

The impact of financial ratios on financial distress in the transportation sector

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ABSTRACT

The aim of this study was to assess the impact of various financial ratios on the financial instability of companies, with particular emphasis on the profitability ratio of Return on Assets (ROA), liquidity ratio of Current Ratio (CR), activity ratio of Total Assets Turnover (TATO), and solvency ratio of Debt to Assets Ratio (DAR). The study employs secondary data and selective selection to choose a sample of thirteen transport companies listed on the Indonesia Stock Exchange (IDX) between 2020 and 2022. The study utilised multiple linear regression analysis methods, employing SPSS as the testing programme. The Altman Z-Score method was employed to prioritise the financial distress component. The results indicated that the liquidity ratio, a component of the activity ratio, had a positive impact on financial distress, suggesting that more liquidity might be associated with increased financial hardship. Conversely, the utilisation of leverage was discovered to have an adverse impact on financial distress, indicating that elevated levels of leverage may reduce the likelihood of financial hardship for the selected entities. This study offers useful insights into the intricate relationship between particular financial statistics and the financial distress situation of organisations. It provides a detailed comprehension of how the interplay between liquidity, leverage, and activity dynamics affects the overall financial health of transport companies in the Indonesian stock market.

KEYWORDS

Financial Distress; Profitability; Leverage; Liquidity; Activity

Received: 1 January 2024

Accepted: 5 February 2024

Published: 9 February 2024

Introduction

In Indonesia's burgeoning economy, the corporate landscape, particularly in the start-up sector, is rapidly evolving, leading to intense competition among firms vying for market dominance (Arini *et al.*, 2021). Every enterprise's foundational objective is maximizing profits through efficient and effective utilization of available resources (Arlam, 2017). However, the COVID-19 pandemic has precipitated economic shifts that potentially threaten corporate revenues, thereby impacting operational performance (Destiani *et al.*, 2023). Consequently, companies, including notable examples like Air Asia, as reported by CNBC on September 16, 2022, have experienced a deterioration in financial health. Air Asia, for instance, reported an operational loss of IDR 939.22 billion in the first quarter of 2022, a 10% decrease from the corresponding period in 2021. Furthermore, CMPP's operational expenses surged by 38.66% in the first half of the year, as per their financial statements, signaling a potential loss for 2022.

These global economic changes have heightened competition and increased the risk of financial distress, potentially leading to insolvency (Viriany, 2018). Financial distress is a decline or crisis in a company's financial status (Nurdiawansyah *et al.*, 2021). This distress often stems from an inability to sustain financial performance and unsuccessful product promotions, leading to reduced revenues and sales (Assaji & Machmuddah, 2019). Bankruptcy prediction in companies can be effectively conducted through the analysis of financial reports (Pinastiti *et al.*, 2023). Financial ratio analysis involves comparing accounts in financial statements to gauge business activities (Astuti & Taufiq, 2020). Ratios such as liquidity, profitability, leverage, and activity ratios are critical predictors of financial distress as they reflect financial performance and business efficiency. These are further analyzed using the Modified Altman Z-score Model, where a Z-Score above 2.6 indicates financial health and below 1.1 signifies distress (Oktaviani & Yanthi, 2022). In the transportation sector, several companies, barring PT. BLUE BIRD has been identified as financially distressed based on Z-Score analysis.

The following is a list of transportation sub-sector companies that experienced financial decline:

Table 1. Calculation of Z-Score Financial distress

No	Company Code	Company Name	Financial Distress (Z-Score)		
			2020	2021	2022
1	GIAA	PT. Garuda Indonesia Tbk	-5,05	-13,60	1,18
2	CMPP	PT. AirAsia Indonesia Tbk	-14,15	-18,98	-19,89
3	BIRD	PT. Blue Bird Tbk	3,97	5,60	5,69
4	LRNA	PT. Eka Sari Lorena Transport Indonesia	1,99	1,78	0,35
5	SDMU	PT. Sidomulyo SelarasTbk	-7,39	-7,14	-2,11

Table above, several companies in the transportation sector are experiencing financial difficulties except for PT. BLUE BIRD because based on analysis results from industry standards, if the Z-Score results are below 1.1, it is included in the unsafe category. It can also be seen from the results of the processed financial ratio data which proves that transportation sector companies are experiencing a decline as follows:

Table 2. Calculation of financial ratios

Code	Current Ratio			Return on asset			Debt to total asset			Total asset turns over		
	2022	2021	2020	2022	2021	2020	2022	2021	2020	2022	2021	2020
GIAA	0,48	0,18	0,12	0,60	-0,58	-0,23	1,25	-1,85	1,18	0,34	0,19	0,14
CMPP	0,04	0,03	0,03	-0,31	-0,46	-0,45	2,27	2,01	1,48	0,71	0,12	0,26
BIRD	1,52	2,42	1,94	0,05	0,01	-0,02	0,22	0,22	0,28	0,52	0,34	0,28
LRNA	0,75	1,01	0,80	-0,09	-0,11	-0,16	0,24	0,20	0,19	0,41	0,29	0,24
SDMU	1,19	0,29	0,30	0,04	-0,06	-0,25	0,98	1,01	0,96	0,16	0,12	-0,03
	0,80	0,79	0,64	0,06	-0,24	-0,22	0,99	0,32	0,82	0,43	0,21	0,18

From an analysis standpoint, the Current ratio is deemed suboptimal. As per Kasmir (2016), the industry standard for this ratio is 200%. The Return on Assets (ROA) is also considered poor, falling short of the industry standard of 30%. The Debt to Total Assets ratio further underscores this concern, with an industry benchmark of 35%. Companies such as GIA, CMPP, and SDMU exhibit worrisome ratios, reflecting an inability to cover debts with their total assets. Additionally, the industry standard for Total Asset Turnover is twice, suggesting that companies in the transportation sector are less efficient in asset utilization and income generation (Kasmir, 2016).

Prior research in this domain includes Makkulau's (2020) study on financial difficulties in the basic and chemical industries, which found that variables like CR, DER, and Sales Growth had negligible effects. In contrast, Dharma Swara (2021) identified the positive impacts of ROA, CR, DER, and TATO on financial stress in the construction subsector, with sales growth exerting a negative effect. This study differs in its variable selection and focuses on more contemporary research subjects and periods. The significance of this research lies in its utility for companies to evaluate and analyze financial performance proactively, thereby averting potential bankruptcy (Izzah *et al.*, 2021). The aim is to ascertain the collective and individual impacts of ROA, DAR, CR, and TATO on Financial Distress.

Literature review

Signal theory

One of the most important ideas in this investigation is the notion of Signal Theory, which focuses on the dissemination of information regarding financial reports to relevant stakeholders. According to Assaji and Machmuddah (2019), this theory proposes that companies should make it a priority to guarantee that financial information is disclosed in a transparent manner. This would allow stakeholders to correctly evaluate the financial soundness of the organisation. According to Toly *et al.*'s research from 2020, voluntary publication of high-quality information by businesses is frequently interpreted as a representation of the inherent worth of the enterprises, which greatly strengthens public trust in the organisation.

Financial distress

In 2020, Wafi *et al.* conducted research that defines "financial distress" as a situation wherein a business is confronted with substantial financial challenges that threaten to impede the timely fulfilment of its financial obligations. Financial insolvency is frequently linked to circumstances wherein an organization's liabilities surpass its assets. It is widely acknowledged that elements such as the organization's scale and profitability substantially impact the extent of financial distress an organisation is enduring (Renantha & Sudirgo, 2022).

Current ratio

According to Rochman and Pawenary's 2020 study, the Current Ratio measures a company's capacity to satisfy immediate commitments simply using its short-term assets. This ratio measures a company's capacity to satisfy its immediate financial commitments by dividing its current assets by its current liabilities. According to the basic idea, the Current Ratio (CR) contributes significantly to financial difficulty. This hypothesis is investigated.

Return on assets

Dewi *et al.* (2019) define Return on Assets (ROA) as a metric utilised to assess the profitability of an organization's assets during a specified time period in comparison to other metrics of a similar nature. Utilising a company's ROA as a metric to assess its profitability is one approach. Bakhri *et al.* (2018) posit that a greater return on assets (ROA) signifies that the organisation effectively employs its assets to generate profits and investment returns from its sales-related operations. According to the findings of the previously mentioned researchers, this is the case. The return on assets (ROA), according to the second hypothesis, plays a substantial role in identifying the degree of financial distress an organisation is undergoing.

Debt to asset

Andhani (2019) defines the Debt to Asset Ratio (DAR) as a quantitative metric derived from the proportion of a firm's total assets to its aggregate liabilities. In typical situations, a lower ratio is regarded positively as it indicates that the company is more proficient at managing its assets in relation to its obligations, thereby enabling it to do so with the assets at its disposal. The third theory posits the following: The hypothesis posits that a significant correlation exists between DAR and financial difficulties. It is hypothesized that this association exists.

Aset turnover

As indicated by the research presented by Hantono *et al.* (2019), the assessment of a company's ability to generate revenues from its assets is conducted using the Total Asset Turnover (TATO) metric. As stated by Restianti T. and Agustina L. (2018), heightened sales revenue-based profitability may result from the effective utilization of assets. Conversely, an inadequate allocation of resources could potentially foster the development of financial complications. The manner in which the current state of financial hardship is being encountered is anticipated to be significantly impacted by TATO, according to the fourth hypothesis.

Methods

Beginning in the year 2020 and continuing through the year 2022, the scope of this examination is limited to businesses operating in the transportation industry that are traded publicly on the Indonesia Stock Exchange (IDX). This investigation makes use of secondary data that was gathered through the careful use of the documentation method. The research methodology utilized in this investigation is quantitative. Please refer to the official website of the Indonesia Stock Exchange, which can be found at www.idx.co.id, as the primary source of this information. Using a method known as purposive sampling, the selection of samples is carried out. This research is supported by a complete methodological framework that allows for both correlation and regression analyses to be incorporated. Using these statistical methods not only makes the study more rigorous from an analytical standpoint, but it also makes it possible to conduct a more detailed investigation into the interrelationships and predictive components that are contained within the information. This choice of methodology leads to a more robust knowledge of the dynamics and trends that occurred inside the transportation businesses that were listed on the IDX throughout the time that was defined.

Table 3. Sampling Process

No	Sample criteria	Amount
1	Transportation Sector Companies listed on the Indonesia Stock Exchange (BEI) in 2020-2022	37
2	The company did not submit financial reports on December 31 regularly for 3 years in accordance with the research period required for the 2020-2022 period	10
3	Companies that do not use the Rupiah currency	3
4	Companies that have continuous profits during 2020-2022	11
	Number of research samples	13

Purposive sampling was used to choose the sample, which consisted of a total of 39 shipping transportation businesses that were listed on the IDX between the years 2020 and 2022. The selection was based on particular criteria that were established. The following is a list of the variables that were assessed in this study: The dependent variable is the Altman Z-score, which is used to measure the level of financial distress. Developed by Dr. Edward Altman in 1968, this score is a prediction instrument that may be used to evaluate the likelihood of a company filing for bankruptcy (Soedarsa *et al.*, 2019). For the Z-score, the formula is as follows:

$$Z = 6.56 X1 + 3.26 X2 + 6.72 X3 + 1.05 X4, \text{ where}$$

X1 = Working Capital / Total Assets

X2 = Retained Earnings / Total Assets

X3 = Earnings Before Interest and Taxes (EBIT) / Total Assets

X4 = Market Value of Equity / Book Value of Liabilities

According to the Altman model, the Z-score serves as a tool for classifying the financial well-being of companies into distinct categories. Companies experiencing a financial crisis are identified by a Z-score below 1.1. Those falling within a 'gray area,' characterized by financial conditions that are neither distinctly healthy nor indicative of crisis, are associated with Z-scores ranging from 1.1 to 2.6. On the other hand, companies deemed financially robust are those boasting a Z-score exceeding 2.6. This categorization system aids in providing a nuanced understanding of the diverse financial states companies may find themselves in, offering valuable insights for stakeholders and analysts assessing the stability of businesses. And the independent variables in this research:

Table 4. Independent variables

Variable		Formula
X1	Current Ratio	$CR = \text{Current Assets} / \text{Current Liabilities}$
X2	Return On Asset	$ROA = \text{Net profit} / \text{Total Assets}$
X3	Debt Asset Ratio	$DAR = \text{Total Debt} / \text{Total assets}$
X4	Total Asset Turn Over	$TATO = \text{Sales} / \text{Total Assets}$

Results

Descriptive Analysis

Descriptive statistical analysis to find standard deviation, lowest and highest numbers, as well as the average of the data used (Fauziah & Khasanah, 2022). From the table below, it is evident that there exist outlier data points exhibiting substantial disparities in their distribution values.

Table 5. Description of Research Variables

Deskriptive Statistics					
	N	Min	Max	Mean	Std. Deviation
Financial Distress	39	-19,89	11,63	-1,8908	8,09793
Current Ratio	39	0,03	4,07	1,0285	0,98081
Return On Asset	39	-0,58	0,60	-0,0815	0,19084
Debt to Asset Ratio	39	0,09	2,27	0,7303	0,56844
Total Asset Turn Over	39	-0,04	1,46	0,2977	0,36808

Source: SPSS Processing Data Results, 2023

Classic assumption test

Normality test

Table 6. Kolmogorov-Smirnov Test Results

One-Sample Kolmogorov-Smirnov Test			
			Unstandarized Residual
N			39
Normal Paramaters ^{ab}	Mean		0,0000000
	Std. Deviation		2,59908873
Most Extreme Differences	Absolute		0,136
	Positive		0,083
	Negative		-0,136
Test Statistic			0,136
Asymp. Sig. (2-tailed)			0,066 ^c

Source: SPSS Processing Data Results, 2023

Based on the results of the data analysis, which are displayed in the accompanying table, a value of 0.066 is generated by the Kolmogorov-Smirnov test. Upon interpreting this result in light of the asymp sig (2-tailed) value exceeding 0.05, it becomes possible to deduce that the data under consideration follows a normal distribution.

Multicollinearity Test

Table 7. Multicollinearity Test Results

Model	Collinearity Statistics	
	Tolerance	VIF
1 (Constant)		
Current ratio	0,327	3,055
Return on Asset	0,812	1,232
Debt to Asset Ratio	0,454	2,203
Total Asset Turn Over	0,559	1,789

Source: SPSS Data Processing Results, 2023

Significant discoveries have been made in the investigation into multicollinearity, as indicated by the conclusions. The assessment of tolerance and Variance Inflation Factor (VIF) values is a critical element that must be taken into account throughout this inquiry. It is postulated that the absence of multicollinearity in the data is confirmed when the variance inflation factor (VIF) is below 10.00 and the tolerance value exceeds 0.100. As shown in the table, tolerance values exceeding 0.1 and VIF values remaining below 10 provide support for this condition. In respect to the independent variables under investigation in this study, this finding substantiates the absence of multicollinearity.

Heteroscedasticity Test

Additionally, the graphical representation presented in the preceding explanation contributes to the study. The absence of any observable pattern and the distribution of data points both above and below the zero point on the Y-axis provide support for the conclusion that the employed regression model does not demonstrate heteroscedasticity. It is imperative to consider this to ensure that the reliability and validity of the regression analysis are maintained.

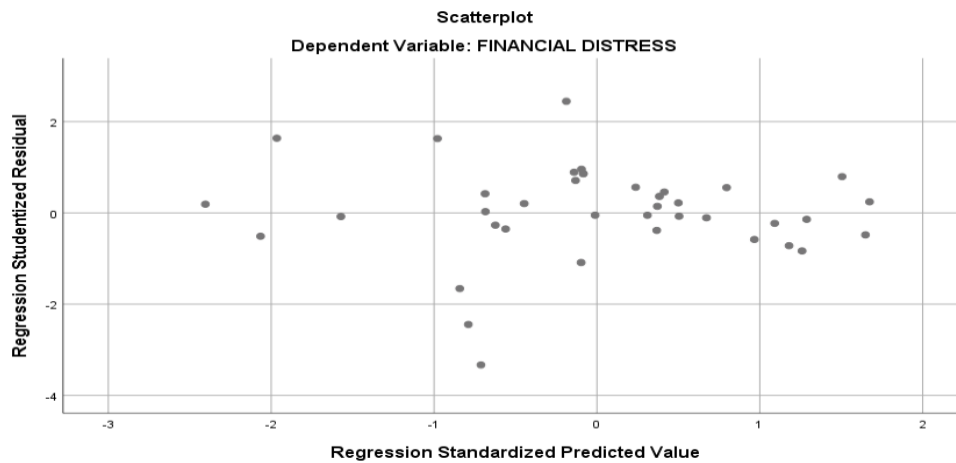


Figure 1. Heteroscedasticity Test Results

Autocorrelation Test

Table 9. Autocorrelation Test Results

Model Summary ^b		Durbin-Watson
Model		
1		0,813

Source: SPSS Data Processing Results, 2023

An additional crucial element of this inquiry is the Durbin-Watson (DW) statistic, which is displayed in the table being examined. Based on the obtained score of 0.813 and accounting for the DW Summary Model parameters that require autocorrelation freedom for DW values ranging from -2 to 2, it can be concluded with confidence that the model is devoid of any autocorrelation issues.

Hypothesis testing

Multiple Regression Analysis Test

Table 10. Results of the Multiple Linear Regression Test

Coefficients ^a		Unstandardized Coefficients		
Model		B	Std. Error	
1	(Constant)	1,308	1,386	
	Current Ratio	3,771	0,794	
	Return On Asset	7,010	2,592	
	Debt to Asset Ratio	-7,756	1,164	
	Total Asset Turn Over	-2,827	1,620	

Source: SPSS Data Processing Results, 2023

From the results of the t table test, the multiple linear regression model is:

$$Y = 1,308 + 3,771 X_1 + 7,010 X_2 - 7,756 X_3 - 2,827$$

Coefficient of Determination Test (R²)

Table 11. Coefficient of Determination Test Results (R²)

Model Summary ^b		Adjusted R Square
Model		
1		0,885

a. Predictors: (Constant), CR, ROA, DAR, TATO

Source: SPSS Data Processing Results, 2023

The results of the data processing conducted by SPSS in 2023 indicate that the analysis of the Adjusted R Square value, which is presently 0.885, is noteworthy. Based on the substantial outcome, it is possible to conclude that the Return on Assets (ROA), Debt to Asset Ratio (DAR), Current Ratio (CR), and Total Asset Turnover (TATO) account for 88.5% of the variance in financial hardship when considered collectively. The substantial proportion of variance attributed to financial distress provides further support for this assertion. The remaining 11.5% of the variation may therefore be accounted for by additional factors not accounted for in the model. This is due to the fact that not all variables were accounted for in the model.

Partial Test

Table 12. Partial Test Results (t Test)

Model		Coefficients ^a	
		T	Sig
1	(Constant)	0,944	0,352
	Current Ratio	4,747	0,000
	Return on Asset	2,704	0,011
	Debt to Asset Ratio	-6,664	0,000
	Total Asset Turn Over	-1,746	0,090

Source: SPSS Data Processing Results, 2023

From the aforementioned table, upon scrutiny of the significance values ($\text{sig} < 0.05$), it can be concluded that the three variables, namely Current Ratio (X1), Return on Assets (X2), and Debt to Assets Ratio (DAR), exert a significant influence and possess statistically significant relationships with Financial Distress. However, the variable Total Assets Turnover (TATO) (X4) does not exhibit statistical significance in relation to Financial Distress.

Discussion

The influence of liquidity to financial distress

The relationship between the Current Ratio (CR), a vital quantitative metric gauging liquidity, and its association with financial adversity has been the focal point of extensive scholarly inquiry. The aforementioned study has yielded noteworthy insights into the intricate dynamics underpinning the financial resilience of corporations. An exemplary outcome emanating from the empirical investigation, employing the t-testing methodology, is particularly striking, with a calculated p-value of 0.000 attributed to the CR metric. It is imperative to note that the conventional threshold for statistical significance, widely acknowledged within academic discourse, stands at 0.05, rendering the obtained p-value markedly below this standard. Such a finding unequivocally establishes a robust and quantifiable nexus between liquidity, as encapsulated by the CR, and the manifestation of financial distress within corporate entities. A salient observation drawn from the empirical evidence is the discernible negative correlation exhibited: as liquidity measures, denoted by elevated CR values, escalate, manifestations of financial strain notably diminish. This observed association not only corroborates but also underscores the validity of the initial hypothesis positing a substantive relationship between heightened liquidity levels within a firm and a commensurate reduction in the likelihood of encountering financial hardships.

The influence of profitability to financial distress

This study delves into the intricate interplay between financial distress and profitability, with a specific focus on the assessment of Return on Assets (ROA). Expanding upon prior research endeavors, this investigation seeks to elucidate nuanced dimensions of the relationship between financial performance metrics and corporate resilience. Through rigorous statistical analysis employing t-test methodologies, the study unveils a pivotal finding, underscored by a noteworthy SIG value of 0.011 attributed to ROA. Remarkably falling below the conventional significance threshold of 0.05, this outcome unequivocally underscores the statistically significant impact of ROA on a firm's financial well-being. This delineation is crucial, as it aligns with established conventions within empirical research, affirming the discernible influence of profitability metrics on the manifestation of financial adversity.

Of particular interest is the discerned direct correlation between the variables under scrutiny: as profitability, denoted by a heightened ROA, ascends, so too does the variable indicating financial distress. This observation presents a paradoxical narrative wherein an increase in profitability seemingly accompanies a concurrent rise in financial strain. However, an intriguing facet emerges upon closer scrutiny of the z-score, which, despite indicating an escalation in financial distress, paradoxically suggests an improvement in financial conditions or a diminution of stress. This seemingly counterintuitive outcome lends credence to the second hypothesis posited in this study, which conjectures that a firm's resilience against financial adversities is bolstered by a robust level of profitability, as quantified by an elevated return on assets (ROA). Thus, the unexpected nuances uncovered in this analysis serve to enrich our understanding of the complex dynamics underpinning the relationship between profitability and corporate financial resilience, offering insights with implications for both theoretical frameworks and practical strategic decision-making within organizational contexts.

The influence of Leverage to financial distress

Furthermore, this study scrutinizes the impact of the Debt to Asset Ratio (DAR), serving as a pivotal gauge of leverage, on the manifestation of financial hardship. Employing t-test methodologies to discern statistical significance, the analysis reveals a striking GIS value of 0.000 attributed to DAR, distinctly falling below the conventional significance threshold of 0.05. This compelling finding furnishes robust evidence of the significant influence wielded by leverage on financial distress within corporate entities. Central to the research's overarching narrative is the discerned inverse relationship between financial distress metrics and leverage ratios. The empirical evidence underscores that firms boasting lower leverage ratios exhibit greater resilience against the onset of financial difficulties. This inference suggests a prudent management of debt vis-à-vis total assets, indicating a proactive stance in debt control that fortifies the firm's financial position. In stark contrast, a higher leverage ratio may signal an ineffectual debt management strategy on the part of management, potentially exacerbating vulnerabilities to financial distress.

These findings underscore the intricate and multifaceted impact of leverage on the financial well-being of businesses, elucidating the nuanced dynamics at play within the realm of corporate finance. Such insights gleaned

from the empirical analysis provide substantive support for the third hypothesis posited in this study. By unraveling the complex interplay between leverage and financial distress, this research contributes to a more nuanced understanding of the factors shaping corporate resilience and offers valuable insights for strategic decision-making aimed at fortifying organizational financial health and sustainability.

The influence of activities to financial distress

Aligned with the fourth hypothesis, the examination delves into the influence exerted by Total Assets Turnover (TATO) on financial distress, albeit yielding a non-significant effect, as indicated by its significance value of 0.090. Significantly exceeding the conventional threshold of 0.05, this finding denotes that while TATO does indeed wield an impact, its magnitude falls short of achieving statistical significance in relation to financial stress. Thus, it can be inferred that when a company's sales operations are executed with suboptimal efficiency, it may engender financial losses; however, this effect does not attain statistical significance in the context of this analysis.

The observed pattern suggests that as the TATO value escalates, there is a concurrent reduction in the magnitude of the financial distress variable. This implies that enhanced efficiency in asset utilization, reflected by higher TATO values, may mitigate adverse financial outcomes, thereby attenuating the severity of financial difficulties encountered by the company. Nevertheless, while this trend aligns with the theoretical underpinnings posited in the fourth hypothesis, the absence of statistical significance underscores the need for cautious interpretation. Consequently, the fourth hypothesis is accepted, albeit with the caveat that while TATO does influence financial distress, its impact does not achieve statistical significance within the confines of this study. This nuanced understanding contributes to a more comprehensive comprehension of the factors shaping corporate financial resilience, urging further exploration and refinement in future research endeavors.

Conclusion

In conclusion, the empirical investigation undertaken herein underscores a multifaceted relationship between key financial metrics and the manifestation of financial distress within the context of the Indonesia Stock Exchange (IDX) transportation sector spanning the period from 2020 to 2022. Notably, the study reveals a discernible positive and statistically significant association between liquidity, operationalized through the Current Ratio (CR), and the incidence of financial adversity among transportation enterprises during the examined timeframe. Moreover, the examination unveils a positive impact of profitability, as gauged by the Return on Assets (ROA), on the likelihood of encountering financial strain within this sector. Conversely, a negative and statistically significant nexus is identified between leverage, as measured by the Debt to Asset Ratio (DAR), and financial difficulty, indicative of the potential mitigating role of prudent leverage management in navigating economic challenges. Furthermore, while the analysis suggests a non-significant negative effect of activity, denoted by the Total Asset Turnover, on financial distress for transportation companies throughout the investigated period, the nuanced interplay between this metric and other financial indicators warrants further scrutiny.

The implications drawn from these empirical findings are manifold and hold substantive relevance for both industry practitioners and scholarly pursuits. The observed relationships underscore the importance of strategic financial ratio analysis in proactively mitigating financial risk within the transportation sector. For prospective investors, the study underscores the criticality of thorough due diligence, emphasizing the scrutiny of a firm's financial health, particularly with regard to its debt burden and profitability trajectory. In terms of future research directions, it is recommended that scholars adopt a diversified sampling approach to attenuate the influence of potential data outliers, thereby enhancing the robustness and generalizability of findings. Additionally, the exploration of diverse industry sectors and temporal horizons is advocated to glean deeper insights into the intricate dynamics underpinning financial adversity across varied organizational contexts. Such endeavors hold promise for advancing our comprehension of the nuanced interactions engendering financial challenges for enterprises across disparate industries, thereby facilitating more informed decision-making and strategic planning initiatives.

Acknowledgements

We would like to thank all the people involved in this research.

Funding

This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

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