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THE INFLUENCE OF FINANCIAL RATIOS ON THE PREDICTION OF FINANCIAL DISTRESS IN COMPANIES IN THE CONSUMER NONCYCLICALS FOOD AND BEVERAGE SUB-SECTORS LISTED ON THE INDONESIAN STOCK EXCHANGE 2016 - 2022

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Intisari:

Penelitian ini menelaah pengaruh *return on assets*, *current ratio*, *debt to equity ratio, total assets turn over* dan *sales growth* terhadap *financial distress* yang diproksikan dengan *Interest Coverage Ratio* (ICR) dengan fokus khusus pada perusahaan sektor *consumer non-cyclicals* sub sektor makanan dan minuman yang terdaftar di Bursa Efek Indonesia tahun 2016–2022. Dengan memanfaatkan pendekatan kuantitatif dan analisis regresi logistik, studi ini menganalisis data panel dari 14 perusahaan yang terpilih dan pengolahan data dilakukan dengan *software* SPSS 15. Hasil penelitian mengungkapkan bahwa *debt to equity ratio, total assets turn over, sales growth* tidak berpengaruh signifikan terhadap *financial distress*, sedangkan *return on assets* berpengaruh positif dan signifikan terhadap *financial distress* dan *current ratio* berpengaruh negatif dan signifikan terhadap *financial distress*. Studi ini memberikan wawasan berharga dalam literatur manajemen keuangan, membimbing praktisi penanam modal dalam mengambil keputasan dan perusahaan dalam untuk mengawasi kinerja keuangan. Untuk peneliti selanjutnya disarankan untuk menambahkan atau menggunakan variabel independen yang lain dan sektor perusahaan yang lain dengan harapan dapat memperoleh hasil yang lebih baik.

Kata kunci:

Return on Assets; Current Ratio; Debt to Equity Ratio; Total Assets Turn Over; Sales Growth, dan financial distress.

Abstract:

This research investigates the impact of return on assets, current ratio, debt to equity ratio, total assets turn over and sales growth on financial distress, which is proxied by the Interest Coverage Ratio (ICR), with spescific focus on the consumer non-cyclicals sector, subsector food and beverages, listed on the Indonesia Stock Exchange from 2016 to 2022. Utilizing a quantitative and logistic regression analysis, the study analyses panel data from 14 selected company and data processing was conducted using SPSS 15 software. The results of the study reveal that debt to equity ratio, total assets turnover, and sales growth no significant influence on financial distress. While, Return on Assets has a positive and significantly influence on financial distress, and also current ratio has a negative and significantly influence on financial distress. This study contibutes valuable insight to financial management literature, guiding investors in decision-making and companies in monitoring financial performance. Future researchers are advised to incorporate or utilize other independent variables and explore different company sectors, with the expectation of achieving improved results.

Keywords

1. Introduction

The impact of the covid-19 pandemic is felt by many companies in various sectors (Indriastuti & Wardana, 2020). The *Non-Cyclicals Consumer* or primary consumer goods sector is no exception (Ramadiana et al., 2022). Primary consumer goods sector companies, including the food and beverage sub-sector, are experiencing a slowdown in growth from normal conditions, this is due to complicated import licensing problems that make raw materials stuck, and the decline in purchasing power of the upper middle class and lower-class people. This problem has a big influence, where it is not only the company that suffers losses but also the investors who certainly will not invest in companies that may be experiencing financial distress. (Alvernia & Maimunah, 2022).

In the middle of covid-19, the food and beverage sub-sector is still experiencing growth, in the third quarter of 2020 this sub-sector experienced growth of 0.66%, then in the second quarter it grew by 0.22% and in the first quarter growth of 3.9% above national economic growth. (BPS, 2022). However, when compared to conditions before the covid-19 pandemic, 2020 conditions are below normal.

The company is a business organization that aims to make a profit so that investors are interested, therefore the company should show the company's performance well and encourage innovation in order to avoid Financial Distress. (Muzharoatiningsih & Hartono, 2022).. Financial distress has become a global problem that requires special attention and certain mechanisms to prevent it. (Kazemian et al., 2017).. Therefore, the health of a company will reflect the company's ability to run a business, the distribution of assets, the effectiveness of the use of assets, the results achieved by the company, the debt that must be resolved, and the potential for Financial Distress. (Carmenita et al., 2023).

The measurement used to see the state of the company that will experience Financial Distress is by using the interest coverage ratio. (Mashitoh & Setiadi, 2020). Companies that have an ICR value below 1, describe the company as experiencing Financial Distress. Conversely, if the ICR value is above 1, it illustrates that the company is in good health (Ayu et al., 2017). (Ayu et al., 2017). Companies must be able to predict by analyzing financial reports, because financial reports are one of the tools to predict Financial Distress. (Ayu et al., 2017).

This research will focus on several financial ratios that can affect financial distress, namely profitability, liquidity, leverage, and growth. The profitability ratio used in this study is Return on Asset (ROA). Meanwhile, Current Ratio (CR) is used to measure the liquidity ratio. The leverage ratio is needed to calculate the company's capability to pay off short-term or long-term debt. When the company uses more debt in its financing, there will be a risk of future payment complexity due to debt that exceeds the assets owned. (Qathrunnada et al., 2024).. The leverage ratio used in this study is Debt to Equity Ratio (DER). DER is believed to be the right tool to predict Financial Distress (Sucipto & Muazaroh, 2017). (Sucipto & Muazaroh, 2017).

The next indicator is Total assets turn over (TATO), this tool is used to calculate the company's capability in obtaining sales from its total assets by dividing net sales results by average total assets. (Prayuningsih et al., 2021). TATO is a ratio used to assess the capability of a company in carrying out daily activities or the company's ability to sell, collect receivables, and utilize its assets. (Qathrunnada et al., 2024). The greater the activity, it will show a better turnover and indicate healthier assets to meet current debt so as to minimize the occurrence of Financial Distress, otherwise the smaller the activity will show the company keeps a lot of inventory, so it is unproductive and the rate of return is also low. (Nabawi & Efendi, 2020). While the growth ratio ratio in this study is measured using sales growth. This ratio is used to measure the company's capability to increase sales of the products it acquires, either through an increase in the frequency of sales transactions or through an increase in sales volume. (Nabawi & Efendi, 2020). A high sales growth value will be better for the company, when the profit received from sales is more and more, allowing the company to be free from Financial Distress. (Muzharoatiningsih & Hartono, 2022). Sales growth is measured by the difference between each level of sales volume at the end of the period and the end of the previous year period. (Andriansyah, 2018).

There are different opinions on the effect of the various financial ratios above on the prediction of financial distress. Kazemian et al. (2017) stated that ROA has no influence on financial distress, while Asmarani & Purbawati (2020) in a similar study found that ROA has an influence on financial distress. CR is also believed to have no influence on financial distress. (Jannah & Diantimala, 2018)However, this is refuted by Waqas & Md-Rus (2018). Differences in views also occur in TATO, where Sucipto & Muazaroh (2017) said that TATO has no effect on financial distress and this is denied by (Lee & Lee, 2018). (Lee & Lee, 2018).

Based on the research gap and research phenomena described above, this study is expected to contribute new research related to the causes of companies experiencing financial distress. The objects used in this research are companies in the Consumer Non-Cyclicals sector of the food and beverage sub-sector listed on the Indonesia Stock Exchange for the period 2016 - 2022.

2. Research Methods

This type of research uses quantitative research using SPSS software. The population in this study are companies in the consumer non-cyclicals sector of the food and beverage sub-sector in Indonesia. The population in this study consisted of 82 companies in the consumer non-cyclicals sector of the food and beverage sub-sector listed on the Indonesia Stock Exchange during the period 2016 - 2022. The sample criteria in this study are described in table 1 as follows.

Table 1. Sample Criteria

No	Description	Quantity
1.	*Consumer Non-Cyclicals* sector companies in the food and beverage sub-sector listed on the IDX for the period 2016 - 2022	82
2.	Companies that are not listed consecutively on the Indonesia Stock Exchange 2016 - 2022	(40)
3.	Companies that do not experience consecutive losses for the period 2016 - 2022	(22)

4.	Companies that do not report consecutive financial statements from 2016 - 2022	(6)
Number of research samples (Companies that experience consecutive losses for the period 2016 - 2022)		14
Total Years of Research		7
Total Sample		98

Source: Processed by researchers, 2024

Based on these criteria, there are 14 companies that meet the criteria with a research period of five years.

Data collection is done through the secondary data collection method, which is accessed from the official website of the Indonesia Stock Exchange at www.idx.co.id and the sample company website.

The independent variables (X) in this study are ROA, CR, DER, TATO and sales growth. While the dependent variable (Y) is financial distress as shown in the following table.

Table 2. Operational Variables

Variable	Variable Concept	Indicator	Scale
ROA (X1)	This ratio indicates the level of efficiency of the company's management in generating income, both from sales and from investment. (Aisyah, 2017)	$ROA = \frac{Net\ Profit}{Total\ assets}$	Ratio
CR (X2)	Financial ratios used to see the company's ability to pay debts that have been borrowed (Kasmir, 2016)	$CR = \frac{Current\ Assets}{Current\ Debt}$	Ratio
DER (X3)	A financial ratio applied to evaluate the extent to which the company's operations are funded by debt compared to its own capital (Kasmir, 2016).	$DER = \frac{Total\ Debt}{Total\ Capital}$	Ratio
TATO (X4)	Financial ratios that are applied to assess the company's capability to generate sales from its total assets, by comparing net sales to average total assets. (Prayuningsih*et al* ., 2021)	$TATO = \frac{Net\ Sales}{Total\ Assets}$	Ratio
Sales growth (X5)	Financial ratios used to see the increase in company salesthat occurred in the current year compared to the previous year (Rismawati*et al* ., 2016)	$Sales\ Growth = \frac{Sales - Sales_{t-1}}{Sales_{t-1}}$	Ratio
Financial Distress	The company is considered to be experiencing financial difficulties if its ICR value is below 1. ICR is the ratio between earnings before interest and taxes and interest expense	$ICR = \frac{EBIT}{Interest\ expense}$	ratio

Variable	Variable Concept	Indicator	Scale
	(Mashitoh & Setiadi, 2018).		

The data used in this research is secondary data with logistic regression data analysis method. The logistic regression model is usually called a binary response, because the dependent variable used is nominal and has more than one independent variable (Ghozali, 2016). The formulation of logistic regression is as follows.

$$Ln\frac{P}{1-P} = \beta 0 + \beta 1ROA + \beta 2CR + \beta 3DER + \beta 4TATO + B5SG + \varepsilon$$

Description:

$Ln\frac{P}{1-P}$ = The probability of the company experiencing $financial\ distress$

$\beta 0$ = Contrant

$\beta 1 - \beta 5$ = Regression Coefficients

$ROA = Return\ on\ assets$

$CR = Current\ ratio$

$DER = Debt\ to\ equity\ ratio$

$TATO = Total\ assets\ turn\ over$

$SG = Sales\ growth$

$\epsilon = Error$

3. Results and Discussion

A. Descriptive Statistical Analysis

Based on the results of descriptive analysis, there are 98 observations which are panel data from 14 companies listed on the Indonesia Stock Exchange in the Consumer Non-Cyclicals Sector, Food and Beverage Sub-Sector 2016 - 2022. Within this timeframe, data was collected to provide a comprehensive overview of the relevant parameters regarding financial conditions within the examined sector.

Table 3. Descriptive Statistics Results

	N	Minimum	Maximum	Mean	Std. Deviation
FD	98	,00	1,00	,6939	,46325

ROA	98	-,58	,61	-,0365	,14787
CR	98	,06	5,92	1,0535	1,04299
DER	98	-45,96	41,22	2,4197	7,90400
TATO	98	,03	3,40	,6966	,74502
SG	98	-,83	3,16	,0846	,45087
Valid N (listwise)	98				

Table 1 shows that the *Financial distress* variable has a minimum value of 0.00, maximim 1.00, *mean* 0.6939 and a standard deviation value of 0.46325, meaning that most companies experience *financial distress*. The ROA variable as a whole has a minimum value of -0.58, a maximum of 0.61, *a mean of* -0.0365 and a standard deviation value of 0.14787, meaning that most of the companies in the sample experienced losses on assets or companies were inefficient in managing assets to generate profits during the period 2016 - 2022. The CR variable as a whole has a minimum value of 0.06, a maximum of 5.92, *a mean of* 1,0535 and a standard deviation value of,.04299, meaning that most of the companies in the sample have sufficient current assets to cover the company's current debt during the period 2016 - 2022. The DER variable as a whole has a minimum value of -45.96, maximum 41.22,*mean* 2.4197and a standard deviation value of7,90400, meaning thatmost companies in the sample have ahigher level of debt than equityduring the period 2016 - 2022. The overall TATO variable has a minimum value of 0.03, a maximum of 3.40,*a mean of* 0.6966 and a standard deviation value of 0.74502, meaning that most of the companies in the sample show a high asset value from sales during the period 2016 - 2022. The overall *sales growth* variable has a minimum value of -0.83, a maximum of 3.16,*a mean of* 0.846 and a standard deviation value of 0.45087, meaning that most of the companies in the sample show positive but relatively low sales growth for the period 2016 - 2022.

B. Logistic Regression Analysis

This study uses logistic regression analysistest as the hypothesis testing. The logistic regression model was chosen because the dependent variable is dichotomous. Based onGhozali (2016)explains that the independent variables inlogistic regressiontesting are tested simultaneously, but the interpretation of the model output can be done partially.

C. Assessing the Appropriateness of the Regression Model (*Hosmer & Lemeshow's Goodness Of Fit Test)*

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Table 4. Assessing the*Appropriateness of*he Regression Model (*Hosmer & Lemeshow's Goodness Of Fit Test*)

Hosmer and LemeshowTest			
Step	Chi-square	Df	Sig.
1	4,531	8	,806

D. Testing the Coefficient of Regression Determination (Nagelkerke's R Square)

Table 4 shows the results of the coefficient of determination analysis of 38.7%, meaning that the dependent variable, namely *Financial distress* , can be explained by the independent variables in the form of ROA, CR, DER, TATO and *sales growth*. While the remaining 61.3% is explained by other variables outside the model or other variables that are not included in the regression model.

Table 5. Testing the Coefficient of Regression Determination (*Nagelkerke's R Square*)

Model Summary			
Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	89,308[a]	,274	,387

E. Simultaneous Test (F Test)

Table 5 shows the results of the significance value of the independent variables simultaneously affecting the dependent variable with a value of 0.000 <0.05, which means H1 is accepted. So it can be concluded that ROA, CR, DER, TATO and *sales growth*simultaneously affect*financial distress.*

Table 6. Simultaneous Test (F Test)

Omnibus Tests of Model Coefficients				
		Chi-square	Df	Sig.
Step 1	Step	31,421	5	,000
	Block	31,421	5	,000
	Model	31,421	5	,000

F. Partial Test (T Test)

Tabel 7. Uji Parsial (Uji T)

Variables in the Equation							
		B	S.E.	Wald	Df	Sig.	Exp(B)
Step[1a]	ROA	9,144	3,102	8,690	1	,003	9358,837
	CR	-1,446	,496	8,486	1	,004	,236
	DER	-,019	,038	,249	1	,618	,981
	TATO	-,080	,396	,041	1	,840	,923
	SG	,155	,827	,035	1	,851	1,168
	Constant	2,943	,610	23,259	1	,000	18,978

Based on the research results, the logistic regression model equation is as follows:

$$Ln\frac{P}{1-P} = 2.943 + 9.144ROA - 1.446CR - 0.19DER - 0.80TATO + 0.155SG$$

Based on the results of the logistic regression equation, it can be explained as follows:

The T test results for the ROA variable show a beta value of 9.1444 with a significance of 0.003 <0.05 then, H1 is accepted and H0 is rejected. This means that ROA has a positive and significant effect on *financial distress.*

The T test results for the CR variable show a beta value of -1.446 with a significance of 0.004 <0.05, so H1 is accepted and H0 is rejected. This means that CR has a negative and significant effect on*financial distress.*

The T test results for the DER variable show a beta value of -0.19 with a significance of 0.618> 0.05, so H0 is accepted and H1 is rejected. This means that DER has no effect on*financial distress.*

The T test results for the TATO variable show the beta value of TATO of -0.080 with a significance of 0.840> 0.05, therefore, H0 is accepted and H1 is rejected. This means that TATO has no effect on*financial distress.*

The T test results for the SG variable show a beta value of 0.155 with a significance of 0.851> 0.05, so H0 is accepted and H1 is rejected. This means that *sales growth* has no effect on *financial distress.*

G. Effect of*Return on Assets* on *Financial distress*

The results of the study concluded that *return on assets* has a positive and significant effect on *Financial distress.* The results of the study are in line with previous research conducted by (Jaafar et al., 2018), (Waqas & Md-Rus, 2018), (Masitoh & Setiadi, 2018) which states that there is a positive and significant influence between ROA and *financial distress.* In contrast to the results of research conducted by (Sucipto & Muazaroh, 2017) which states that there is no influence between ROA and *financial distress.*

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H. Effect of *Current Ratio* on *Financial distress*

The results of the study concluded that the *current ratio* hasa negative and significant effect on *financial distress.* The results of the study are in line with previous research conducted by (Ninh, Thanh, et al., 2018), (Asmarani & Purbawati, 2020), and (Wibowo & Susetyo, 2020b)(Wibowo &etyo, 2020b), which states that there is a negative and significant positive influence between CR and

financial distress. In contrast to the results of research conducted by (Jannah & Diantimala, 2018) which states that there is no influence between CR and *financial distress*.

This explains that the higher the CR value, the lower the possibility of the company experiencing *financial distress*, a high CR indicates that the company has sufficient liquidity to meet short-term obligations. (Asmarani & Purbawati, 2020). Good liquidity is an indicator of healthy finances and reduces the likelihood of *financial distress* because the company is able to pay its maturing debts and operating costs. (Wibowo & Susetyo, 2020a).. In addition, CR can be a reason that the company can settle all its obligations or debts properly so that it can avoid *financial distress* . (Nilasari, 2021).

I. The effect of *Debt to Equity Ratio* on *Financial distress*

The results of the study concluded that the *debt to equity ratio* has no effect on *Financial distress*. The results of the study are in line with previous research conducted by (Rahman et al., 2021), (Myllariza, 2021), and (NURSIDIN, 2021), which states that there is no influence between DER and *financial distress*. In contrast to the results of research conducted by (Ninh, Do Thanh, et al., 2018) which states that there is an influence between DER and *financial distress*.

This explains that the DER of a company reflects the high level of debt usage, which implies an increase in financial risk. However, the company's potential to generate profits also tends to increase (Myllariza, 2021). A high level of DER directly affects the amount of interest expense that must be borne by the company, so the risk faced by investors also becomes greater. (Myllariza, 2021).

However, if the debt is used effectively to increase capital and the company is able to manage it well, this can support operational activities and generate significant profits for the company (Rahman *et al*, 2021). In addition, companies that have high DER may have flexible financing agreements with lenders so that the company gets leeway in difficult times. (Dirman, 2020).

J. *E*ffect of *Total Assets Turnover* on *Financial distress*

The results of the study concluded that *total assets turnover* has no effect on *Financial distress*. The results of the study are in line with previous research conducted by (Sucipto & Muazaroh, 2017), (Prayuningsih et al., 2021), and (Qathrunnada et al., 2024)*, which states that there is no influence between TATO and financial distress*. In contrast to the results of research conducted by (Lee & Lee, 2018) which states that there is an influence between TATO and *financial distress*.

This explains that TATO is not always directly related to *financial distress*. Companies with high TATO can sell products with low profit margins, if profit margins are low then the company can still face financial pressure despite high sales (Prayuningsih et al., 2021). (Prayuningsih et al., 2021). The higher the turnover of total assets illustrates the more effective the company's total assets generate sales but the costs incurred in sales also need to be considered. Thus, the level of TATO does not directly affect the possibility of the company facing *financial distress*. (Sucipto & Muazaroh, 2017).

K. Effect of *Sales Growth* on *Financial distress*

The results of the study concluded that *sales growth* has no effect on *Financial distress*. The results of the study are in line with previous research conducted by (Jaafar et al., 2018), (Ayu et al., 2017) and (Letiana & Hartono, 2023) which states that there is no influence between *sales groeth* and *financial distress*. In contrast to the results of research conducted by Jaafar et al. (2018) which states that there is an influence between *sales growth* and *financial distress*.

This explains that rapid sales growth does not necessarily indicate good financial health. Rapid growth can come at a high cost, for example, such as increased production, distribution, and marketing costs. (Ayu et al., 2017). If sales growth is not followed by an increase in operational efficiency or good cost control, the company may face liquidity problems. (Ayu et al., 2017). In addition, sales growth is not the main reference when measuring *financial distress* because a decrease in sales value does not directly make a company experience *financial distress* but only reduces profits during the decline. (Letiana & Hartono, 2023).

4. Conclusion

In the study, the results of the analysis of 98 samples derived from panel data of 14 companies in the *non-cyclical consumer* sector of the food and beverage sub-sector for the period 2016 - 2022. It can be concluded that *Return on assets* has a positive and significant effect on *financial distress*. While the *Current ratio* variable has a negative and significant effect on *financial distress*. The other variables inthis study include *debt to equity ratio, total assets turnover* , and *sales growth* has no significanteffecton*financial distress*.

This study provides valuable insights into financial management literature, guiding investor practitioners in making decisions and companies in monitoring financial performance. For future researchers it is recommended to add or use other independent variables and other company sectors in the hope of obtaining better results.

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