



Financial Ratio, Distress, and Performance in Indonesian Transportation Companies

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Abstract: A company with a large amount of debt certainly increases the possibility of financial distress and affects its financial performance. Transportation and logistics are the top three industries with the highest average debt-to-assets ratio. Therefore, this study aims to determine whether financial ratios affect financial distress and whether financial distress mediates the influence between these two variables through a panel analysis method, with a sample of 21 IDX-listed companies from 2017-2021. This analysis shows that CR and DAR significantly negatively impact financial distress, while DER, OCF, and TATO do not considerably affect financial distress. In addition, financial distress does not significantly affect financial performance, nor does not mediate the effect of financial ratios on financial performance.

Keywords: Distress; Financial; Performance

INTRODUCTION

Everyone wants to achieve the goals of building a business through profit as a short-term goal and company value as a long-term goal (Nurhab, 2020). By obtaining maximum profit, it can show good performance in the financial and operational activities of the company; also, it can avoid financial distress. In letter No. 740/KMK.00/1989 explained that according to the Minister of Finance of the Republic of Indonesia, economic performance is a level of success in a certain period that a company must achieve to show its triumph (Kemenkeu RI, 1989). So, companies with good performance will undoubtedly create good financial performance, which can be seen through financial statements.

The company can maintain and improve its financial condition by analyzing and monitoring financial statements. With surveillance, the firm can act more quickly if there are negative indications that can cause failure or a decrease in company performance and can identify appropriate actions to overcome problems that may be occurring, such as financial distress (Christian and Haryono, 2021). In addition, this analysis can also tell the company what factors affect its performance during a specific period so that the company's financial condition can be clearly described and known by the company (Susilowati, 2021). Generally, various factors can affect financial performance, including financial distress. This factor usually arises due to the firm's failure to fulfill obligations, especially short-term obligations, because the liabilities owned are more significant than the assets (Hendi and Kellys, 2021).



Table 1. Average DAR Value of The Corporate Sector for the 2021-2022 Period

No	Sector	Average DAR Value
1	Infrastructures	46,41904
2	Consumer Cyclical	1,46018
3	Transportation & Logistic	0,58302
4	Energy	0,55346
5	Basic Materials	0,53549
6	Industrials	0,52581
7	Consumer Non-Cyclicals	0,50279
8	Properties & Real Estate	0,36251
9	Healthcare	0,34889
10	Technology	0,31622

Source: Data processed (IDX, 2022)

Referring to Table 1, among the ten corporate sectors, infrastructure, consumer cyclical, and transportation and logistics are in the top three as the sectors with the highest average DAR score. The higher the DAR, the greater the debt-financed assets. Thus, an increase in the value of this ratio indicates a higher risk the company faces.

Transportation and logistics are crucial sectors because of their essential role in the country's economy. In addition, several cases of transportation companies have attracted public attention, such as PT. Garuda Indonesia Tbk. was declared almost bankrupt due to its large debt in 2021 (Fau, 2021), then in 2020 PT. Air Asia X from Malaysia, a subsidiary of the Air Asia Group, was also confirmed to be in debt of up to 225 trillion Rupiahs (Puspa, 2020). In addition, to paying off debt in 2017, PT. Express Transindo Utama Tbk. was forced to trade most of its wealth (Wareza, 2020).

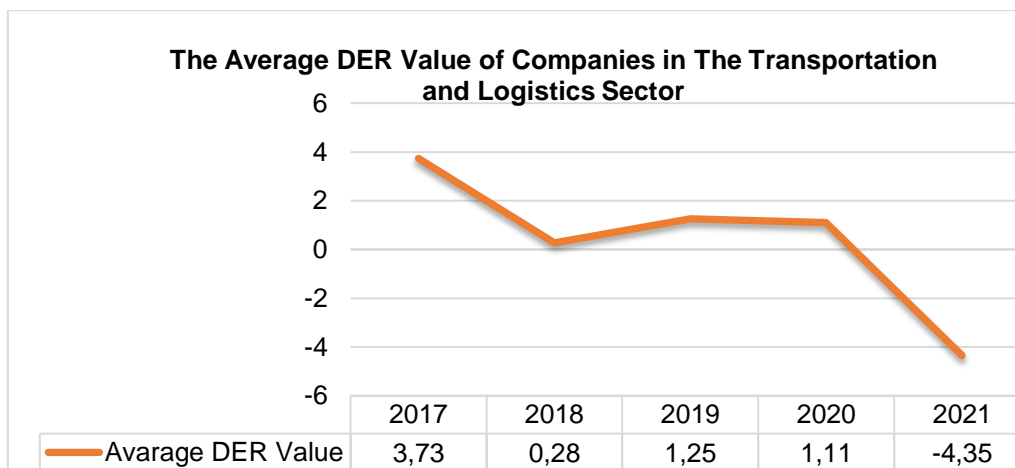


Figure 1. Average DER Value of Companies listed on the IDX in The Transportation and Logistics Sector

Source: Data processed (IDX, 2022)

Besides several cases described, Figure 1 also presents the average DER value from 2017 to 2021 owned by transportation and logistics companies, which shows an average was above 1, and even in 2021, the average was minus 4. A company with a DER value greater than 1 has more debt than equity. Moreover, a company with a negative DER value can be ascertained as having a bad condition (Khairunnisa et al., 2020).



Financial reports are the best references that the company can analyze to monitor, measure, and assess its financial condition (Hutauruk et al., 2021). When financial distress happens, significant changes to assets, net income, and earnings per share will be listed in the financial statements. A firm's financial difficulties can be affected by financial performance; the better the performance, the smaller the chances (Azmi and Takarini, 2022). Altman Z- Score combines five financial ratios commonly used to determine potential bankruptcy by measuring financial distress and performance (Rangga et al., 2020). Besides that, financial distress can be predicted by financial ratios. Therefore, this study aims to measure financial performance through financial ratios and financial distress.

One crucial factor that should be appropriately considered is the liquidity ratio. CR allows companies to assess their ability to repay the short-term debt that will mature soon. Thus CR influences financial distress (Wahyuni et al., 2020). Research by Ceylan (2021), Hanafi et al. (2021), Budiayasa and Widnyana (2022), and Septyanto et al. (2022) obtained the results of a significant negative influence given by CR on financial distress, which also supported by the study of Nugrahanti et al. (2020) found that companies with high liquidity can show that the assets owned are significant in number. The ability to obtain loans is also more significant, reducing the risk of financial difficulties. Therefore, the hypothesis formulation is as follows:

H₁: CR negatively affects financial distress.

Septyanto et al. (2022) stated that a high debt ratio shows that companies often make bank loans or bonds to fulfill their funds; hence, the company will continue to pay large amounts of debt and interest. From the explanation, it can be concluded that DAR positively influences financial distress. Budiayasa and Widnyana (2022) also found the same result. When a company's DAR is high, it indicates that it is indebted; therefore, it may experience financial difficulties due to default. Thus, the hypothesis that can be established in this study is as follows:

H₂: DAR positively affects financial distress.

Generally, DER determines how much equity the company has in paying its obligations. This ratio allows companies to compare total equity and debt. Diyanto (2020), Wahyuni et al. (2020), Isayas (2021), and Hanafi et al. (2021) revealed that DER positively affects financial distress because companies with high enough liabilities but low equity value may prevent the company from covering their obligations in time. If the debt is within the equity, the firm is not good at managing capital to generate profits, and vice versa. Therefore, the hypothesis formulation is as follows:

H₃: DER positively affects financial distress.

OCF indicates a large amount of cash obtained and utilized by a company from its operations (Giarto and Fachrurrozie, 2020). This ratio needs to be analyzed to determine indicators of financial difficulties (Saleem et al., 2020). When the cash flow is high, the chances of a company having financial problems are low because it has a significant source of funds to carry out its operations (Nurhayati et al., 2021). A company with a high OCF performs well in its financial obligations. Therefore the study of Nurhayati et al. (2021) and Phan et al. (2022) revealed that operating cash flow has significantly influenced financial distress in destructive relationships. Thus, the hypothesis that can be established in this study is as follows:

H₄: OCF negatively affects financial distress.

Arifiana and Khalifaturafi'ah (2022) show that the greater the value, the more influential the company manages its assets. From the explanation can be concluded that TATO negatively influences financial distress. Azzahra et al. (2020) also found the same result. When companies carrying out sales activities can use their assets effectively, they



will earn big profits. Thus, with good financial performance, they will be less likely to be in financial trouble. Hence, the hypothesis formulation is as follows:

H₅: TATO negatively affects financial distress.

Financial distress refers to the inability to sustain and maintain its operation. This is due to the company's inability to pay its debts. This condition usually occurs before the company declares bankruptcy (Wahyuni et al., 2020). When the efficiency of business performance decreases directly or indirectly, the possibility of financial difficulties in operating the business increases, therefore the research of Rubab et al. (2022) and Niroula (2021) revealed that financial distress has significantly influenced financial performance in destructive relationships. Thus, the hypothesis that can be established in this study is as follows:

H₆: Financial distress negatively affects financial performance.

Previous studies have shown that financial ratio significantly affects financial distress. Financial distress is also thought to have a significant impact on financial performance. Thus, financial distress mediates the effect of financial ratios on financial performance. This happens when companies face financial difficulties due to low cash flow, high debt, and low sales. Therefore, it indirectly affects financial performance. Thus, the emergence of financial problems can indicate a company's poor financial performance.

H₇: Financial distress mediates the effects of financial ratios on financial performance.

METHODS

The research population involved IDX transportation and logistics companies from 2017 to 2021. This population was chosen because the ongoing COVID-19 pandemic since 2020 has reduced the profitability of many transport companies. One hundred-five samples are used in this study. Purposive sampling is used to determine this sample (Chandrarin, 2018).

This research uses a primary research type of quantitative approach. This study's type and collection methods are secondary data with the documentation method. This secondary data contains the financial reports of IDX-listed transportation and logistics companies from 2017 to 2021. In addition, this secondary data is provided through the company's and IDX's websites.

Data analysis Methods: SPSS software version 26 and EVIEWS 12 were used for panel data analysis in this study. The following formula describes a general regression model for panel data:

$$Y_{it} = \alpha + \beta_1 X_{1it} + \beta_2 X_{2it} + \dots + \beta_n X_{nit} + e_{it}$$

This study is a hypothesis test to understand the importance of the correlation between variables by validating these variables. This research will test the financial ratio hypothesis on financial performance and use financial distress to mediate this relationship. A study model is developed to demonstrate the positive, negative, or non-significant effect, as shown in Figure 2 below:

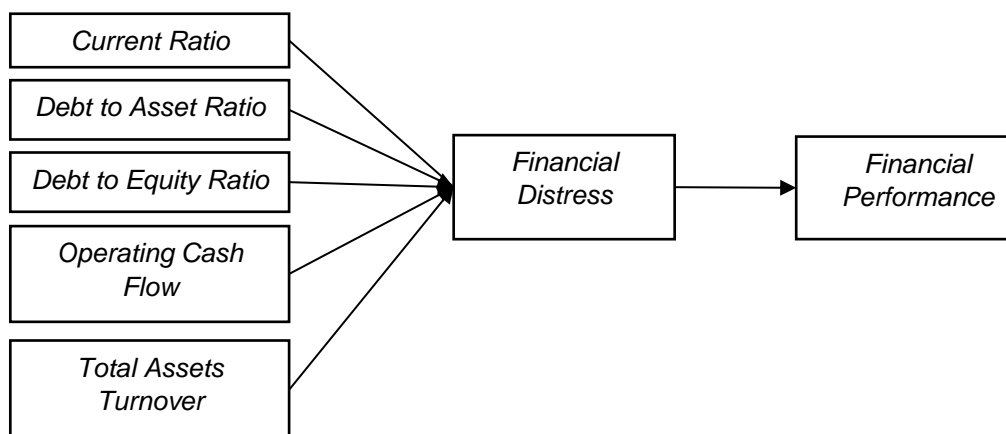


Figure 2. Research Model
 Source: Data by the author (2023)

RESULTS AND DISCUSSION

Table 2 provides information on samples obtained using purposive sampling methods.

Table 2. Calculation of The Number of Research Samples

Description	Number of Observations
Transportation and logistics companies listed on the IDX 2017-2021	30 companies
Ineligible companies	9 companies
Eligible companies	21 companies
Samples for 5 years	105 samples

Source: Data processed (2023)

Thus, 21 companies fit the criteria resulting in a total sample of 105 over five years.

Table 3. Descriptive Statistics

	N	Min	Max	Mean	Std. Dev
CR	105	0,02	11,72	1,52	2,04
DAR	105	0,07	3,13	0,62	0,48
DER	105	-90,29	82,37	0,39	12,93
TATO	105	0,00	9,20	1,18	1,44
OCF	105	-0,37	0,28	0,04	0,11
ROA	105	-0,65	2,07	-0,02	0,26
ZSCORE	105	-25,08	86,86	1,66	11,66

Source: Data processed (2023)

Table 3 shows an average CR value of 1,52, with a min value of 0,02 belonging to PT. Air Asia Indonesia Tbk. in 2021, and a max value of 11,72 belongs to PT. Trimuda Nuansa Citra Tbk. in 2019. Also, the standard deviation value of 2,04 shows that it is bigger than the mean. Hence, the value distribution is uneven because the deviation of the data that occurs is high.

The debt-to-assets ratio of 21 transportation and logistics companies from 2017 to 2021 ranged from 0,07 to 3,13, with a volatility of 0,48. The average of this ratio is 0,62.



Next, DER has a minimum value of -90,29 by PT. Sidomulyo Selaras Tbk. in 2021, then the highest value of 82,37 is PT. Air Asia Indonesia Tbk. owns in 2017, with a volatility value of 12,93 and a mean value of 0,39.

TATO has the lowest value, 0,00 belongs to PT. Steady Safe Tbk. in 2017 and 9,20 as the highest value belongs to PT. Air Asia Indonesia Tbk. in 2018. The mean of this ratio is 1,18, with a standard deviation value, is 1,44. While on variable OCF, the value ranges from -0,37 to 0,28 with an average of 0,04 and a standard deviation of 0,11.

Table 3 shows the average value of ROA is -0,02, the min value is -0,65, and the max of 2,07 belongs to PT. Express Transindo Utama Tbk. in 2018 and 2021. The standard deviation value is 0,26. The last variable, Z-score, shows values from -25,08 to 86.86 with a mean value of 1.66 and a standard deviation of 11,66.

Panel regression test requires several steps, such as Chow, Hausman, and Lagrange Multiplier test, to test model fit in common effect model (CEM), fixed effect model (FEM), and random effect models (REM). Each of these tests is explained below:

The Chow test determines the most appropriate CEM or FEM for estimating panel data. In Table 4, the test shows a probability significance of 0,0000 < 0,05. Therefore, FEM is a suitable model for studying the financial ratio's effect on the Z-score.

Table 4. Chow Test Results of Financial Ratios on Z-score

Effects Test	Statistic	d.f.	Prob.
Cross-section F	5,41869	(20,79)	0,0000
Cross-section Chi-square	90,684063	20	0,0000

Source: Data processed (2023)

Contrary to the results above, the test of the impact of the Z-score on financial performance shows different results. Table 5 indicates that the Chow test has no significance with the probability is 0,8627 greater than 0,05. Therefore, CEM is a suitable model for studying the impact of Z-score on financial performance. Thus, the test will continue with the Hausman test.

Table 5. Chow Test Results of Z-score on ROA

Effects Test	Statistic	d.f.	Prob.
Cross-section F	0,561837	(20,83)	0,9277
Cross-section Chi-square	13,33179	20	0,8627

Source: Data processed (2023)

The Hausman test helps to choose between FEM and REM. Table 6 shows that FEM is the best model for testing the effect of financial ratios on the Z-score with a probability of less than 0,05. Therefore, the test continues with the Lagrange multiplier test.

Table 6. Hausman Test Results of Financial Ratios on Z-score

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	33,783881	5	0,0000

Source: Data processed (2023)

The Lagrange multiplier test helps between CEM and REM. Table 7 shows that CEM is the best model for testing the effect of the Z-score on financial performance with a probability of 0,1318, bigger than α ($\alpha = 0,05$).



Table 7. Lagrange Multiplier Test Results of Z-score on ROA

	Test Hypothesis		
	Cross-section	Time	Both
Breusch-Pagan	2,27091 (0,1318)	0,23007 (0,6315)	2,500984 (0,1138)

Source: Data processed (2023)

Table 8 shows the F-test results, indicating that the independent variables simultaneously affect the intervening variables.

Table 8. F-Test Results of Financial Ratios on Z-score

Model	Prob (F-statistic)
Panel Data Regression	0,0000

Source: Data processed (2023)

However, according to the test results in Table 9, the probability value (f-statistic) exceeds 0.05, namely 0.461771. Thus, the Z-score as the intervening variable does not affect ROA simultaneously.

Table 9. F-Test Results of Z-score on ROA

Model	Prob (F-statistic)
Panel Data Regression	0,461771

Source: Data processed (2023)

The R-squared test determines the model's suitability or value, indicating how well the independent variable explains the dependent variable. Referring to Table 10, the Adjusted R-Squared value of 0,516816 demonstrates that the independent variable can explain the intervening variable of 51.68%, while 48.32% is explained by other variables not included in the model.

Table 10. Determination Coefficient Test Results of Financial Ratios on Z-score

Model	Adjusted R-Squared
Panel Data Regression	0,516816

Source: Data processed (2023)

However, table 11 shows that the Adjusted R-Squared value of -0,004388 means that the intervention variable can explain 0.4388% of the dependent variable, while other variables explain 99.5612%.

Table 11. Determination Coefficient Test Results of Z-score on ROA

Model	Adjusted R-Squared
Panel Data Regression	-0,004388

Source: Data processed (2023)



Table 12. T-Test Results of Financial Ratios on Z-score

Variable	Coefficient	Std. Error	Prob.	Description
C	15,771	2,940	0,00	
CR	-3,220	0,726	0,00	Significant (-)
DAR	-14,389	3,145	0,00	Significant (-)
DER	-0,017	0,070	0,80	Not Significant
OCF	6,223	8,106	0,44	Not Significant
TATO	-0,344	0,628	0,58	Not Significant

Source: Data processed (2023)

Hypothesis tests consist of a T-test and an F-test for the effect of the intervening variable. This test indicates the impact of the independent variable on the dependent and the effect of the intervening variable. Tables 12, 13, and 14 show the results of hypothesis testing in FEM and CEM.

Table 13. T-Test Results of Z-score on ROA

Variable	Coefficient	Std. Error	Prob.	Description
C	-0,025	0,025	0,324	
Z_SCORE	0,001	0,002	0,461	Not Significant

Source: Data processed (2023)

Table 14. Sobel Test Result

Variable	P-Value	Description
CR	0,46611	Not Mediating
DAR	0,46574	Not Mediating
DER	0,81341	Not Mediating
OCF	0,59447	Not Mediating
TATO	0,65979	Not Mediating

Source: Data processed (2023)

The probability value of 0,0000 and the coefficient value of -3,220194 concluded that the current ratio negatively affects financial distress. Thus, H_1 can be accepted. These results are supported by Budiyasa and Widnyana (2022), Septyanto et al. (2022), Pringgabayu et al. (2022), Hanafi et al. (2021), Ceylan (2021), Ogachi et al. (2020), Nugrahanti et al. (2020), and Diyanto (2020). CR is one of the liquidity ratios. Increasing the corporation's liquidity means it has many assets and can obtain large loans. This certainly can help the company avoid financial difficulties because of its ability to pay its debts.

The profitability value of 0,0000 indicates that the DAR variable significantly affects financial distress. With a coefficient value of -14,38988, it indicates that DAR has a negative effect on the direction. Therefore, H_2 is rejected. These results are supported by Curry (2020) and Ogachi et al. (2020). However, it is contrary to Budiyasa and Widnyana (2022), Septyanto et al. (2022), Ceylan (2021), Nugrahanti et al. (2020), and Uddin et al. (2020). Companies with high DAR value cannot always indicate that the probability of experiencing financial difficulties also increases because there is a possibility that companies will use their large debts to purchase and fulfill their assets which will help expand company profits and minimize financial difficulties.

The significant value of the DER variable is 0,8039, which is more than 0,05, and the value of the coefficient is -0,017575, which indicates that DER has no significant effect on financial distress. Hence H_3 cannot be fulfilled. This result is supported by Arifiana and Khalifaturofi'ah (2022), Septarini and Bulan (2022), Myllariza (2021), Nurdiwaty and Zaman (2021), and Azzahra et al. (2020) in their research. Companies



with high DER values will undoubtedly show the amount of debt they have. Large debts do not necessarily cause financial distress for the company because it may borrow funds from a bank or outside party to pay its obligations. Moreover, there is a possibility that investors dare to take risks and have a high sense of trust in companies related to debt management, so they are not too concerned about the amount of debt they have. Therefore, the high or low DER value is considered less able to predict the company's financial distress level.

In this study, OCF has a probability value of 0,4449, which is more than 0,05, so this variable is insignificant with a coefficient of 6,22348. Thus, H_4 cannot be accepted. This result is supported by Maherni et al. (2022), Tania and Wijaya (2022), Rissi and Herman (2021), Sianturi et al. (2021), and Sri and Margita (2020). Operating cash flow is considered less able to predict conditions of financial distress because, generally, this variable only shows part of the company's information, such as net cash from the company's operations. The information provided needs to show the company's condition, such as the ability to pay debts, costs arising from debt, etc. Moreover, operating cash flow is the costs incurred to purchase the company's needs. Thus, the size of the cash flow may not necessarily describe the company's ability to fulfill its debts to creditors.

Total assets turnover has a probability greater than 0,05 and a negative coefficient value, so it does not significantly affect financial distress, which means that a company with high or low sales cannot determine the financial distress of the company. This is due to the condition of financial distress not only influenced by the sales aspect but also other aspects such as lack of capital, company expenses, and several other factors. Thus, H_5 is rejected. These results are supported by research by Hadi (2022), Hidayat et al. (2021), and Azky et al. (2021).

The probability values and coefficients of the variable Z-score are addressed in Table 13, which equals 0,4618 and 0,001627. This indicates that financial distress does not significantly affect financial performance, so H_6 cannot be accepted. This study uses variables Altman Z-score to gauge financial distress and ROA to measure financial performance. Variable Z-score considered incapable of influencing financial performance proxied by ROA due to financial distress is assessed through the company's ability to generate net income and other factors such as the ability to pay short-term and long-term obligations. These results are supported by Hillary et al. (2019).

Table 14 shows that the result of Sobel test scores on the independent variables is 0,46611, 0,46574, 0,81341, 0,59447, and 0,65979 greater than 0.05, which means H_7 is rejected because financial distress does not mediate the effect of financial ratios on financial performance. Generally, this is due to the possibility of companies managing their assets, debt, and cash flows properly so that the performance of financial companies will not be affected. Thus, the condition of financial difficulties will not occur. In addition, several variables, such as operating cash flow, which is considered less intense, influence a company's financial performance and distress.

CONCLUSION

This study was conducted to determine the effect of financial ratios on the financial performance of transportation and logistics, with financial distress as the intervening variable. The financial ratios include five variables: CR, DAR, DER, OCF, and TATO. Moreover, the results show a significant negative impact on the current and debt-to-assets ratios, while others have no impact on financial distress. Furthermore, based on mediating relationships, financial distress does not mediate the correlation between the financial ratio and financial performance. Through this research, every company should be aware of its financial condition by checking its financial statements periodically.



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