

## THE EFFECT OF FINANCIAL RATIO ON FINANCIAL DISTRESS ON TRANSPORTATION COMPANIES LISTED ON THE IDX PERIOD 2016 – 2020

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**Abstract:** *Identification of financial trouble conditions is important because a company will experience financial trouble conditions first before experiencing bankruptcy or liquidation. This study's independent variables were liquidity ratio, leverage ratio, profitability ratio, activity ratio, and growth ratio. Financial distress is a dependent variable in this study. This research purposed to find out the variable influence of liquid asset ratio, leverage ratio, activity ratio, profitability ratio and growth ratio on financial trouble predictions in transportation companies reported on the Indonesia Stock Exchange (IDX) in 2016-2020. In this study, the hypothesis was obtained that there was a simultaneous and partial impact of financial ratios on financial distress by taking 11 companies reported on IDX as the population with survey sampling sample method uses an explanatory method of a company that constantly published financial and annual reports for the five periods 2016 - 2020. This data analysis uses multiple linear regression methods using SPSS 25. The outcome of the fluctuation survey, overall calculation of financial ratio, significantly impacts the prediction of financial trouble. Based on the research results, the liquidity ratio, activity ratio, and growth ratio have a significant effect on financial distress. On the other hand, the ratio of leverage and profitability does not significantly impact financial difficulties.*

**Keywords:** Financial Distress, Liquidity Ratio, Leverage Ratio, Profitability Ratio, Activity Ratio, Sales Growth

### 1. Introduction

As a tool, transportation is the movement of people (passengers) and goods from one place to another. However, that is not all. Transportation now has an essential and strategic role in developing a country's national economy, where there is a positive correlation with economic activities, namely the distribution of goods and in realizing social and cultural in society. For the success of the transportation sector, several influencing indicators, such as capacity, service quality, accessibility, affordability, public burden, and utilization. In the socio-economic aspect, transportation is vital in facilitating distribution, land transportation, water transportation, railways, air transport or aviation.

Indonesia is the 4th country in the world with the most populated with a total population of 273 million people and is the most beautiful country in the world and has tourism potential in each region. Coupled with Indonesian social culture during Ramadan, Christmas, and Chinese New Year holidays, it can make all stations, terminals and even airports filled with passengers. Ticket sales can run out in an instant. Recently, the President of Indonesia, Joko Widodo, decided to move the nation's capital from Jakarta to the archipelago in Kalimantan.

From this, many investors are trying to invest in the transportation sector, which is expected to improve the country's economy after the pandemic.

COVID-19, which spread throughout Indonesia and even the world, caused a decline in the economy and various other sectors. Especially the transportation sector, which plays a vital role in the distribution of both exports and imports. Furthermore, because all tourist places are closed, and the mobility of people is limited, many transportation companies are getting worse and even going bankrupt. Some companies must take pay cuts, layoffs, and so on to stay afloat in difficult financial situations.

The Covid19 epidemic has had an economic impact on several industries in Indonesia and other nations worldwide, including the health industry, trade, tourism, and others. This condition requires the government to make regulations limiting people's mobility and requires some companies to hire them from home (work from home), which causes the company's operational activities to be disrupted and affects the condition and performance of the company.

During the first quarter of the COVID-19 pandemic, more than 460,000 companies in China, including 26,000 in the export sector, were forced to closed altogether. According to Tianyancha, a public records database, 3.2 million firms were established from January to March, a 29 percent decrease year on year, showing conventional economic and retail dominance. The outbreak of this pandemic will disrupt the entire world economy, including Indonesia, the world's second largest economic center. During this, the Covid19 epidemic has had an economic impact on several industries in Indonesia and even other nations worldwide, including the health industry, trade, tourism, and others. This condition requires the government to make regulations limiting people's mobility and requires some companies to hire them from home (work from home), which causes the company's operational activities to be disrupted and affects the condition and performance of the company.

According to the Central Statistics Agency (2020), the impact of the Covid19 pandemic resulted in 82.45% of companies experiencing a decrease in revenue, and only 58.95% of companies could operate normally. It is reinforced by BPS data that released a statement on February 5, 2021, that the Indonesian economy in 2020 fell by 2.07 percent. Crisis conditions make it difficult for the company to maintain its business continuity, leading to bankruptcy (Amir & Sudiyatno, 2017). According to estimates, the virus lowered global economic growth in 2020 to an annualized rate of roughly -3.2 percent, with a 5.9 percent rebound expected in 2021. Global commerce is expected to dip by 5.3 percent in 2020 but increase by 8.0 percent in 2021. While manufacturing firms encountered supply chain disruptions, diminished consumer activity because of social distance impacted the economy's services sector, accounting for two-thirds of annual U.S economic production. The World Bank also presented a downside and an upside scenario in which government lockdown policies were to be in place for a longer or shorter time, respectively. The worst-case scenario forecast an 8% drop in global economic growth in 2020 since lockdown procedures are expected to extend another three months, followed by a sluggish recovery. Difficulties are especially felt in transportation services, where the government has established PSBB and PPKM for almost three years to prevent the spread of Covid-19, which has caused transportation companies listed on the IDX

to experience a drastic decrease in revenue. The Indonesian Kadin stated the same for Transportation, Carmelita (2020), where decreased turnover in freight transportation reached 25 percent to 50 percent. Passenger transportation in all modalities ranges from 75 percent to 100 percent. Even the slump in tourism freight turnover has reached 100 percent. The decrease in frequency was also felt in air transportation modes that suppressed airline operators' revenues by 20 percent to 50 percent due to the closure of routes from China, Saudi Arabia, and South Korea.

In addition, the impact of pandemic affects financial conditions in sea transportation modes as of March, which experienced negative cash flow with a 15 percent decrease in performance predicted to decrease further over the next few months due to decreased distribution. The impact of the pandemic also caused some companies to go bankrupt. According to the Chairman of Passenger Transportation, Organda Kurnia Lesani Adnan stated that 8-10 Autobus Companies (PO) are insolvent because they cannot finance due to the government ban. This results in the absence of revenue earned so that the company cannot operate. With this phenomenon, indications of financial distress in the company will be greater than the situation before the Covid-19 pandemic. If a company faces financial difficulty, it will report a negative net income for the second consecutive year (Carolina et al., 2018). It is generally due to high fixed costs, large levels of illiquid assets, or income sensitive to economic downturns. These indications can be concluded by researching financial statements.

It is how companies in the United States feel. In a Bloomberg article that 340 companies in various sectors, including retail, airline, restaurant, and mall owners, went bankrupt. SteinMart, one of the retailers, filed for bankruptcy on August 12, 2020, as the COVID19 epidemic increased and the company's profits deteriorated significantly. In the same article, many shipping companies have suffered losses and gone bankrupt due to this pandemic. According to court documents, ABA Transportation, a school shuttle service transport company, is currently out of service and permanently suspends 900 employees as cash flow declines. High corporate bonds reach an estimated \$ 10 to \$ 50 million. We promise local governments that students will be able to attend school online from their own homes. Aside from ABA Transportation, other bankrupt bus companies included Baumann Bus Company, Baumann and Sons Buses, ACME Bus Corp and Dan Brookset Bus Corp. Navn Air experienced the same fate. Navn Air is the largest airline in Texas. As a result of government regulations that prohibit flights and restrict local movement, the company's sales have dropped by up to 90 percent. In April 2020, Navn Air was declared bankrupt, with the company's assets being confiscated by the local government and requiring the company to sell all the company's assets and aircraft to other airlines. On September 7, 2020, monorail company The Las Vegas Monorail filed for bankruptcy due to this pandemic. Seven train stops had to stop operating, resulting in almost all employees being laid off. Even after cutting costs and remaining employees' salaries, the company is still in a financial crisis.

Financial ratio is a study that compares amounts contained in financial statements using formulas considered representative to apply (Irham Fahmi, 2017). The purpose of financial ratio analysis is to obtain financial ratios to provide information about future events and can be

used in financial distress models or to predict bankruptcy (Sayari & Mugan, 2017). The comprehensive goal of this study is for companies to use financial indicators to identify early signs of bankruptcy and to use multiple financial bankruptcy indicators to list IDX during the 2016 – 2020 survey period. It is to provide empirical evidence to enable a factual investigation of the condition of this sector. Indicators for helping companies in the transportation services industry identify the root cause and avoid bankruptcy. We hope this research can be helpful for the company in improving its operational performance by analyzing every factor of bankruptcy with the help of financial performance that is expected to overcome and prevent the company from bankruptcy.

## 2. Review of Literature

### 2.1 *Thinking Framework of Research Hypothesis*

#### 2.1.1 *Effect of Liquidity on Financial Distress*

This ratio measures a liability or a company's capability to repay its debt on time. The greater level of liquidity, the less likely it is that a financial emergency will occur. According to Ratna (2018), financial distress is a state characterized by a year-over-year decline in financial performance that leads to bankruptcy or insolvency. Meanwhile, according to Sudaryanti & Dinar (2019), financial distress is a condition of a company that can not meet financial obligations as previously set. The liquidity ratio illustrates how a company can pay off its current debt, which consists of several calculation models. One of them is the Current Asset Ratio, where if the current ratio shows a 1:1 or 100% ratio, it can be stated that current assets can pay off short-term obligations (Irham Fahmi, 2017:121; Kasmir, 2018: 131). The results of previous research showed that liquidity ratios affect financial distress conditions (Triwahyuningtias, 2012; Murni, 2018; Taufik Hidayat, 2020).

#### 2.1.2 *Effect Leverage on Financial Distress*

This is a ratio that measures the use of debt in the assets and capital of a company. This study uses one of the calculations, Leverage Ratio, namely DER (Debt-to-Equity Ratio), by dividing total debt obligations by equity. The smaller this ratio, the better the company's finances (Kasmir, 2018: 134; Arief & Edi, 2016:57; Harahap, 2016:303). High debt will be charged a high interest fee and indicate the occurrence of financial distress. Previous studies demonstrated that this ratio impacts financial trouble conditions (Triwahyuningtias, 2012; Murni, 2018; Taufik Hidayat, 2020).

#### 2.1.3 *Effect of Profitability on Financial Distress*

The profitability ratio illustrates the company's capacity to manage finances to increase revenue. Return on Assets (ROA), Return on Equity (ROE), Operational Gross Profit Margin, Profit Margin and Net Profit Margin is all approaches to the profitability ratio. ROA is used in this study to calculate the rate of return on assets held (Munawir, 2014: 33; Kasmir, 2018:197). It is a parameter that assesses a company's capacity to grow its earnings. The likelihood of

financial trouble is minimal when a company's profitability is higher, and its assets are used more effectively to create profits (Hanifah, 2013). Previous research by (Orina Andre & Salma Taqwa, 2014; Hidayat, 2020) shows that profitability affects the financial distress condition of the company.

#### 2.1.4 Effect of Activity on Financial Distress

Activity is a ratio that represents overall asset turnover as determined by sales volume. A decrease in the company's profit is caused by no increase in sales and the high likelihood of financial distress because it cannot meet its obligations. According to Kasmir (2018:172) and Harahap (2015:308), the activity ratio is a ratio that measures the efficiency of a company's operations in employing its assets. Inventory turnover ratio, receivables turnover ratio, fixed assets turnover ratio, and total assets turnover ratio are all components of the activity ratio. Previous research found that ratio activity affects financial distress (Paradibta, 2010; Noviandri, 2014).

#### 2.1.5 Effect of Growth on Financial Distress

The growth ratio measures a company's capacity to boost its growth yearly. Considering revenue growth, net income growth, profit growth per share, and dividend growth per share. Kasmir (2018:107). In this study, using sales growth (SG) to measure the high growth of sales and profits generated will affect the company's financial condition and cash flow (Muflihah, 2017). A corporation that is believed to carry out its marketing and product sales plan successfully would improve sales growth in the company. So higher sales growth tends to adjust the potential of financial trouble compared to companies with low sales. Previous research showed that the growth ratio affects financial distress (Rahayu & Sopian, 2017; Utami, 2015).

### 3. Research Methodology

The study is a descriptive study conducted to investigate the correlation between one variable and another or how one variable affects another. The data contained in this survey is secondary data. The data used are financial statements of 11 transport companies listed on the IDX period 2016-2020. This analysis tests the probability of bound variables that can be predicted using free variables. However, the levels are the classical hypothesis test, F test, t-test, multiple linear regression, and coefficient of determination test. The data collection method used in this test is documentation. The statistical test tool for this study used SPSS 25.

### 4. Result and Discussions

#### 4.1 Descriptive Analysis

**Table 1:** Descriptive Statistics

	N	Minimum	Maximum	Mean	Std.Deviation
CR	55	0.03	4.08	0.6988	0.74548

DER		55	-7.94	82.38	2.0334	11.56320
ROA		55	- 1.19	2.19	-0.0580	0.37837
TOTA		55	0.00	3.38	0.7546	0.74881
SG		55	-1.00	1.23	-0.1072	0.37379
FD		55	-22.74	7.91	-2.8961	6.70347
Valid (listwise)	N	55				

(Source: Output Result of IBM SPSS Statistics 25)

The result of the descriptive analysis is interpreted as follows:

- CR has the lowest value of 0.03. The value is possessed by PT. Air Asia Indonesia Tbk 2020 period due to increased current debt due to increased bank debt and third-party debt and decreased current assets due to reduced cash and cash equivalents, third party receivables and miscellaneous receivables. Whereas the highest value of 4.08 is possessed by PT. Express Transindo Tbk 2016 period. The increase in the value of assets causes by increasing in cash and cash equivalents compared to current debt due to the small tax debt and third parties who have special relationships. The average cr value in transportation companies in the IDX for 2016-2020 amounted to 0.6988 or 69.88%. It shows that the companies' capability to pay overall current debt bonds is quite good. The standard deviation of 0.74548 is greater than the mean percentage. It indicates that the data varies significantly. The standard deviation of 0.74548 is greater than the mean percentage. It indicates the data varies significantly.
- DER has the lowest value of -7.94, which is possessed by PT. Steady Safe Tbk 2019 period, due to the company's low total liabilities due to the small tax debt and other debts, has significant capital due to added retained earnings the previous year. While PT. Air Asia Indonesia Tbk owned the maximum value of 82.38 in 2017 due to the large liabilities of the company due to increased bank debt, third-party debt, accrued costs, medium-term loans and long-term financing lease debt. The average DER value in transportation companies in IDX for 2016-2020 amounted to 2.0334 or 203.34%. These results show that these companies can ensure the company's capital to pay its debts on time. The data fluctuates widely, as seen by the standard deviation exceeding the mean figure of 11,56320.
- ROA has the lowest value of -1.19. The value is possessed by PT. Zebra Nusantara 2016 period, due to low net income due to high general and administrative expenses and interest expense, but the value of assets is getting more significant due to increased cash and cash equivalents, business receivables and fixed assets after deducting depreciation. Whereas the highest value of 2.19 is possessed by PT. Steady Safe Tbk 2016 period is due to an increase in net sales that affected a more significant increase in net income with an increase in total assets due to increased cash and cash equivalents, receivables, supplies and the small amount of taxes paid upfront. The average percentage of ROA in transportation companies in the IDX in 2016-2020 amounted to -0.0580 or -5.8%. It signifies the company's capability to earn net income by the total number of assets on hand in the company is very low. The

data varies greatly and can be shown from the standard deviation value of 0.37837, which is more significant than the mean percentage.

- TOTA has a very lowest value of 0.00, which is held by PT. Steady Safe 2017 period, due to the ineffective use of fixed assets in producing sales. While PT. Zebra Nusantara Tbk owned the highest value of 3.38 in 2018. It is due to the most effective utilization of fixed assets to produce sales. The average TOTA in transportation businesses in the IDX for 2016-2020 was 0.7546 or 75.46 percent, demonstrating the company's capacity to produce revenues from total assets. The data is less variable and can be shown that a standard deviation of 0.74881 is less than or equal to the mean value.
- SG has a minimum value of -1.00, which is owned by PT. Steady Safe in 2017 since net income did not grow from the previous year, but operational costs grew. While PT. Steady Safe Tbk had the most significant value of 1.23 in 2019, this is owing to growth in net income from the previous year, interest income, and investment outcomes also obtained high income. The average value of SG in transportation businesses on the IDX from 2016 to 2020 was -0.1072 or -10.72 percent, indicating that the company's capacity to sustain its economic position year after year is relatively poor. The data varies greatly and can be seen from the standard deviation is 0.37379, which is more than the mean percentage.
- FD has a minimum value of -22.74. The value is owned by PT. Steady Safe in 2016 is due to the large debt and losses resulting in cash flow difficulties where income is not enough to cover business expenses incurred on the company's operating activities. Whereas the maximum value of 7.91 is possessed by PT. Blue Bird Tbk 2017 is due to good cash flow where revenue reaches the target to finance operational expenses and benefits. The average value of SG in transportation companies in the 2016-2020 period of -2.8961. It signifies that the company's capability to generate revenue or profit is so low that it cannot pay its financial obligations and will be bankrupted. The data varies significantly. It can be seen that the standard deviation of 6.70347 is greater than the mean percentage.

#### 4.2 Multiple Linear Regression Analysis

**Table 2:** Multiple Linear Regression Analysis Result

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std.Error	Beta		
1	(Constant)	-2.936	1.293		-2.271	0.028
	CR	4.498	0.880	0.500	5.109	0.000
	DER	0.087	0.056	0.150	1.560	0.125
	ROA	-1.287	1.700	-0.073	-0.757	0.452
	TOTA	-3.256	0.959	-0.364	-3.395	0.001
	SG	8.383	1.873	0.467	4.477	0.000
a. Dependent Variable: FD						

(Source: Output Result on IBM SPSS Statistics 25)

Regression results in table above, the double straight regression models are following:  
 $Y = -2,936 + 4,498 X_1 + 0,087 X_2 - 1,287 X_3 - 3,256 X_4 + 8,383 X_5 + e$

- The constant value is 2,936. It means that financial distress is worth 2,936, assuming the values of CR, DER, ROA, TOTA, and SG are exactly zero.
- The CR regression factor is 4.498. It means that for every 1% increase in CR, the financial burden increases by 4.498.
- The regression coefficient rate for the DER variable is 0.087. It means that for every 1% increase in DER, the financial distress increases by 0.087.
- The regression coefficient value for the ROA variable is 1,287. It means that for every 1% increase in ROA, the financial burden is reduced by 1,287%.
- TOTA variable has a regression coefficient value -3,256, meaning every TOTA increase of 1 percent, then financial distress will decrease by 3,256 percent.
- Variable SG has a regression coefficient value of 8,383, meaning that with every increase in SG by 1 percent, financial distress will rise by 8,383 percent.

Based on the data from Table 2, it can be concluded that the hypothesis is as follows:

### **1. Hypothesis 1: Effect of Current Ratio to Financial Distress**

First hypothesis states that this ratio effect financial distress. T-test on the table above, p-value current ratio is  $0.000 < 0.05$ ,  $H_0$  is rejected.  $H_a$  is accepted. It concluded to be that the current ratio has a significant effect on financial distress.

### **2. Hypothesis 2: The Effect of Debt Equity Ratio on Financial Distress**

Second hypothesis states that the debt equity ratio (DER) affects financial distress. From the t-test result on the table above, p-value debt to equity ratio (DER) is  $0.125 > 0.05$ .  $H_0$  is accepted.  $H_a$  was rejected and concluded DER had nothing to do with financial distress.

### **3. Hypothesis 3: Effect of Return on Assets to Financial Distress**

Third hypothesis states that ROA effect to financial distress. T-test on the table above, p-value return on assets (ROA) is  $0.452 > 0.05$ , then  $H_0$  is accepted,  $H_a$  is rejected, conclude that return on assets (ROA) affects financial distress.

### **4. Hypothesis 4: The Effect of Total Assets Turnover on Financial Distress**

Inventory turnover effect financial distress. T-test on the table above, p-value of total assets turnover is  $0.001 < 0.05$ .  $H_0$  is rejected.  $H_a$  is accepted. It concluded that total assets turnover affects financial distress.

### **5. Hypothesis 5: Effect of Sales Growth on Financial Distress**

Fifth hypothesis states that sales growth effect to financial distress. From the t-test result on the



table above, the p-value of inventory turnover is 0.000 <0.05. It concluded that it affects financial distress.

#### 4.6 Coefficient of Determination

**Table 3:** Coefficient of Determination Results

<b>Model Summary</b>				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.743 <sup>a</sup>	0.553	0.507	4.70710
a. Predictors: (Constant), SG, CR, ROA, DER, TOTA				
b. Dependent Variable: FD				

(Source: Output Result of IBM SPSS Statistics 25)

The value shows R = 0.553, indicating that the correlation between the dependent variables, CR, DER, ROA, TOTA, and SG, has a moderate relationship with financial distress. I am. The value of R<sup>2</sup>, the coefficient of determination, is 0.507, which can be explained by CR, DER, ROA, TOTA, and SG, with 50.7% of the fluctuations experienced in financial distress, and the remaining 49.3% is determined by other factors not determined in this study.

#### 4.7 Discussion

##### 1. Analysis of the Effect of Current Ratio on Financial Distress

The liquidity ratio projected by CR has a positive and significant impact on financial distress. It shows the company's ability to repay ongoing debt with current assets owned is a liquidity assessment, higher liquidity value, lower level of financial distress and vice versa.

##### 2. Analysis of the Effect of Debt Equity Ratio on Financial Distress

The leverage ratio projected by DER does not affect financial distress. It shows that companies with low leverage are not at risk of financial distress. Therefore, companies can use their assets properly without risk with low leverage and short corporate bonds.

##### 3. Analysis of the Effect of Debt to Return on Assets on Financial Distress

Profitability ratios projected by ROA do not affect financial distress. It is not only because the company's capability to generate profits over a period is related to its sales and investment but also because it leads the investment. Even if the profitability score is high, the company suffers financially. It shows that it will not fall. If the profitability of a company is low, the company is at high risk of financial distress.

##### 4. Analysis of the Effect of Total Assets Turnover on Financial Distress

The activity ratio projected by TOTA significantly negatively impacts financial distress. It shows that the higher the activity rate, the less likely a company will face financial distress. A company's performance is good, and vice versa, with a lower activity value than the company's

performance. It is estimated. It is less effective at managing assets to generate profits, resulting in losses and negative cash flow, which can lead to financial distress for the company if it occurs continuously.

## 5. Analysis of the Effect of Sales Growth on Financial Distress

The growth ratio projected by TOTA significantly negatively impacts financial distress. It shows that the growth rate of the company is high. It shows that a company can carry out its activities successfully and, conversely, not suffer financial distress. As the company grows, it will experience financial distress.

## 5. Conclusion and Suggestions

### 5.1 Conclusion

From the above data analysis results, it can be concluded that the Liquidity Ratio, Activity Ratio and Growth Ratio are affecting the financial distress of the transportation companies listed on IDX from 2016-2020. It indicates that the higher the company's liquidity ratio, activity, and growth level, the more difficult it is for smaller companies to face financial distress. The Leverage and Profitability Ratios do not affect the financial distress of the transportation companies listed in IDX from 2016-2020, which is financial even if the company's leverage and profitability ratios are high. It shows that it does not lead to relief of physical pain.

### 5.2 Suggestions

Based on the conclusions explained, researchers make the following suggestions:

1. For further research, it is recommended to use more independent variables not only for financial indicators but also for external factors that may affect the financial position of other internal companies.
2. For additional researchers, we recommend extending the study period to demonstrate that the financial indicators used in this study can be used to predict financial distress next year.
3. Companies listed on IDX have a variety of major industries, so additional samples are needed to allow the findings to cover a broader range.

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