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THE IMPACT OF PROFITABILITY, LIQUIDITY, LEVERAGE, AND OPERATING CASH FLOW ON FINANCIAL DISTRESS (STUDY ON TRANSPORTATION AND LOGISTICS COMPANIES ON THE IDX FOR THE 2019-2023 PERIOD)

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Abstract

This study has an objective to evaluate the impact of profitability, cash flow, liquidity, and leverage factors on financial distress, both concurrently and partly. The analysis included all logistics and transportation firms on IDX. The sampling method leverages the purposive sampling means with the criteria: 1) Transportation and logistics firms listed on IDX. 2) Transportation and logistics firms with complete data for the 2019-2023 timeframe using the variables analyzed. 3) Transportation and logistics firms that present the figures in Rupiah. Based on these parameters, 27 samples were collected. This is a causal study that takes a quantitative research technique. This study relies on secondary data of which the form is financial reports. The data analysis approach employed was panel data regression with Eviews software. The output of the study indicates that: 1) Financial distress is impacted by profitability, cash flow, leverage, and liquidity. 2) Profitability has a favorable and considerable impact on financial difficulties. 3) Liquidity has a favorable and large impact on financial distress. 4) Leverage has a negative, considerable impact on financial difficulties. 5) Cash flow has a beneficial but not significant impact on financial distress.

Keywords: ***Profitability, Liquidity, Cash Flow, Leverage, Financial Distress***

INTRODUCTION

The transportation and logistics sector is a vital part of the Indonesian economy, encompassing various subsectors, including land, sea, and air transportation, as well as logistics and warehousing services. Data from the BPS reveals that the transportation and warehousing sector's contribution to Indonesia's GDP will reach 5.35% in 2023, with an average annual growth rate of around 3.7% during the 2019-2023 period. (Nuryadin & Anjani, 2023). This sector is also a major supporter of industry and trade, particularly in terms of efficient distribution of goods and workforce mobility. However, during the economic contraction brought by the COVID-19 pandemic, the transportation sector was significantly impacted, marked by a 15.04% decline in the second quarter of 2020 due to reduced business activity and public mobility. However, the sector's recovery after the pandemic has shown a growth trend, but it still faces challenges such as fuel price fluctuations, government regulations, and technological disruption.(Lumenta et al., 2021).

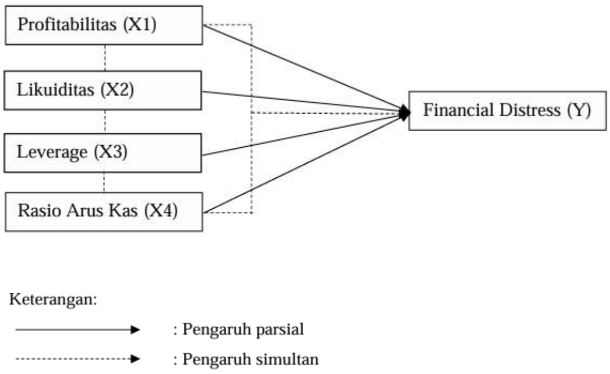
Therefore, it can be concluded that several companies in this sector face the risk of financial distress, particularly those with large debt ratios and unstable operating cash flows. Therefore, this study has an objective to dissect how profitability, operating cash flow, liquidity, and leverage can impact financial distress of the logistics and transportation industry, specifically for companies listed on the IDX for the 2019-2023 period. Financial distress is a condition in which a company suffers from financial hardships that can hamper its operations and potentially lead to bankruptcy if not handled immediately.(Lawita & Binangkit, 2022). Based on IDX data (2023), the transportation and logistics sector is under pressure due to fluctuating fuel prices, government policies, and post-pandemic economic uncertainty. Average company revenue fell by up to 40% in 2020, with a gradual recovery until 2023 that was uneven, particularly for companies with high debt and liquidity issues. The Financial Services Authority (OJK) (2023) noted that 54% of companies experienced an increase in leverage ratios, reflecting a high dependence on debt. This condition has the potential to trigger financial distress and threaten business sustainability.(Rahayu et al., 2022). The phenomenon of financial distress is a major concern because it often serves as an early parameter of a company's impending bankruptcy (Altman, 1968). Several key factors contribute to financial distress, including operating cash flow, liquidity, profitability, and leverage (Yusnita, 2022). Profitability highlights a company's forte to earn profits. A company that has low profitability is more vulnerable to financial hardship due to its inability to cover operating costs and debt obligations.(Sudaryanti & Dinar, 2019) Liquidity, or a company's capacity to satisfy short-term debt, is also an essential aspect. Companies with a current ratio below one usually struggle to satisfy their short-term obligations, raising the risk of bankruptcy.(Dewi et al., 2022).Furthermore, leverage denotes the degree to which a corporation depends on liabilities to finance its operations. In general, the danger of financial difficulties rises with leverage, especially if the company's cash flow is not sufficient to satisfy its liabilities.(Jannah & Said, 2024)Another factor to evaluate is operating cash flow, which assesses a company's capability to earn from ongoing activities. Negative operating cash flow shows that a company is unable to fund its operations independently, potentially increasing the risk of financial distress.(Feanie & Dillak, 2021). Therefore, by examining these various phenomena, this research attempts to dissect the impact of operating cash flow, profitability, liquidity, and leverage on financial distress in transportation and logistics companies listed on IDX for the 2019-2023 period. The research questions are as follows:

1. How do profitability, liquidity, leverage, and operating cash flow effect financial distress in IDX-listed transportation and logistics companies from 2019 to 2023?
2. What impact do profitability, liquidity, leverage, and operating cash flow have on financial distress in IDX-listed transportation and logistics companies from 2019 to 2023?

LITERATURE REVIEW

Signaling theory was introduced by Spence (1973) and has since been widely used in various fields, including financial management and accounting. According to this theory, in order to lessen information asymmetry, one party referred to as the signal sender provides information to another party, referred to as the signal receiver. Through a variety of indicators, including financial reports, dividend policies, and corporate communication techniques, management can convey information regarding the firm’s financial condition to creditors, investors, and the other stakeholders in a corporate setting.(Guest et al., 2021). According to Guest et al (2021) Signaling theory elaborates how firms deliver information to external parties. Good performance, demonstrated through profitability, liquidity, and sound risk management, serves as positive signals, while financial difficulties signal potential financial distress, which impacts investor perceptions and stock prices. The state in which a company encounters difficulty meeting its financial responsibilities, whether in the form of debt payments or other operational expenses is known as financial distress. This circumstance arises when the company’s cash inflows from revenues are insufficient to cover the cash outflows for maturing obligations.(Kristanti & Dhaniswara, 2023)A company may experience financial distress due to a number of internal and external variables. Internal variables include excessive debt levels, low profitability, insufficient liquidity, and deficiencies in financial management.(Kristanti & Pancawitri, 2024)Meanwhile, a company’s operations and revenue may be impacted by external variables such as shifts in the economy,variations in exchange rates, and market volatility.(Sehgal et al., 2021).

Financial distress has a wide-ranging impact on a company, both operationally and financially, as well as in its relationships with investors and creditors.Wijaya & Suhendah (2023)When a company experiences financial distress, investors tend to be reluctant to invest in the company because they believe the risks are significant. Investors generally look for companies with strong financial stability and promising development potential. When a company experiences financial distress, its stock price tends to drop drastically, which can aggravate the company's overall financial situation.(Kristanti et al., 2023). According to Bon & Hartoko (2022)Profitability is defined as a company's capacity to obtain profits. The larger a company's profitability, the more effectively it manages its assets and capital to maximize earnings. As a result, organizations with high profitability are more competitive, have greater potential for expansion, and rely more heavily on creditors and investors. Liquidity is a company's capability to fund short-term financial liabilities with the current assets that it has. In other words, liquidity refers to how fast and easily a corporation can transform its assets into cash without hurting the market value of those assets.(Wadi & Dhaireb, 2021). Companies that have high liquidity are inclined to be more financially stable because they possess ample current assets to pay their short-term debt. Therefore, liquidity is a vital issue for creditors and investors to examine when assessing a company's financial performance. Companies with high liquidity tend to be more financially secure and better able to withstand economic uncertainty, whereas companies with low liquidity are more likely to experience financial stress (Elianti, 2021). According toBeck et al (2023). Leverage is commonly defined as the ratio of net liabilities to assets after subtracting cash on hand. This idea indicates how much a company relies on third party funding compared to its own sources of funding. In finance, leverage may be a beneficial instrument for enhancing earnings since it allows a company to expand its operations without having to invest substantial sum of its own capital. Therefore, companies must maintain a balance between debt and equity in order to maximize financial success and prevent undue financial stress. Operating cash flow (OCF) is a significant element of financial statements, reflecting a firm's capacity to produce cash from its operating activities. Operating cash flow records all cash inflows and outflows from a company's core activities within a certain period.(Antolis et al., 2022). Operating cash flow is essential to assess a company's financial condition. A positive operating cash flow indicates that its business activities are producing more cash than it is incurring. Conversely, a negative operating cash flow could indicate that the company is having difficulty funding its operations without relying on external financing sources such as debt or additional investments.(Rochmah & Kustiningsih, 2021). In the business world, a company's financial condition is influenced by leverage, liquidity, and profitability. High leverage can increase profits but also raises the risk of financial distress if obligations are not met. Liquidity shows the ability to satisfy short-term liabilities, while profitability highlights a company's efficiency to produce profits. Declining profitability, reliance on debt, and falling stock prices are indicators of financial distress. Based on this, this study develops the following conceptual framework.



Thinking Framework Image

Profitability is a key parameter of financial performance, with high profitability helping companies avoid financial distress, while low profitability increases the risk. Previous research(Dahruji, 2022)And(Afriyani, 2023)shows the influence of the profitability ratio on financial distress. Therefore, the first research hypothesis is: H_1: Profitability has a negative impact on financial distress. Liquidity underscores a firm’s capacity to fund short-term liabilities. High liquidity generally helps avoid financial distress, while low liquidity heightens the risk of financial distress. Previous research has shown conflicting findings.(Afriyani, 2023) and (Hertina et al., 2022). Therefore, the second hypothesis of this study is: H_2: Liquidity has a negative impact on financial distress.

Leverage reflects a company's dependence on debt, where the higher the leverage, the more the risk of financial distress. Previous research conducted by(Muntahanah et al., 2021)And(Hertina et al., 2022)shows a substantial positive influence between leverage and financial distress. Thus, the third hypothesis is: H_3: Leverage has a positive influence on financial distress. Operating cash flow highlights a company's capacity to earn cash from core activities. Strong cash flow helps prevent financial distress, while weak cash flow increases the risk.(Novitasari, 2023)supports the influence of operating cash flow on financial distress. Therefore, the fourth hypothesis is: H_4: Operating cash flow has a negative influence on financial distress.

METHOD

This research falls into the causal (explanatory) research category because it has an objective to dissect the causal relationship of predictor and response variables. The predictors in this study include cash flow, profitability, liquidity, and leverage, while the response variable is financial distress. In other words, this study seeks to explore the extent to which certain financial factors can influence or contribute to a company's financial distress. The methodology used in this research is quantitative. This study has a low level of engagement since the researcher has no direct influence over the research participants. Because the data utilized is secondary, the researcher serves just as an observer, processing and interpreting the available data without interfering with the research subjects. In other words, this study is non-experimental research in which analysis is conducted passively based on previously acquired historical information. In the research, profitability is computed by using ROA, liquidity is evaluated by leveraging the current ratio, leverage indicators in the research are computed using the debt to equity ratio, cash flow indicators in the research are calculated using the operating cash flow ratio, which is also applied in this study.(Rissi & Herman, 2021). Next, financial distress is computed using the Altman Z-Score method (1968). The study population included all transportation and logistics companies listed on the Indonesia Stock Exchange (IDX). The sample was selected using a purposive sampling method based on the following criteria: (1) listed on the IDX, (2) complete data for the 2019–2023 period, and (3) financial statements presented in Rupiah. Of the 37 companies, 10 did not meet the criteria, resulting in 27 companies. With a 5-year period, the total sample size was 135 observations. Techniques of data analysis were carried out through descriptive exploration, classical assumption tests, and regression analysis of panel data with the CEM, FEM, or REM methods determined through the Chow, Hausman, and LM tests. Hypothesis testing was undertaken using the F test to see the simultaneous effect of predictors on financial distress, the t test to measure the partial effect of each variable (profitability, liquidity, leverage, cash flow), and the R^2 test to evaluate the model's capacity to explore the variability of financial distress. Data processing used SPSS 25.0 software for statistical analysis.

RESULTS AND DISCUSSION

Descriptive statistical analysis is leveraged to obtain a snapshot of data based on the data quantity, range, minimum and maximum values, standard deviation, average, and variance of each variable, namely profitability, leverage, liquidity, and cash flow. The output of the descriptive statistical analysis can be observed below:

	N	Range	Minimum	Maximum	Mean	Std. Deviation	Variance
Profitabilitas	135	3.610	-1.538	2.072	0.026	0.247	0.061
Likuiditas	135	11.638	0.084	11.722	1.853	1.880	3.536
Leverage	135	131.939	-90.287	41.652	0.455	9.042	81.762
Arus Kas	135	6.309	0.775	5.534	0.584	0.911	0.830
Financial Distress	135	2	0	2	1.10	0.933	0.870

Based on descriptive analysis of 135 data, the following variable characteristics were obtained. Profitability had an average value of 0.026 with a relatively small spread (SD 0.247). Liquidity averaged 1.853 with quite large variations (SD 1.880). Leverage showed very high fluctuations with an average of 0.455 and an SD of 9.042. Operating cash flow averaged 0.584 with moderate variations (SD 0.911). Meanwhile, financial distress had an average of 1.10 with an SD of 0.933, indicating quite significant differences in financial conditions between companies.

Model Specification Test

Chow Test

Effects Test	Statistic	d.f.	Prob.
Cross-section F	8.573636	(26.104)	0.0000
Cross-section Chi-square	154.616562	26	0.0000

The Chow Test results ($F = 8.573636$; $\chi^2 = 154.616562$; $p = 0.0000$) indicate that the Fixed Effect model is more suitable than the Common Effect. Since $p < 0.05$, the null hypothesis is rejected, so the suitable model is the Fixed Effect. Next, the Hausman Test is undertaken to decide whether the Fixed Effect remains or is replaced with a Random Effect.

Hausman test

Hausman Test Results Table

Test Summary	Chi-Sq. Statistic	Chi-sq. d.f.	Prob.
Cross-section random	4.452718	4	0.3482

The Hausman Test results ($\chi^2 = 4.452718$; $p = 0.3482$) showed no significant difference between FEM and

REM, so REM was more efficient and was chosen as the analysis model. The next step was the Breusch-Pagan Test (LM Test) to determine whether REM was still used or the Common Effect model was more appropriate.

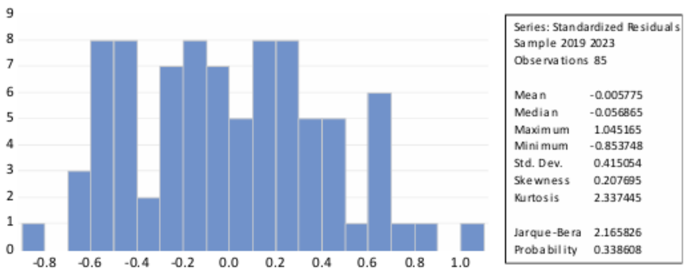
Lagrange Multiplier Test

Null (no rand. effect) Alternative	Cross-section One-sided	Period One-sided	Both
Breusch-Pagan	86.59548	0.520282	87.11576
	(0.0000)	(0.4707)	(0.0000)

Lagrange Multiplier Test Results

The output of the Lagrange Multiplier Test (Breusch-Pagan = 86.59548; p = 0.0000) indicate that the Random Effect model is more fit than Common Effect. This confirms the outcome of the previous Hausman Test, so the model used in the analysis is the Random Effect Model (REM).

Classical Assumption Test
Normality Test



The normality test produced a Jarque-Bera value of 0.386 > 0.05, so the data was normal and the normality assumption was met.

Multicollinearity Test

	X1_Trans	X2_Trans	X3_Trans	X4_Trans
X1_Trans	1.000000	0.314723	-0.189515	0.497026
X2_Trans	0.314723	1.000000	-0.767213	0.359215
X3_Trans	-0.189515	-0.767213	1.000000	-0.469807
X4_Trans	0.497026	0.359215	-0.469807	1.000000

From the above, it was found that all correlation values between independent variables were <0.85 so multicollinearity problem doesn't apply here.

Heteroscedasticity Test

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.163835	0.044106	3.714550	0.0004
X1_Trans	-0.001331	0.013048	-0.101991	0.9191
X2_Trans	0.024071	0.024953	0.964636	0.3376
X3_Trans	-0.001476	0.018608	-0.079323	0.9370
X4_Trans	-0.016075	0.014534	-1.106035	0.2720

Based on the heteroscedasticity test above, the probability value of all predictors is > 0.005, so heteroscedasticity problem doesn't manifest in the study.

Autocorrelation Test

Autocorrelation Test Results Table

Durbin-Watson stat	1.599352

The Durbin-Watson value of 1.5993 between -2 and 2, so there is no autocorrelation.

Panel Data Regression

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.485260	0.162529	9.138437	0.0000
X1_Trans	0.128203	0.045825	2.797675	0.0064
X2_Trans	0.393208	0.088244	4.455912	0.0000
X3_Trans	-0.339423	0.067651	-5.017288	0.0000
X4_Trans	0.030848	0.052783	0.584424	0.5606

The output of panel data regression produce the equation: $Y = 1.485 + 0.128X_1 + 0.393X_2 - 0.339X_3 + 0.031X_4$.

Hypothesis Testing
Partial Test (t-Test)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.485260	0.162529	9.138437	0.0000
X1_Trans	0.128203	0.045825	2.797675	0.0064
X2_Trans	0.393208	0.088244	4.455912	0.0000
X3_Trans	-0.339423	0.067651	-5.017288	0.0000
X4_Trans	0.030848	0.052783	0.584424	0.5606

The t-test shows that at $\alpha = 5\%$, profitability (X_1), liquidity (X_2), and leverage (X_3) have a substantial impact on financial distress. On the other hand, operating cash flow (X_4) does not impact financial distress significantly.

Simultaneous Test (F Test)

Statistics	Nilai
F-statistic	52.50524
Prob (F-statistic)	0.00000

The F-test shows a p-value <0.05, thus rejecting H_0. It suggests that the predictors have a significant impact on financial distress concurrently, thus the regression model is considered suitable for use.

Coefficient of Determination

Table of Determination Coefficient Results

R-squared	0.724158
Adjusted R-squared	0.710366

The Adjusted R^2 value of 0.710 suggests that 71% of the fluctuation in financial distress can be elaborated by profitability, cash flow, liquidity, leverage, while the rest of 29% is influenced by external variables.

The Impact of Profitability on Financial Distress

Test results show that profitability has a positive and significant impact on financial distress in transportation and logistics companies in the 2019–2023 period. This means that higher profitability actually heightens the risk of distress, likely due to high operational costs and debt. This finding aligns withSyalomytha & Natalia (2023) which shows that profitability has substantially positive impact on financial distress. In addition, similar results were found by Efendi et al (2023)where profitability has a positive and substantial impact on the financial distress of tourism sector companies listed on the IDX in 2018-2021.

The Impact of Liquidity on Financial Distress

The output of the study shows that liquidity has a positive and significant impact on financial distress in transportation and logistics companies from 2019 to 2023. It suggests that the larger the current ratio, the larger the risk of distress, likely due to inefficient management of liquid assets or their entrapment in idle cash. This is in line with Islamiati et al (2024) which highlights that liquidity has a positive and substantial impact on financial distress. This finding is also in line with the studyYoganata (2023)which found that liquidity had a positive and substantial impact on financial distress in manufacturing companies on IDX in 2021-2023.

The Impact of Leverage on Financial Distress

Test results suggest that leverage has a negative and substantial impact on financial distress in logistics and transportation companies from 2019 to 2023. It shows that higher leverage actually reduces the risk of distress because debt can be used for asset expansion and increased profitability. This finding is consistent withRissi & Herman (2021)which indicates that leverage has a negative and substantial impact on financial distress. This result is similar to researchMa'arif & Rahayu (2019)which found that leverage had a negative and substantial effect on the financial distress of property companies on IDX in 2015-2017.

The Impact of Cash Flow on Financial Distress

The study output show that cash flow has a positive but insignificant impact of the object of the study between 2019 and 2023. This means that while high cash flow can help to decrease the risk of distress, its effect is not strong enough. This aligns with Rissi & Herman (2021) stating that cash flow is not significant. This result aligns with the study. Faldiansyah et al (2020)which shows that cash flow does not substantially impact the financial distress of automotive companies on IDX in 2014-2019.

CONCLUSION

This study concludes that profitability, liquidity, operating cash flow, and leverage, simultaneously influence financial distress in transportation and logistics companies on IDX for the 2019–2023. Partially, profitability and liquidity have a substantially positive impact, leverage a substantially negative impact, while operating cash flow has a positive but insignificant impact. These findings emphasize the essence of efficiently managing profitability, liquidity, leverage, and cash flow to maintain a company's financial stability. Therefore, companies are advised to optimize their financial performance, debt utilization, and cash flow management. Further research can incorporate external factors such as macroeconomic conditions and industry regulations for more comprehensive analysis.

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