



## Determinants of financial distress based on accounting, ownership, market and macroeconomic

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### ABSTRACT

Research was conducted to determine factors that can predict financial distress in Tourism, Restaurant and Hotel sector companies listed on the Indonesia Stock Exchange. The variables used in this study are DER, ROA, ROE, NPM, WCTA, TATO, CR, Managerial Ownership, PER, Inflation. The research uses logistic regression analysis to find which variables can determine which companies experience financial failure and do not experience financial failure. The results showed that the ratios that were able to distinguish distress and non-distressed companies were NPM, WCTA and Managerial Ownership.

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## INTRODUCTION

The COVID-19 pandemic has had many effects on the industrial sector, impacting both national and global economic conditions. The tourism sector plays an important role as a new locomotive in Indonesia's economic growth. Based on data obtained by the Tourism Satellite Account (TSA), the tourism sector contributes 4.97% to Indonesia's total GDP with an increasing trend every year and contributes greatly to the country's foreign exchange earnings of USD15.20 billion per year. This condition affects the financial performance of companies in the tourism sector which experienced a significant decline during the COVID-19 pandemic period Sun et al (2021). Companies experiencing financial distress are more likely to engage in earnings management and the low credibility of financial statements (Du & Lai, 2018). Financial distress refers to a situation when a company is unable to pay its debts, possibly leading to financial failure Chamboko et al (2017). Based on financial report data, it shows that from 2019-2022 Earning before interest and tax companies in the tourism, restaurant and hotel sector experienced unstable conditions. In 2019, 69 percent of companies had negative EBIT, in 2020 it increased to 86 percent where in 2019 and 2020 the whole world experienced an economic crisis as a result of the COVID-19 pandemic, in 2021 the number of companies experiencing negative EBIT fell to 76 percent and in 2022 it fell to 48 percent. This research focuses on predicting the effect of financial ratios on financial distress of Tourism, Restaurant and Hotel companies. This research is expected to provide information for companies to find out how the condition of their financial performance. With this research, companies can see

early warnings of financial distress so that it can be anticipated by improving financial performance to avoid bankruptcy. Financial Distress is a condition where the company does not have sufficient cash flow to pay debts. When the company experiences financial distress the company will avoid bankruptcy by restructuring assets and liabilities, Freitas Cardoso et al., (2019). Financially stressed companies with fewer opportunities have the greatest tendency to underinvest (López-Gutiérrez et al. (2015) Financial distress is recorded to create opportunities for resource reallocation within the company through corporate governance mechanisms (Muranda, 2006).

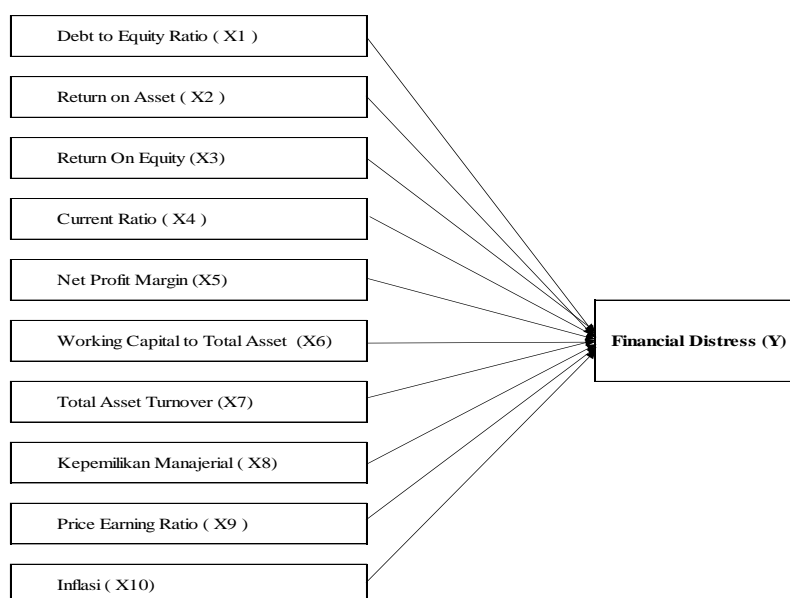
The term financial distress has been used to describe a variety of financial problems affecting companies, situations of insufficient liquidity, insufficient capital, failure to pay debts and insufficient liquid capital (Paule-Vianez et al., 2020). Lin (2009) considers that a company that is in a situation of financial distress experiences one of the situations of bankruptcy, failure to pay debt securities, excessive withdrawal of deposits, a significant event that does not allow the payment of debt at maturity, entry into bankruptcy proceedings or when the share price falls below a certain minimum. Research Saputri, (2019) Debt to Equity Ratio (DER) has a negative effect on financial distress, even though the company has a lot of debt but the company is still able to pay off the debt and interest from the debt. Different results were carried out (Truong, 2022) predicting financial distress with the ROA profitability ratio using Altman Z-score the result is ROA has a positive effect on financial distress. (Yusbardini & Rashid, 2019) tested the effect of ROA on financial distress, the result is that ROA has a significant positive relationship with financial distress. Research (Restianti & Agustina, 2018) predicts financial distress with the variable Return on Equity (ROE) resulting in ROE having a significant negative effect on financial distress, the higher the company's return on equity (ROE), the less likely the company will experience financial distress. (Restianti & Agustina, 2018) However, research found that Current Ratio does not have a significant effect on Financial Distress because the CR value is thought not to reflect the company's good or bad condition. Research (Balasubramanian et al., 2019) found that Net Profit Margin (NPM) as a significant negative predictor ratio in predicting financial distress. Research Maulidina, (2014) total asset turnover (TATO) has a positive effect on financial distress, fast asset turnover indicates that the assets owned by the company are too small in the company. Seppa, (2014), Ardiyanto & Prasetyono, (2011) Working Capital to Total Asset (WCTA) has a negative effect on financial distress, the availability of sufficient working capital allows the company to be far from financial failure. Murni, (2018) Price Earning Ratio (PER) has a significant negative effect on Financial distress. In the research of (Khoja et al., 2019) inflation has a positive effect on financial distress, inflation has a negative impact on the effectiveness of the company's sales and cash flow which results in a possible financial crisis.

Platt & Platt, (2006) The definition of a company experiencing financial distress is a company that has negative EBITDA, negative EBIT and negative Net Income. In this study, companies experiencing financial distress are companies that have negative EBIT from 2019 to 2022. Balasubramanian et al (2019) in his research found ratios that can predict financial distress, namely, DER, CR, ROE, NPM. Kuncoro & Agustina, (2017), Priyatnasari & Hartono, (2019), (Bunea et al., 2019), Khoja et al (2019), Giarto & Fachrurrozie, 2020), Lewaru & Loupatty (2021), found the financial ratios ROA, WCTA, TATO, Managerial Ownership, PER and Inflation as factors to predict financial distress. Debt to Equity Ratio is a financial ratio that compares the amount of debt and equity of the company. A high debt-to-equity ratio indicates that the company aggressively funds its company with debt Mselmi et al (2017). If the company's income level is lower than the cost of borrowed funds, the likelihood of financial distress will be greater. Low profits for debt-ridden companies will have difficulty repaying their debts, resulting in financial failure Balasubramanian et al., (2019)

## RESEARCH METHOD

### Hypotheses development

- H1 Debt to Equity Ratio (DER) has a positive effect on financial distress  
 H2 Return on Asset (ROA) has a negative effect on financial distress  
 H3 Return on Equity (ROE) has a negative effect on financial distress  
 H4 Net Profit Margin (NPM) has a negative effect on financial distress  
 H5 working capital to total assets (WCTA) has a negative effect on financial distress  
 H6 Total Asset Turnover (TATO) has a negative effect on financial distress  
 H7 Current Ratio (CR) has a negative effect on financial distress  
 H8 Managerial Ownership has a negative effect on financial distress  
 H9 Price earning ratio (PER) has a negative effect on financial distress  
 H10 Inflation has a positive effect on financial distress



**Figure 1.** Research model

### Population and Sample

Population in this study were tourism, restaurant and hotel sector companies listed on the Indonesia Stock Exchange with a research period of 2019 - 2022 totaling 44 companies. The number of samples in this study were 29 companies multiplied by the number of research years of 4 years so that the total sample was 116 samples. The sample is determined based on purposive sampling technique, namely on the basis of determining certain characteristics and criteria that have been determined.

### Data Processing Techniques

Data analysis using logistic regression. Ghozali (2020) in Aurellie Zulfa Islamy et al (2021) Logistic regression analysis is an analysis that aims to see whether the probability of the dependent variable can be predicted by the independent variable.

$$\ln P \ 1 - p = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \beta_8 X_8 + \beta_9 X_9 + \beta_{10} X_{10}$$

While

$\ln P \ 1 - p$  = Probability of a company experiencing financial distress.

- $\beta$  = Regression coefficient
- X1 = Debt to Equity Ratio (DER)
- X2 = Return on Asset (ROA)
- X3 = Return on Equity (ROE)
- X4 = Current Ratio (CR)
- X5 = Net Profit Margin (NPM)
- X6 = Working Capital to Total Asset (WCTA)
- X7 = Total Asset Turover (TATO)
- X8 = Manajerial Ownership
- X9 = Price Earning Ratio (PER)
- X10 = Inflasi

## RESULTS AND DISCUSSIONS

The data used in this research are financial ratios obtained from the financial statements of tourism, restaurant and hotel sector companies listed on the Indonesia Stock Exchange from 2019 to 2022.

**Table 1.** Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	58.545	8	.000
	Block	58.545	8	.000
	Model	58.545	8	.000

Omnibus test table, the sig model value at 0.00 is smaller than 0.05. This shows that the ten ratios of ROA, ROE, CR, NPM, WCTA, TATO, Managerial Ownership, Inflation together have an effect on financial distress.

**Table 2.** Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	94.418 <sup>a</sup>	.396	.541

a. Estimation terminated at iteration number 9 because parameter estimates changed by less than ,001.

Model summary table based on Nagelkerke R Square with a value of 0.541, it shows that all independent variables affect the possibility of financial distress by 54.10%. The remaining 45.9% is influenced by other variables outside the variables studied, for example variables outside financial performance such as poor corporate governance, high management turnover.

**Table 3.** Hosmer and Lemeshow Test

Step	Chi-square	df	Sig.
1	3.520	8	.898

The Hosmer and Lemeshow Test table is used to measure whether the predicted probability matches the observed probability. This model can predict the probability of financial distress, with a significant value of 0.898 greater than 0.05, which indicates that the model can be used in predicting observed data.

The prediction accuracy of companies with positive EBIT (non distress) is 76.7% with a grouping error of 10 cases, and the prediction accuracy of companies with negative EBIT (distress) is 86.3% with a grouping error of 10 cases. The total prediction accuracy or model accuracy rate is 82.8%

**Table 4.** Variables in the Equation

		Variables in the Equation					
		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1 <sup>a</sup>	DER	.036	.087	.173	1	.678	1.037
	ROA	5.791	5.594	1.072	1	.301	327.261
	CR	.041	.022	3.537	1	.060	1.042
	NPM	-4.268	1.145	13.894	1	.000	.014
	WCTA	-4.449	1.953	5.190	1	.023	.012
	TATO	.602	.442	1.855	1	.173	1.826
	MANOWN	2.761	1.295	4.544	1	.033	15.814
	INFLASI	-41.725	27.591	2.287	1	.130	.000
	Constant	.229	.975	.055	1	.814	1.257

a. Variable(s) entered on step 1: DER, ROA, CR, NPM, WCTA, TATO, MANOWN, INFLASI.

Based on the Variables in the Equation table in the partial test, the ten variables have the same effect on financial distress. The financial ratios DER, ROA, CR, TATO, and Inflation have no effect on financial distress because the significant value is greater than 0.05. Variables that have a significant effect on financial distress are NPM with a significant value of 0.000, WCTA with a significant value of 0.023 and Managerial Ownership with a significant value of 0.033. The logistic regression function equation formed from this study is

**Distress Probability Function** = 0,229 - 0,036 (DER) + 5.791 (ROA) + 0.041 (CR) - 4,268 (NPM)\* - 4,449 (WCTA)\* + 0,602 (TATO) + 2,761 (MANOWN)\* - 41.725 (INFLASI)

\*sig  $\alpha$  5%

The findings in this study A negative NPM value indicates that the smaller the NPM value of a company, the company will experience financial distress. Geng et al (2015) using data mining techniques to build a financial distress forecasting model of 107 Chinese companies based on 31 financial indicators over the period 2001-2008 found that the NPM ratio has an important role in the decline of profitability, his research also shows that the risk of financial distress is high when the company's net profit is less than 2.5% of the average value of total assets owned by the company. This study proves that NPM is a differentiating factor for companies experiencing financial distress and those that are not experiencing financial distress. NPM can be a benchmark of whether the company can be efficient in managing its funds, a company that can carry out cost efficiency, both operational costs and costs for the source of funds (Cost of Capital) used so that the company's survival can be maintained and avoid financial distress.

WCTA can be a factor that distinguishes companies experiencing financial distress and companies that are not experiencing financial distress. WCTA has a negative effect on financial distress, meaning that the smaller the WCTA value, the more likely the company will experience financial distress. Companies that are unable to manage their working capital have liquidity difficulties, causing financial distress. In this condition, the company must pay attention to effective working capital management so that it can have enough working capital to guarantee when the company has to meet the obligations that are immediately due. Moch et al (2019) found the result that WCTA is a factor predicting companies that experience financial distress and not financial distress. These results are also in accordance with the research of Altman I Edward, (1968) who conducted bankruptcy prediction research using 22 financial ratios, the result is that there are five ratios that can predict bankruptcy, one of the five ratios is WCTA. In the statistical test results the WCTA ratio shows a higher value in companies that are not bankrupt, the greater the potential bankruptcy of a company, the lower the discriminant score. Moediarso & Widyawati, In his research, WCTA can predict financial distress, the company is able to generate sufficient working capital, the company will operate smoothly, effectively and efficiently, the company will not experience financial failure due to the availability of sufficient current assets to cover the costs incurred. Halteh et al (2018) Mokhtar & Rashid, (2018) WCTA can predict companies that are

financially distressed and not financially distressed. Lewaru & Loupatty, (2021) predicting financial distress as a result of the COVID - 19 pandemic found that the WCTA ratio has a significant effect on financial distress, the higher the WCTA value will reduce the chances of the company experiencing financial failure or financial distress.

Managerial ownership can predict the occurrence of financial distress. The test results show a positive value, meaning that the higher the managerial ownership, the higher the chance of the company experiencing financial distress. The results of this study are in line with the agency theory put forward by Jensen & Meckling, (1976) It discusses the interactions that occur between principals and agents, where principals delegate decision-making authority to agents. This theory also explains that all individuals have their own interests and act according to their own interests. This creates a conflict of interest because there is information asymmetry between the agent and the principal, so that management does not focus on managing the company and making decisions that are only concerned with personal interests which result in the company experiencing financial distress. . Larasati & Wahyudin, (2019) shows that managerial ownership will result in managers being more careful in making decisions. One of the decisions that can be taken, for example, management must control and improve short-term debt policies by increasing the liquidity ratio, which in turn will keep the company away from the risk of financial distress.

## CONCLUSION

The results of this study indicate that there are three variables that can distinguish companies experiencing financial distress and not financial distress, namely NPM, WCTA and Managerial Ownership. These three ratios can be a reference for companies in predicting whether the company's finances are in a safe position or experiencing distress (can be an early warning indicator). Companies that have high NPM and WCTA values indicate that the company has a very small possibility of financial failure. Meanwhile, companies that implement high Managerial Ownership will increase the possibility of the company experiencing financial distress. However, this study also proves that all independent variables included in the model affect the possibility of financial distress by 54.10%. The accuracy level of the model produced in this study is 82,8%.

This research examines one sector that is considered to be highly affected by the Covid 19 pandemic, even though there are still many business sectors that are also affected by the Covid 19 pandemic. Thus, for further research, it should be necessary to add more diverse business sectors by paying attention to the characteristics of the business sector under study. In addition, financial distress conditions can be experienced by companies in stable economic conditions, due to manager error factors in making decisions or the possibility of moral hazard factors. Thus, for future research, other factors outside of financial performance should be added, such as leadership style, implementation of corporate governance, managers' perceptions of risk.

Managerial implications that can be proposed for companies to predict financial distress and not financial distress are by paying attention to the value of NPM, WCTA and Managerial Ownership. Profitability (NPM) is a key component of financial performance. From a management perspective, profitability reflects the effectiveness of management using total assets and net assets recorded on the balance sheet. Effectiveness is assessed by relating net income to the assets used in generating profits. From the point of view of the owners (shareholders in the case of a company), profitability means the return achieved, through the efforts of management, on the funds invested by the owners. From the results of this study, WCTA can predict companies that are financial distress and not financial distress. Under these conditions, companies must pay attention to effective working capital management to anticipate financial distress. The company is able to fulfill its obligations with its working capital, the company must have Current assets that guarantee its short-term debt. For short-term debt in COVID conditions or in any economic crisis the company must have a high WCTA, this way the company will survive in difficult conditions, such as

receivable funds, securities can be allocated to short-term investments. WCTA needs to get great attention in tourism sector companies, such as restaurants and hotels in the report. This research contributes to the knowledge that not all financial ratios can affect financial distress, as in this study only three variables out of ten research variables have an effect on financial distress, namely NPM, WCTA and Managerial Ownership. For further researchers, they can add more financial ratios so that they can find what other ratios besides the three ratios above have a significant effect on financial distress.

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