crucial role in parsing information from collected data sets. The first analysis involves descriptive statistical analysis that helps in establishing an initial understanding of the characteristics of such data. Furthermore, the data normality test is used in assessing whether the distribution of data follows a normal pattern. After that, a classical assumption test is performed to check whether there are possible problems with the data, such as autocorrelation, multicollinearity, and heteroscedasticity. In addition, the analysis was carried out by involving multiple linear regression, where the relationship between the independent variable and the dependent variable was assessed through a series of tests that included the f test, t test, and determination coefficient test. The integration of these steps helps researchers in exploring and explaining the relationships between the variables involved in the study more comprehensively. Here is the formula for multiple linear regression:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + e$$
 .....(3)

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#### Information:

Y : Financial Distress

 $\alpha$ : Constant

β : Regression CoefficientX : Leverage / Likuiditas

e : error

## RESULT AND DISCUSSION

Companies in various industrial sectors are companies in the field of engineering and production that design equipment and machinery for various industrial sectors. 30 companies sampled the study over a four-year period, resulting in a total of 120 observations. In data processing using SPSS, there are data outliers that arise due to abnormalities in data distribution. The emergence of such outlier data shows significant variation in the observed data, thus requiring special attention in statistical analysis.

The outlier data found in this study indicates that diversity and possible extreme variations in the performance of companies in various industries are observed. Outlier data processing is important to ensure accurate and reliable analysis results. By identifying and addressing data outliers, research is able to provide deeper insights into the characteristics and trends that exist in the industry. It is important to take the right decisions in managing the company and develop effective strategies in facing market dynamics and industry competition that continues to develop.

Descriptive statistical analysis is useful for analyzing and defining data in the form of averages of each variable, standard deviation, minimum and maximum values (Sugiyono, 2019). This analysis can investigate and understand the distribution of data in more detail. One important aspect of descriptive statistical analysis is that it provides a clear picture of the data center through the calculation of the average of each observed variable. In addition, the degree of variability can be determined in the dataset by calculating the standard deviation to evaluate how much the data deviates from the mean. The minimum and maximum values indicate the lowest and upper bounds of the range of observed values.

**Table 4: Descriptive Statistics Table** 

**Descriptive Statistics** 

Descriptive Statistics							
	N	Minimum	Maximum	Mean	Std. Deviation		
DAR	120	.100	1.537	.46244	.221394		
CR	120	.215	11.762	2.19314	1.801956		
Financial Distress	120	-4.825	8.291	2.42461	1.888763		
Valid N (listwise)	120						

Source: Researcher (2024)

Based on table 3, there are 120 observational data from four-year financial statements belonging to 30 companies in various industrial sectors. Financial distress (Y) had an average of 2.42 and a data deviation of 1.89. In other words, companies in the miscellaneous industrial sector are in the grey zone because they are between 1.1 and 2.6. Meanwhile, deviations from financial distress data are evenly

distributed because the average value is more than the standard deviation value. Financial distress has a minimum value of -4.82 and a maximum value of 8.29. The average variable leverage is 0.46 and the data deviation value is 0.22. Data deviations can be spread evenly because the value of data deviation is less than the average value. While leverage has a minimum value of 0.10 and a maximum value of 1.53. The Liquidity variable has a minimum value of 0.21 and a maximum value of 11.76 through an average of 2.19 and a standard deviation value of 2.80. The distribution of liquidity data is uneven because the average value is less than the standard deviation value.

Then classical assumption tests are carried out such as normality tests, autocorrelation tests, multicollinearity tests, and heteroscedasticity tests to observe problems in the research data. Based on the normality test, a sig value of 0.200 and > 0.05 was produced. This shows normally distributed observational data. The autocorrelation test yields a dw value of 2.548 with a du value of 1.718. Then it means free from autocorrelation problems. The multicollinearity test yields tolerance values greater than 0.10 for both variables and VIF values less than 10. The heteroscedasticity test yielded significant values greater than 0.05. It can be interpreted that observational data are free from symptoms of multicollinearity and heteroscedasticity.

**Table 5 : Multiple Linear Regression Analysis** 

		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Discussion result	
Model		В	Std. Error	Beta				
1	(Constant)	.052	.072		.721	.472		
	DAR	-6.027	.340	774	-17.745	.000	H <sub>1</sub> accepted	
	CR .252 .048 .230 5.273 .000 H <sub>2</sub> accepted							
a.	a. Dependent Variable: Financial Distress							

Source: Researcher (2024)

Based on the data from table 4, the equation for multiple linear regression can be written, namely:

$$Y = 0.052 - 6.027X_1 + 0.252X_2 + e$$

A constant value of 0.052 indicates that when the independent variable is zero, the financial distress score is 0.052. The value of the regression coefficient X1 or leverage is -6.027, in other words if the DAR value increases by 1, then the value of financial distress can decrease by 6.027. The value of the liquidity regression coefficient is 0.252, so if the value of the liquidity variable increases by 1, then the value of financial distress can increase by 0.252.

T Test

Table 6: T Test

		Unstanda	rdized Coefficients	Standardized Coefficients	t	Sig.
Model		В	Std. Error	Beta		
1	(Constant)	.052	.072		.721	.472
	DAR	-6.027	.340	774	-17.745	.000
	CR	.252	.048	.230	5.273	.000

Source: Researcher (2024)

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From table 6, the results of the statistical test t show that leverage has a coefficient value of -6.027 with a significance value of 0.000. This indicates that H1 says that leverage affects financial distress. The liquidity variable shows a coefficient value of 0.252 with a significance value of 0.000. So it can be concluded that H2 is accepted because liquidity variables affect financial distress.

#### F Test

Table 7: F Test

### **ANOVA**<sup>a</sup>

Model		Sum of Squares	df	Mean Square	F	Sig.	
1	Regression	386.819	2	193.409	310.376	.000 <sup>b</sup>	
	Residual	72.285	116	.623			
	Total	459.104	118				
a. Dependent Variable: Financial distress							
b. Predictors: (Constant), DAR, CR							

Source: Researcher (2024)

From the results of the F test produces a significant value of 0.000 which is less than 0.05. So it can be concluded that there is a match between the two independent variables, namely leverage, and liquidity with the dependent variable (financial distress).

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

**Table 8 : Test Coefficient of Determination** 

**Model Summary** 

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate		
1	.918a	.843	.840	.78940		
a. Predictors: (Constant), DAR, CR						

Source: Researcher (2024)

The Adjust R2 value shows a result of 0.840. This means that leverage and liquidity can affect financial distress by 84%, the remaining 12% can be influenced by other variables outside the study.

## **Effects of Leverage on Financial Distress**

The first finding of the study shows that leverage has a negative impact on financial distress. This is indicated by the significant value of variable leverage is 0.000 with a negative coefficient value of -6.03. It can be explained, the high and low value of DAR affects the possibility of financial distress. In signal theory, the presence of a low DAR value can provide a positive signal for decision makers. Conversely, a high DAR value indicates that the company's debt is high and can increase the risk of default. Poor debt management can lead to the possibility of financial distress. The findings of this study align with previous studies (Christine et al., 2019; Dewi et al., 2022; Fitri & Dillak, 2020; Nasution, 2019; Safitri & Yuliana, 2021) leverage affects financial distress. However, this is contrary to the findings of Finishtya (2019), which shows that leverage has no impact on financial distress.

## **Effects of Leverage on Financial Distress**

The second hypothesis test yields a positive effect of liquidity on financial distress. The significant value of the liquidity variable is 0.000 and the positive coefficient is 0.25. This means that the likelihood of financial distress decreases with increasing CR value. According to signal theory, a high CR value means a positive signal for the company because it can pay debts and is far from the risk of default. The findings of this study are in line with previous research from (Dewi et al., 2022; Fitri & Dillak, 2020; Nasution, 2019; Octavia et al., 2021) which describes the relationship between liquidity and financial distress. And contrary to Finishtya (2019) research which states the absence of the effect of liquidity with financial distress.

## **CONCLUSION**

The concept of leverage significantly impacts financial distress. This is projected with a high Debt to Asset Ratio (DAR) which has the potential to bring the company into financial difficulties. In addition, liquidity has a positive influence on financial distress. This indicates that the higher the Current Ratio (CR) value, the lower the possibility of financial difficulties.

Based on the results of the study, there are limitations to the study, namely found several companies in various industries that do not present complete financial statements. While the suggestions made in this study, as follows: For the next researcher, it is expected to be able to use a wider sector as a research population, and can use several other measurement models in predicting the possibility of financial distress, for company management is expected to pay more attention to the value of DAR and CR, because these variables are very important in predicting the occurrence of financial distress. For investors, it is expected to analyze more thoroughly in deciding to invest by evaluating the company is threatened by financial distress or not.

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