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Research Article

The Effect of Liquidity and Leverage on Financial Distress (Study on IDX Food and Beverage Sub-Sector Manufacturing Companies for the 2015 - 2020 Period)

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Abstract

Aim: This study was conducted to determine and examine the effect of Liquidity and Leverage variables on Financial Distress in Manufacturing Companies in the Food and Beverage Sub-Sector Listed on the Indonesia Stock Exchange for the 2015-2016 period). Research methods: This study uses secondary data and uses quantitative methods. There were 17 food and beverage sub-sector companies studied with a total sample of 102 financial statements for 6 years starting from 2015 to 2020. The analysis used was multiple linear regression analysis. The data were processed using the SPSS 26 application with a significance level of 0.05 for hypothesis testing. Research result: Liquidity and Leverage affect Financial Distress.

Keywords

Liquidity (CR), Leverage (DER), Financial Distress

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Preliminary

Background

The Indonesia Stock Exchange (IDX) has become an important part of the development of the Indonesian economy. BEI is one of the capital markets that can be used as alternative funding for all corporate sectors in Indonesia. The capital market allows investors to make choices on the desired investment according to the risk and the expected rate of return (Adi, Putri, & Permatasari, 2020). Financial distress occurs because the company is not able to manage and maintain stable financial performance, causing the company to experience operating losses and net losses for the current year. If the company is unable to get out of this condition, then the company will experience bankruptcy. Rusdiyanto and Narsa (2019) mentioned that there are several reasons why PT. Modern Sevel Indonesia is a subsidiary of PT. Modern International is closed in Indonesia. The first reason is that the government does not understand, the government in this case the Ministry of Trade with the business model implemented by Sevel. Even some countries such as Malaysia, Japan, and America are still crowded with visitors and customers. The next cause was the number of competitors such as Lawson, Indomaret Point, etc. who saw Sevel's development at that time progressing with the concepts offered, causing competitors to start arriving with the same concept. The problem of Operational Profitability is one of the biggest problems faced by PT Modern Sevel Indonesia. Financial data for 2012-2016 sales revenue did increase but revenue growth (revenue generation) was more due to the horizontal growth of the company's outlets so that until 2014 the company had 190 outlets and only in 2015 the company closed 20 unproductive outlets but opened 18 new company outlets. The year 2015 Sales revenue began to decline both in total and per outlet. When compared to other retail businesses such as Alfamart, it still recorded positive growth. Likewise, APRINDO data says that in 2015-2016 there is still retail growth. Net sales in 2016 decreased by IDR 337.3 billion or -27.45% to IDR 891.4 billion compared to 2015 of IDR 1,228.7 billion. The decline was mainly due to slowing consumer purchasing power and consumption. For comprehensive income 2016, there was a decrease of IDR 583.9 billion or a decrease of -1066.2% compared to the previous year, resulting in a loss of IDR 638.7 billion. Factors causing losses are a decrease in income, a decrease in gross profit margins to maintain market competitiveness, an increase in operating costs due to the costs of closing 7-Eleven outlets, and the costs of streamlining business operations such as severance pay for former employees (Rusdiyanto & Narsa, 2019). Factors used in predicting financial distress include liquidity and leverage (Chytis, Tasios, & Filos, 2020). According Dianova and Nahumury (2019) state that liquidity affects on financial distress, and is inversely proportional to study carried out by Susanti and Samara (2021) explains that liquidity has no effect on financial distress. Adi et al. (2020) mention that leverage affects financial distress, but it is inversely proportional to study carried out by Fatimah, Toha, and Prakoso (2019) that argued that leverage has no effect on financial distress. Referring to various descriptions of the results of previous research that has been carried out.

THEORETICAL BASIS

Financial Ratio Analysis

Financial Ratio Analysis is defined as the process of comparing certain numbers contained in existing financial reports by dividing one particular number by another. Then the numbers being compared can be in the form of numbers in one period or several periods (Robinson, 2020).

Liquidity

Referring to the statement put forward by Thottoli (2021) explaining that this liquidity is defined as a capacity that exists in certain companies in paying some of their short-term debt, usually debts that are not more than a certain year. The ratio used to measure liquidity in this study is the current ratio. This current ratio can be defined as a ratio that is useful for measuring the company's capacity to pay short-term debt or debt that is due immediately when it is about to be fully billed. The formula that is commonly used to calculate the current ratio according to Robinson (2020) is:

$$\text{Current Ratio} = \frac{\text{Aktiva lancar}}{\text{Utang lancar}}$$

The current ratio can be said to be good if it is worth more than 200% or 2:1 (Robinson, 2020).

Leverage

Leverage is a ratio to measure the extent to which the company's assets are financed with debt (Robinson, 2020). In this study, leverage is measured using the debt to equity ratio. The formula used to calculate the debt to equity ratio according to Robinson (2020) is:

$$\text{debt to Equity Ratio} = \frac{\text{Total Utang}}{\text{Ekuitas}}$$

There is no definite measure in assessing whether a company is said to be safe in assessing the debt to equity ratio, but usually, a debt to equity ratio of more than 2/3 of 66% is said to be risky (Carini & Teodori, 2019).

Financial Distress

Financial distress is the company's inability to pay its debts at maturity which causes business bankruptcy (Thottoli, 2021). The model used to predict financial distress developed by Altman According to Thottoli (2021) are:

Z= 1.2 WCTA + 1.4 RETA + 3.3 EBITTA + 0.6 MVEBVL + 1 STA
Information:
X1 = Working Capital / Total Assets
X2 = Retained Earnings / Total Assets
X3 = Earning Before Interest and Taxes / Total Asset
X4 = Market Value of Equity / Book Value of Liability
X5 = Sales / Total Assets

A score greater than 2.99 indicates the company does not have financial problems, a company with a score of 2.7 to 2.99 indicates the company has little financial problems, then a company with a score of 1.8 to 2.69 indicates if the company does not make changes, the company experiencing the threat of bankruptcy within 2 years, while a score below 1.8 indicates the company is experiencing a serious bankruptcy threat (Thottoli, 2021).

Framework

The Effect of Liquidity on Financial Distress

Thottoli (2021) states that this liquidity can be defined as a ratio that is intended to determine the company's ability to carry out short-term debt payments. In research, the ratio used to measure liquidity is by using the current ratio. A high current ratio indicates a stronger financial position where the company has sufficient current assets to maintain its operations (Nurunnabi, 2021). If the company's current liabilities increase faster than its current assets, the company will experience financial distress or financial distress (Brigham & Houston, 2021).

The Effect of Leverage on Financial Distress

Referring to the statement put forward by Robinson (2020) explaining that this leverage can be defined as a ratio that is useful for measuring how much the company's assets can be paid using debt. In this study, to measure leverage, the debt to equity ratio (DER) was used. High debt to equity will cause lower corporate funding provided by shareholders (Thottoli, 2021). By increasing excessive leverage, it will trigger financial distress (TUAN, 2020). Based on the framework of thought and literature review, the conceptual paradigm can be described as follows:

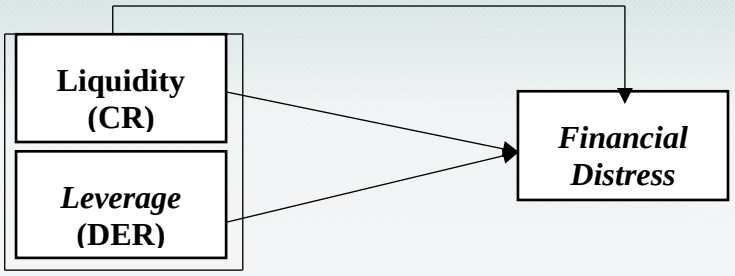

Figure 1. Research Conceptual Paradigm

Hypothesis

Based on the theoretical basis above, the hypotheses that can be made in this study are;
H1: Liquidity affects financial distress.
H2: Leverage affects financial distress.

Research methods

The method used in this study is the explanatory method in the form of a causal relationship (cause and effect). The object studied at the researcher's level is liquidity as measured by the current ratio and leverage as measured by the debt to equity ratio. This study uses multiple linear regression using SPSS version 26 by setting a significance level (a) of 5% or 0.05% in hypothesis testing.

Results Research and Discussion

Research result

Descriptive Statistical Analysis Data

The analysis is done by displaying the average value, middle value, minimum value, and maximum value.

Table. 1
Descriptive Statistical Analysis

Statistics

		Liquidity	Leverage	Financial Distress
N	Valid	102	102	102
	Missing	0	0	0
Mean		3.1470	.9474	3.2619
Median		1.5800	.9100	2.9050
Std. Deviation		9.71095	.83471	2.80451
Minimum		.15	-1.59	-11.69
Maximum		98.63	5.20	14.53
Sum		320.99	96.63	332.71

Source: SPSS Statistical data processing

In Table 1, the results are described as follows:

1. The liquidity variable (CR) has a minimum value of 0.15%, a maximum value of 98.63%, an average value of 3.1470% with a standard deviation of 9.71095%. This means that the liquidity level of the 102 samples studied is 3.15% which can be said to be good.
2. The leverage variable (DER) has a minimum value of -1.59%, a maximum value of 5.20%, an average value of 0.9474% with a standard deviation of 0.83471%. This shows that from the 102

samples studied, 94% of the assets owned by the company to run its business come from loans or company obligations.

3. The financial distress variable has a minimum value of -11.69%, a maximum value of 14.53%, an average value of 3.2619%, a standard deviation of 2.80451. This explains that the average of the 102 samples studied, companies that have the possibility of experiencing financial distress are relatively many, whereas many as 33% of all companies can experience financial distress.

Multiple Linear Regression Analysis

Table. 2
Multiple Linear Regression Analysis

Coefficients					
	Unstandardized Coefficients		Standardized Coefficients		
Model	B	Std. Error	Beta	t	Sig.
1 (Constant)	3.735	.427		8,740	.000
Liquidity	.061	.028	.212	2.189	.031
Leverage	-.703	.325	-.209	-2.163	.033
a. Dependent Variable: Financial Distress					

Source: SPSS Statistical Data Processing

RThe regression used based on table 2 is as follows:

Financial Distress = 3.735+0.061 Liquidity – 0.703 Leverage

The meaning of the multiple linear regression equation above is:

1. Constant of 3,735, means that if liquidity and leverage are 0 (zero) and there is no change, then financial distress will still be worth 3.735.
2. The liquidity regression coefficient is 0.061 positive value, meaning that if liquidity increases individually, while leverage is constant, the financial distress will increase by 0.061.
3. The leverage regression coefficient is -0.703 which is negative, which means that if leverage increases one unit, while liquidity is constant, then financial distress will decrease by -0.703.

Classic assumption test

No Test Resultsrmality using Kolmogorov Smirnov

Table. 3

Normality Test Assumption Test Results

One-Sample Kolmogorov-Smirnov Test		
		SQRT2_RES1
N		45
Normal Parameters, b	mean	1.0324
	Std. Deviation	.30925
Most Extreme Differences	Absolute	.127
	Positive	.127
	negative	-.100
Test Statistics		.127
asymp. Sig. (2-tailed)		.067c
a. Test distribution is Normal.		
b. Calculated from data.		
c. Lilliefors Significance Correction.		

Source: SPSS Statistical Data Processing

Referring to table 3 presented above, it shows that the results of the Kolmogorov Smirnov test prove that this significance value is 0.067 > 0.05, thus the results of the normality test for Kolmogorov Smirnov can conclude that the research data has a normal distribution.

Multicollinearity Test

Table. 4
Multicollinearity Test Assumption Test Results

Coefficients			
		Collinearity Statistics	
Model		Tolerance	VIF
1	Liquidity	.967	1.034
	Leverage	.967	1.034
a. Dependent Variable: Financial Distress			

Source: SPSS Statistical Data Processing

Referring to table 4 which is presented above, it is found that the two independent variables have a Variance Inflation Factor < 10 and for tolerance values > 0.10, so it can be explained that in this study there were no symptoms of multicollinearity.

Heteroscedasticity Test Results

Table. 5
Result of Heteroscedasticity Test Assumption Test

Coefficients						
		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	t	Sig.
1	(Constant)	.980	.023		43,318	.000
	Liquidity	.017	.011	.259	1.573	.123
	Leverage	-.014	.008	-.284	-1,727	.092
a. Dependent Variable: RES2_3						

Source: SPSS Statistical Data Processing

Referring to table 5 which is presented above, the results of the heteroscedasticity test with the glejser test obtained significant results on the two independent variables with absolute residual greater than 0.05 (Sig > 0.05), it can be concluded that in this study there was no heteroscedasticity.

Autocorrelation Test

Table. 6

Durbin – Watson Value For Autocorrelation Test

Model Summary					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.323a	.105	.086	2.68058	1.135
a. Predictors: (Constant), *Leverage*, Liquidity					
b. Dependent Variable: *Financial Distress*					

Source: SPSS Statistical Data Processing

The results of this test show The DW value of 1.135 is then compared with the table value of DW (n) = 102, the independent variable (k=2) obtained the value of dU = 1.7175, the value of dL = 1.6376.

Due to the results of dL > d < dU (1.6376 > 1.135 < 1.7175) it indicates that there are symptoms of autocorrelation in this regression model.

Coefficient of Determination

Table, 7
Coefficient of Determination

Model Summary				
Model	**R**	**R Square**	**Adjusted R Square**	**Std. Error of the Estimate**
1	.323a	.105	.086	2.68058
a. Predictors: (Constant), Leverage, Liquidity				

Source: SPSS Statistical Data Processing

Referring to table 7 presented above, it shows that the results of the coefficient of determination are shown by the results of the R-squared value of 0.105 or 10.5%, this shows that 10.5% liquidity and leverage take effect to financial distress, while the remaining 89.5% is a contribution from other variables outside this research.

T-Test Results (Partial Test)

Table. 8
Partial Hypothesis (t-test)

Coefficients						
		Unstandardized Coefficients		**Standardized Coefficients**		
Model		**B**	**Std. Error**	**Beta**	**t**	**Sig.**
1	(Constant)	3.735	.427		8,740	.000
	Liquidity	.061	.028	.212	2.189	.031
	Leverage	-.703	.325	-.209	-2.163	.033
a. Dependent Variable: Financial Distress						

Source: SPSS Statistical Data Processing

Table 8 shows the results of the Partial t-test with a significance <0.05 is as follows:
1. Liquidity (0.031) < (0.05). Liquidity affects financial distress.
2. Leverage (0.033) < (0.05). Leverage affects financial distress.

F Test Results (Simultaneous Test)

Table 9.
F Test (Simultaneous Test)

ANOVA						
Model		**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
1	Regression	83.025	2	41,513	5.777	.004b
	Residual	711,366	99	7.186		
	Total	794,391	101			
a. Dependent Variable: Financial Distress						
b. Predictors: (Constant), Leverage, Liquidity						

Source: SPSS Statistical Data Processing

Simultaneous hypothesis testing with f test obtained fcount of5.777 with a significance of 0.004 because the results of statistics> ftable (5.777>3,087) and significance of 0.004<0.05, it can be stated that liquidity and leverage affect financial distress.

Discussion

The Effect of Liquidity and Leverage on Financial Distress

The significance value of the two variables shows 0.004 which means sig < 0.05. So it can be concluded that liquidity and leverage simultaneously affect financial distress.

Effect of Liquidity on Financial Distress

Hypothesis testing on the effect of liquidity on financial distress, get the result of tcount equal to 2.189 with a significance of 0.031 because the result tcount> ttable (2.189>1.984) and significance of 0.031<0.05, it can be stated that liquidity affects financial distress. The results of this study with the research of Dianova and Nahumury (2019) show the same results that liquidity affects financial distress.

Effect of Leverage on Financial Distress

Hypothesis testing on leverage to financial distress, get the result of tcount equal to -2.163 with a significance of 0.033, because the result tcount> ttable (-2.163>1.984) and significance of 0.033<0.05, then a negative t-count indicates the opposite direction, so it can be stated that leverage opposite effect on financial distress. The results of this study with the research of Adi et al. (2020) showed the same results that leverage affected financial distress.

Conclusions and suggestions

Conclusion

1. Liquidity and leverage affect financial distress, thus it can be said that liquidity and leverage are the most important parts of financial distress.
2. Liquidity affects financial distress, meaning that companies that have a high CR indicate a stronger financial position where the food and beverage sub-sector companies from 2015 to 2020 have sufficient current assets to maintain their operations so that the company can cover its current liabilities. Financial distress will be smaller because the company can pay its current debt on time.
3. Leverage effect on financial distress, meaning that companies that have a low debt to equity ratio are less likely to experience financial distress because the company can pay off debt without having to sacrifice too much of the interests of the owners of capital.

Suggestion

1. To avoid financial distress, companies should be able to manage their debts in such a way as to increase profits, not to increase investment in assets that are not needed.
2. To avoid financial distress, companies should improve their financial performance by reducing their long-term debt.
3. Investors and potential investors should carry out financial reporting that can serve as a basis and guide in making decisions that are right on target in investing in a particular company, especially liquidity and leverage because in this study both ratios influence financial distress conditions.
4. For further researchers, it is recommended to use companies in other sectors that are listed on the IDX or can use all companies listed on the IDX.

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