

The Role of Exchange Rate Adjustments: Profitability and Liquidity in Financial Security

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Abstract: The purpose of this study is to determine the impact of profitability and liquidity on financial distress, with the 2021 exchange rate as a moderator. The population of this study is transport companies that will be listed on the Indonesia Stock Exchange (IDX) in 2021. Sampling This technique uses non-probabilistic and directed sampling techniques. Based on specified criteria, 38 companies were identified. The type of data used is secondary data obtained from the official website of the Indonesia Stock Exchange. In this study, we use partial linear regression analysis (Partial Least Squares or PLS) to test the hypotheses proposed in the SmartPLS 4 software. The results of this study suggest that. 1). Profitability has a big impact on financial emergencies. 2). Liquidity does not have a significant impact on financial difficulties. 3). Exchange rates as a moderating factor in this study cannot mitigate the impact of profitability on economic hardships. Four). The exchange rate as a moderating factor in this study cannot mitigate the impact of liquidity on financial distress. At the same time, liquidity and exchange rates cannot soften the relationship between profitability and liquidity in financial distress.

Keyword: Financial Distress, profitability, liquidity, exchange rates.

INTRODUCTION

The transport sector supports economic growth as Indonesia has many islands with inter-regional transport services. The transportation industry is a sector that supports the movement of people, the distribution of goods, and imports and exports. This means of transport includes land, air and sea.

The transport sector was paralyzed in the first year of the COVID-19 pandemic as social activity restrictions were imposed to break the chain of COVID-19 spread. The COVID-19 pandemic is one of the most common phenomena dangerous in the world in the last century. COVID-19 pandemic not only cause health problems, but also cause social impacts such as public panic, crisis of confidence, and the most severe impact is lowdown in national economic growth (Hafidzi et al., 2023). The sector has declined in 2020 as human mobility has decreased dramatically. The impact of the COVID-19 pandemic is affecting many areas, including politics, social conditions, and the economy. One of the industries affected by the COVID-19 pandemic is the land, sea and air transportation sector (www.bps.co.id). From 2011 to 2019, the average annual growth of the national transportation and warehousing industry was 7.31%. The highest growth rate in 2017 reached 8.49%, and the lowest growth rate in 2019 was 6.38% (www.bps.co.id).

According to Farida T. Kristanti (2019:19), financial indicators commonly used to predict financial crises are profitability, liquidity, solvency and activity indicators. In this case, profitability is measured by Return on Assets (ROA), which shows how efficiently a company's assets are used benefit. The liquidity ratio measures a company's ability to pay its short-term debt Use Liquidity Ratio (CR).

According to Liou & Smith (2006), The company's financial problems can also be caused by other factors beyond its control, such as the depreciation of the rupiah against the US dollar and the depreciation of the exchange rate. Therefore, the external factors of the enterprise also affect the internal ones and should be taken into account. The macro factor is factors beyond the company's control but have an impact on company performance..

One macroeconomic factor that can directly affect stock prices and company performance is exchange rates (Sutriani,2014). This exchange rate affects the amount of fees the company charges for transactions. As the exchange rate depreciates, the value of the Rupiah is lower than that of the U.S. dollar, increasing the amount of debt that must be serviced, which has a very negative impact on companies and adversely affects their financial statements and financial performance. The company gets worse. This could be one reason why investor confidence in the company has waned.

The results of the research conducted by Nur (2021), Kartikajati & Haryanto (2014) show that profitability does not have a significant impact on the determination of financial hardship. On the other hand, studies Salsabilla (2022), Zhiyong Li et al (2020), dan Srengga (2012) conducted show that profitability has a significant impact on financial hardship.

Findings from Erik & Mushdolifah (2020), Zhiyong Li et al (2020), Setiawan & Ambongningtyas (2018) show that liquidity has a significant impact on financial distress. On the other hand, research conducted Dewi & Dana (2017) shows the opposite result: liquidity does not have a significant impact on forecasts of fiscal crises.

The results of research conducted by Nur (2021) are consistent with hypotheses Widarjo & Setiawan (2009), Wei & Strak (2013), dan Endang & Jumyetti (2017) suggesting that the value of the rupiah to the dollar may adversely affect the ratio of profitability to economic hardship. indicates that there is A higher exchange rate against the dollar means that the currency is devalued, which leads to lower profitability for the company, lowering its profitability and affecting its financial position.

Nur (2021), Sumani (2017), Nurhidayah & Fitriyatur (2017), Sulaksana (2016) show that the exchange rate cannot weaken liquidity in financial distress. On the other hand, studies sutriani (2014), Rodoni & Herni (2014), Afifudin (2019), dan Rohiman & Darmayanti (2019) suggest that exchange rates against the dollar can ease liquidity during financial crises.

LITERATURE REVIEW

Agency Theory

According to Imam Ghozali (2019:86), that the agency theory was first popularized by Jensen and Meckling (1976). They define an agency relationship as an agreement in which one or more (participants) provide services to others (agents). Their interest is to provide a certain amount of decision-making authority through delegation. to an agent.

According to Jensen dan Meckling (1976), an agency relationship is a contract between a manager (agency) and an investor (principal). The principal is the shareholder of the company and the representative is the manager who runs the company. Investors have a duty to manage the company as necessary for its success. At the same time, managers acting as agents often do not act on participatory direction. Therefore, it is necessary to prevent agency costs and conflicts of interest between management and shareholders.

Signaling Theory

According to Imam Ghozali (2019:166), signal theory is used to explain to investors the superiority of one firm over another and to explain the actions signalers take to influence the behavior of signal recipients. First developed by Spence (1973). Signal theory is commonly used in accounting, auditing, and financial management studies. She explains that through various aspects of financial disclosures, management sends signals about the company that investors might receive as signals.

In general, signal theory aims to understand how some signals are valuable or useful while others are useless. Signal theory studies how a signal relates to the quality reflected in the signal and what factors in the signal and the surrounding community make it believable and attractive. In addition, the theory also considers what happens when the desired signal is completely unconvincing, and how much uncertainty can be tolerated before the signal becomes completely meaningless. The desires of signal senders and signal receivers are often aligned, but sometimes they are not.

Financial Report

According to Toto Prihadi (2019:8) financial statements are the result of recording all financial transactions within a company. The rules or principles that all companies must follow when preparing financial reports are “Generally Accepted Accounting Principles/GAAP”, but in Indonesia “Indonesian Accounting Principles/PAI” and “Financial Accounting Standards/SAK”.

Financial Distress

According to Francis Hutabarat (2020:27), when a company runs into financial difficulties and is unable to meet its various obligations to others, such as bonds to creditors and bondholders, it can lead to bankruptcy.

Profitability

According to Francis Hutabarat (2020:24) This metric helps measure a company's ability to generate profits. A good profitability metric usually shows a higher value than the ROA of assets and ROE of equity. Generally, the ROA ratio is assumed to be 5%, ROE 20%. Profitability levels above this criterion can be used to assess whether a company has control based on its assets and capital.

Liquidity

According to Francis Hutabarat (2020:21) This indicator measures a company's ability to meet its short-term financial obligations in the form of short-term debt.

According to Kasmir (2016:130) liquidity is a company's ability to fund its obligations/debt and pay it back at maturity. Therefore, it can be said that this indicator determines a company's ability to pay its debts in the event of a claim.

Exchange Rates

Sukirno (2019:399) The displayed exchange rate is the price of one country's currency against another country's currency. According to Nugroho (2008) the exchange rate of the Indonesian rupiah against other national currencies has a negative impact on the economy and the capital market. If the rupiah depreciates, import costs will rise and interest rates will rise. However, exchange rate depreciation can also boost exports..

Method

This research uses quantitative methods. Quantitative data is a research method based on positivism (concrete data). The research data is in numerical form, measured using statistics as an arithmetic testing tool, and linked to the problems being studied to draw conclusions. , Sugiyono (2022:7).

The data used in this study are secondary data. The secondary data used in this study were extracted from the transportation company's 2021 annual financial report through the official website of the Indonesia Stock Exchange i.e. www.idx.co.id. The data analysis technique used to test the hypotheses proposed in this study is partial linear regression analysis (partial least squares/PLS). Each hypothesis is analyzed using SmartPLS 4 software to test relationships between variables.

In this study, the sampling method used was targeted sampling, or sampling based on the specific criteria required in this study. Based on a targeted sampling technique, a total of 38 transport companies listed on the Indonesian Stock Exchange were identified. Indonesia uses rupiah units in its financial reports. The study population consisted of 74 shipping companies, and the study sample consisted of his 38 companies excluded based on these criteria.

Variable measurement

In this study, the independent variables consisted of: Profitability and liquidity

Profitability based on return on assets (ROA)

$$ROA = \frac{\text{Earnings before interest and taxes}}{\text{Total Assets}} \dots\dots\dots(1)$$

(Source: Subiakto et al, 2021)

Liquidity proxied by Current Ratio (CR)

$$CR = \frac{\text{current asset}}{\text{current liabilities}} \dots\dots\dots(2)$$

(Source: Subiakto et al, 2021)

In this study the dependent variable used is Financial Distress

Financial Distress proxied by the Altman Z"-Score

$$Z'' = 6.56(WCTA) + 3.26(RETA) + 6.72(EBITA) + 1.05(BVEBVD) \dots\dots\dots(3)$$

(Source: Agus, 2021)

Information:

WCTA = Working capital to total assets

RETA = Retained earnings to total assets

EBITA = Earning before interest to total assets

BVEBVD = Book value of equity and Book value value of debt

In this study the moderating variable used is the Exchange Rate

$$\text{The middle rate BI} = \frac{\text{Selling rate} + \text{buying rate}}{2} \dots\dots\dots(4)$$

(Source : Sukirno, 2019)

RESULTS

Descriptive Statistical Analysis

We first use descriptive statistical analysis to describe the data for each variable used in this study, before further analyzing the impact of profitability and liquidity on financial distress using exchange rates as moderator variables. is needed. Results of statistical data analysis for all variables used in this study are presented in the table 4.1 below.

Table 4.1
Results of Descriptive Statistical Analysis
Transportation Company in 2021

Name	Mean	Median	Scale min	Scale max	Standard deviation	Excess kurtosis	skewness
ROA	3.263	0.040	-58.030	207.180	36.041	27.983	4.759
CR	93.425	2.530	0.000	786.060	162.573	7.559	2.490
WCTA	-1.352	0.034	-48.200	0.830	7.722	37.571	-6.114
RETA	-0.033	0.002	-2.522	2.000	0.542	16.161	-1.247
EBITTA	0.033	0.005	-0.630	2.000	0.357	24.844	4.316
BVEBVD	5.592	2.990	-1.058	28.220	6.965	2.491	1.653
Kurs Tengah	21.553	21.545	21.161	21.894	0.205	-0.515	-0.104

Partial least square analysis– structural equation model (PLS-SEM)

Partial Least Squares Analysis - Structural Equation Modeling (PLS-SEM) is a multivariate statistical analysis that simultaneously estimates the effects of variables for the purpose of predictive studies,

research, or structural model development (29). The analysis is based on three models: measurement model assessment, structural model assessment, and model goodness and fit assessment.

Evaluation of the measurement model (Outer Model)

Outer Loading

A statistic used for outer loading is to see if the LF value is > 0.70. And (effectively) this measure can measure the effects of latent variables, Hair et al (2019). The result of outer loading will be:

Table 4.2
Outer Loading Results

	Outer loadings
BVEBVD <- Financial Distress	0.196
CR <- Likuiditas	1.000
EBITA <- Financial Distress	0.940
Kt <- Nilai Tukar	1.000
RETA <- Financial Distress	0.882
ROA <- Profitabilitas	1.000
WCTA <- Financial Distress	0.114

Based on table 4.2 is the overall LF values for all variables are greater than or equal to 0.70 (effective), and these measures can measure the effects of latent variables. BVEBVD and WCTA indicators are marked with LF < 0.70, meaning this indicator is not important enough to measure the financial hardship variable.

Composite Reliability and Average Variance Extracted

The statistics used for combined reliability and extracted mean variance are combined reliability scores > 0.70, indicating that this configuration has high reliability as a measurement tool. A threshold above 0.70 means acceptable, and thresholds above 0.80 and 0.90 mean very satisfactory. If the AVE score is > 0.50, we say that the configuration has good convergence validity (29). Below are the combined reliability and mean variance results extracted as follows:

Table 4.3
Composite Reliability and Average Variance Extracted

	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
Financial Distress	0.81	0.891	0.911	0.836
Liquidity	0.76	0.823	0.865	0.821
Exchange Rates	0.86	0.898	0.931	0.862
Profitability	0.94	0.902	0.963	0.901

Based on table 4.3 is the overall CR value > 0.70 which indicates that the level of reliability of the variable is accepted and the AVE value > 0.50 which meets the requirements of good convergent validity

Discriminant validity

According to (29), HTMT is recommended because this measure of discriminant validity appears to be more sensitive and accurate in detecting discriminant validity. Validity of the discriminant is achieved at 0.90 for the HTML value < variable pair. Therefore, the researchers used the best current measurements to examine heterosexual-to-monosexual ratio (HTMT) values. Here is the HTML result:

Table 4.4
heterosexual-to-monosexual ratio (HTMT)

	Financial Distress	Likuiditas	Nilai Tukar	Profitabilitas	Nilai Tukar x Profitabilitas	Nilai Tukar x Likuiditas

	Financial Distress	Likuiditas	Nilai Tukar	Profitabilitas	Nilai Tukar x Profitabilitas	Nilai Tukar x Likuiditas
Financial Distress						
Likuiditas	0.046					
Nilai Tukar	0.085	0.072				
Profitabilitas	0.014	0.003	0.112			
Nilai Tukar x Profitabilitas	0.182	0.079	0.674	0.215		
Nilai Tukar x Likuiditas	0.064	0.177	0.384	0.081	0.501	

Based on table 4.4 is the overall HTMT value for each pair of variables is <90, so the evaluation of discriminant validity is fulfilled.

Evaluation of the Structural Models (Internal Models)

Path Coefficient

The importance of influences between configurations can be seen from the path coefficients. Valid path markers should be consistent with theoretical hypotheses. To assess the importance of effective paths, we can use the t-test (critical ratio) obtained from the bootstrap process (resampling method). By checking the statistical t-value or p-value. If the t-statistic > 1.96 or the p-value < 0.05, there is a significant effect between the variables. The path factor (path factor) results in:

**Table 4.5
 Path Coefficients**

	Original sample (O)	Sample mean (M)	Std deviation (STDEV)	T statistics ((O/STDEV))	P values
Profitabilitas -> Financial Distress	0.927	0.876	0.266	3.483	0.000
Likuiditas -> Financial Distress	0.050	0.074	0.537	0.093	0.926
Nilai Tukar x Profitabilitas -> Financial Distress	-0.028	-0.084	1.401	0.020	0.984
Nilai Tukar x Likuiditas -> Financial Distress	0.052	0.073	2.630	0.020	0.984

Based on table 4.5 is the results of the Path Coefficient test, it can be concluded that profitability has a significant effect on financial distress with a statistical T value (path coefficient) = 3.483 > 1.96 and a p value of 0.000 < 0.05, meaning that profitability has a significant effect on financial distress.

While testing the hypothesis of other variables has a value of <1.96 and p value > 0.05, meaning that it has no significant effect.

Goodness and Fit Evaluation Model

R-Square

According to Chin (1998), qualitative interpretations of R-squared are 0.19 (low effect), 0.33 (moderate effect), and 0.66 (high effect). Below are the results of the R-squared test :

Table 4.6
R-square

	R-square	R-square adjusted
Financial Distress	0.857	0.835

Based on table 4.6 is the results of the R-squared test. The Financial Distress R-squared value is the adjusted R-squared value of the path model with moderator variables (0.835). This means that the profitability and liquidity and exchange rate variables have an 85.5% ability to explain the association with financial distress, and the model is rated as substantial (strong).

F-square

Qualitative interpretations of F-squared are 0.02 (small effect of exogenous variable on endogeneity), 0.15 (moderate effect of exogenous variable on endogeneity), and 0.35 (large effect of exogenous variable on endogeneity).) is. Here are the results of the F-squared test:

Table 4.7
F-square

	f-square
Profitabilitas -> Financial Distress	5.706
Likuiditas -> Financial Distress	0.016
Nilai Tukar x Profitabilitas -> Financial Distress	0.001
Nilai Tukar x Likuiditas -> Financial Distress	0.007

Based on table 4.7 is the overall only the profitability variable for financial distress conditions has a value of $F_2 = 5,706$. This means that there is a strong effect of exogenous variables on endogenous.

Meanwhile, other variables have F_2 values below 0.02. This means that there is a small effect from exogenous variables on endogenous ones.

Goodnes of Fit (Gof Index)

Qualitative interpretations of F-squared are 0.02 (small effect of exogenous variable on endogeneity), 0.15 (moderate effect of exogenous variable on endogeneity), and 0.35 (large effect of exogenous variable on endogeneity).) is. Here are the results of the F-squared test:

Table 4.8
GoF Index

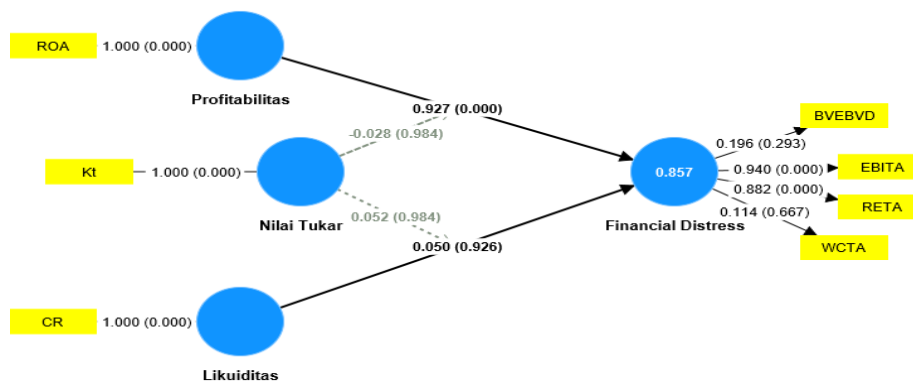
Rerata Communalitas	Rerata R-square	GoF Index
0.733	0.857	0.792

Based on table 4.8 is The calculation results show that the GoF value of the model is 0.792, meaning that it is included in the high GoF Index category. Empirical data is able to explain the measurement model and structural model with a high degree of fit.

PLS-SEM Model Results

The following is the result of the PLS-SEM working model image as follows:

Figure 4.1
PLS-SEM Model Hypothesis Testing Results



Source: Data processed by PLS-SEM (2023)

Interpretation Results

Table 4.9
Summary of Research Results

No	Hypothesis	Result	t-statistic and p-value
1	There is an effect of profitability on financial distress	Accepted	t-statistic = 3.483
			P-value = 0.000
2	There is an effect of liquidity on financial distress	Rejected	t-statistic = 0.093
			P-value = 0.926
3	Exchange rates can moderate the effect of profitability on financial distress	Rejected	t-statistic = 0.020
			P-value = 0.984
4	Exchange rates can moderate the effect of liquidity on financial distress	Rejected	t-statistic = 0.020
			P-value = 0.984

Discussion

Effect of Profitability on Financial Distress Conditions

Testing the first hypothesis in this study is to test whether Profitability (ROA) affects Financial Distress (Z"-Score). Based on table 4.9, it is known that the Profitability variable has a t-statistic value (3.483) > 1.96 and a P-Value. (0.000) < 0.05. These results reflect the company's return on investment (ROA). In other words, the higher the return on assets (ROA) of a transportation company, the lower the risk of the company experiencing financial difficulties. This shows that the variable profitability of this study has a significant effect on financial distress. To accept the first hypothesis, profitability has a significant effect on financial distress. This result is related to research from (Hafidzi & Qomariah, 2022) that the path coefficient value of CR to ROA is y = -0.089 which is negative. The p value of 0.000 is significant because the p value is less than 0.05. So based on the calculation of the path coefficient and p-value on the influence relationship between variables, CR has an effect on ROA.

The Effect of Liquidity on Financial Distress Conditions

To test the second hypothesis of this study is to test whether liquidity (CR) affects financial distress. Based on Table 4.9 it is known that the t-statistic value of the liquidity variable is $(0.093) < 1.96$ and a P-Value $(0,926) > 0.05$. This indicates that the variable liquidity in this study is not important or has no significant effect on financial distress. This rejects the second research hypothesis that liquidity has no effect on financial distress. This means that the greater the liquidity (CR) owned by a transportation company, the lower the risk of the company experiencing difficulties.

The Effect of Profitability on Financial Distress Conditions Moderated by Exchange Rates

To test the third hypothesis in this study is to test whether the exchange rate can moderate the effect of profitability on financial distress. Based on Table 4.9, exchange rate variables can limit profitability in financial difficulties, with a t-statistic $(0.020) < 1.96$ and a P-Value $(0,984) > 0.05$. This shows that the exchange rate cannot moderate the effect of profitability on financial distress. Therefore, the third research hypothesis was rejected. This means that the rupee exchange rate against the dollar cannot strengthen or weaken the relationship between profitability and financial distress.

The Effect of Liquidity on Financial Distress Conditions

The test of the fourth hypothesis in this study is to test whether the exchange rate can mitigate the impact of liquidity on financial distress. From Table 4.9, the t-statistic $(0.020) < 1.96$ and the p-value $(0.984) > 0.05$ for the exchange rate variable that moderates liquidity under financial distress. This shows that the Exchange Rate cannot moderate the effect of Liquidity on Financial Distress conditions. So that the fourth research hypothesis was rejected. This means that the rupiah exchange rate against the dollar cannot strengthen or weaken the relationship between liquidity and financial distress.

Conclusion

Based on the hypothesis testing carried out in this study, the following conclusions can be drawn:

1. The Profitability variable in this study has a significant influence on the Financial Distress condition of Transportation companies listed on the Indonesia Stock Exchange in 2021. With a t-statistic value $(3,483) > 1.96$ and a P-Value $(0.000) < 0.05$. Thus H1 is accepted or proven in this study.
2. The Liquidity variable in this study has no significant effect on the Financial Distress condition of Transportation companies listed on the Indonesia Stock Exchange in 2021. With a t-statistic value $(0.093) < 1.96$ and a P-value $(0.926) > 0.05$. So that H2 in this study was rejected or not proven..
3. The Exchange Rate Variable as a moderator in this study cannot moderate the effect of Profitability on Financial Distress conditions in Transportation companies listed on the Indonesia Stock Exchange in 2021. With a t-statistic value $(0.020) < 1.96$ and a P-value $(0.984) > 0.05$. So that H3 in this study was rejected or not proven.
4. The Exchange Rate Variable as a moderator in this study cannot moderate the effect of Liquidity on Financial Distress conditions in Transportation companies listed on the Indonesia Stock Exchange in 2021. With a t-statistic value $(0.020) < 1.96$ and a P-value $(0.984) > 0.05$. So that H4 in this study was rejected or not proven.

Limitations

The research that the author has done has many shortcomings and limitations. Where later the limitations that exist in this study the author will reveal so that they can be used as a reference for the same research in the future so that the results of further research are better and closer to perfect. The limitations of this study are as follows:

1. The research period is only carried out for 1 year, namely 2021 with a limited sample of 38 companies, so the results of this study have the possibility that the results are not necessarily reliable and do not reflect conditions in the long term.
2. The number of variables used in this study, namely, only 2 independent variables, 1 dependent variable and 1 moderating variable. The use of relatively simple research variables because they only reveal the effect of Profitability and Liquidity on Financial Distress conditions with Exchange Rates as a

Moderating Variable. Because of this, there are still many other possible influential variables that were not included in this study.

3. The author admits that he has many limitations, the limitations of the references that the author has are not complete enough to support this research process so that there are many deficiencies in supporting the theory of the problem proposed.

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