Effect of Financial Ratios on Financial Distress of Retail Trade Companies Listed on the Indonesia Stock Exchange

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Keywords: Financial Ratios, Return on Equity, Debt to Equity Ratio, Current Ratio, Financial Distress, Z-Score.

Abstract: This study aims to examine the effect of financial ratios on financial distress in retail trade sub-sector companies in Indonesia. Profitability is measured by Return on Equity (ROE), leverage as measured by Debt-to-Equity Ratio, Liquidity is measured by Current Ratio (CR), and Financial distress is measured by Z-Score. This study uses secondary data with data collection techniques using financial statements of retail trade sub-sector companies listed on the Indonesia Stock Exchange for the period 2014-2018. The sampling technique used the purposive sampling method, obtained several 14 companies that fulfill the criteria with a total population of 26 companies, the total observation for five years was 70 samples. The test method in this study uses panel data regression analysis with Eviews 9. This study found that the Return on Equity has a significant positive impact on Financial Distress in the retail trade sub-sector. This study also found that the Debt Equity Ratio has a significant negative effect on Financial Distress on retail trade sub-sector and Current Ratio has an insignificant negative effect on Financial Distress on retail trade sub-sector.

1 INTRODUCTION

Indonesia is the fourth country with 269 million people, or around 3.39% of the total world population (Worldometers, 2019). The increasing population can affect the level of community needs ranging from personal, family, and group needs will continue to increase so that it becomes a potential market for producers to develop their businesses in Indonesia. The retail trade business can be a solution for people's needs so that people do not need to buy directly from producers because of retail sales (retail). This makes it easier for people to shop for their needs.

Retail trade is a business sub-sector that is important in distributing goods to its users and becomes the last chain in the distribution process (Soliha, 2008). This business sector involves the activity of selling products and services directly to the final consumer. In general, the products marketed are household needs, including basic needs. Businesses in this sector have great potential to continue to grow. Indonesia experienced an increase in retail sales growth with the highest value of 10.1% in March 2019 (Ceicdata, 2019). This is result of the increasing population and purchasing power of the people and the public's need for consumer products.

Retail trade business competition tends to be increasingly unhealthy due to modern retail businesses that can kill traditional markets because they take advantage of the purchasing power of the upper middle-class people who prefer neater and cleaner facilities (Soliha, 2008). This increase in the competition encourages retail business actors to be more careful and careful in dealing with and making decisions concerning their companies. Assessment of company performance can be analyzed using one of the essential sources of information, namely financial statements that contain information related to financial position, profit and loss, and company performance that serves to make company decisions.

According to Ramadhan & Syarfan (2016), Financial statement analysis can be used as a policymaker and consideration for related parties such as managers, company owners, and investors to project financial aspects in the future to prevent bankruptcy. Bankruptcy results from financial difficulties that occur continuously and are getting worse (Platt & Platt, 2002). According to Nugroho (2018) financial distress is the company's inability to manage profits in its operational activities, resulting in a decrease. Before bankruptcy, management needs to predict financial distress by analyzing financial statements, which are an essential source of information.

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Financial statements are a benchmark in measuring financial ratios to predict financial distress. Financial ratios are the most significant indicator in predicting financial distress (Andre, 2013). Financial ratios that can be used are liquidity ratios, leverage ratios, profitability ratios, activity ratios, and growth ratios. Financial distress can be analyzed with various models. One of them uses the z-score model, which is a bankruptcy prediction tool made in 1968 by Altman (Hikmah & Afridola, 2019). This model uses specific financial ratios and has a relatively reliable level of accuracy and precision.

Fauzan & Sutiono (2017) compares bankruptcy prediction models using several models, namely Altman Z-Score and Zmijewski. The study shows that the Altman Z-Score method has a high accuracy rate of 86% in the period one or a year before the company is issued from the stock exchange and 100% in the one or two year period before the company is published from the stock exchange. It also proves that the Altman Z-Score model is more accurate.

2 THEORETICAL STUDY

2.1 Signaling Theory

According to Spence (1973), a sign is a movement taken with the aid of using the agency's to control to offer commands for traders approximately how control perspectives of the agency's prospects. This principle additionally indicates the significance of statistics issued with the aid of using the agency to funding decisions. The Information posted as a statement will offer a sign for traders in making funding decisions.

2.2 Trade-off Theory

Trade-Off Theory demonstrates that the most appropriate capital shape may be decided through balancing the advantages of the use of debt; with monetary fees and company problems (Modigliani & Miller, 1963).

2.3 Literature Review

Several researchers on the impact of financial ratios on financial distress includes Islami & Rio (2019), which examines the opportunity of financial distress in property and real estate companies listed on the Indonesia Stock Exchange for 2012-2016. The financial ratios used are debt ratio, current ratio, return on equity ratio, and capitalization ratio. The consequences display that the current ratio, debt ratio, and return on equity ratio can measure the opportunity of financial distress.

Desiyanti et al. (2019) examined the impact of financial ratios on financial distress using of the Altman Z-Score method on real estate companies indexed at the Indonesia Stock Exchange for 2014-2018. The variables used are return on equity, debt to equity ratio, current ratio, working capital ratio, and Z-Score. The effects of this take a look at implying that the return on equity and working capital ratio has a significant positive effect on financial distress. In contrast, the debt to equity ratio has a significant negative effect on financial distress. Subsequent research by Erayanti (2019) tested the impact of profitability, liquidity, and leverage on financial distress in transportation, infrastructure and utilities zone groups indexed at the Indonesia Stock Exchange for the period 2012-2016. The effects show that return on investment has a significant effect on financial distress, while the current ratio, quick ratio, return on equity, debt to equity ratio and debt to asset ratio have no effect on financial distress.

Research conducted by Widati & Pratama (2014) examines the effect of the current ratio, debt to equity ratio, and return on equity on financial distress in 192 manufacturing companies listed on the Indonesia Stock Exchange. The results show that the current ratio has no significant negative effect on financial distress and debt to equity ratio and return on equity has a significant positive effect on financial distress. Sinarti & Sembiring (2015) research aims to determine the health level of metal and manufacturing companies listed on the Indonesia Stock Exchange and to find out whether there are significant differences between the three models used, namely Z-score, Springate, and Zmijewski. The results show that there is no significant difference in the z-score prediction model with springate, but there is a significant difference between the z-score prediction model with zmijewski and springate with zmijewski.

2.3 Hypothesis Development

2.3.1 Effect of Return on Equity on Financial Distress

Return on equity is a ratio that could degree how a lot the company's cap potential to apply its personal capital in producing income for all shareholders

(Sujarweni, 2017). If this ratio is higher, then the company is taken into consideration to be more effective and efficient in dealing with sources so that the opportunity of financial distress is also getting smaller. In Islami & Rio (2019) return on equity can are expecting the prevalence of financial distress due to the fact if the enterprise isn't capable of generateing income for investors, then it can cause company funds to also decrease along with reduced investor interest in investing in companies, but in Erayanti (2019) shows that return on equity does now no longer affect on the prediction of financial distress because the increase in return on equity is not always given a good deal interest in making choices associated with investing in companies. Based on the explanation above, the hypotheses to be tested are:

H_1 = Return on equity has a significant positive on financial distress.

2.3.2 Effect of Debt-to-Equity-Ratio on Financial Distress

Widati & Pratama (2014) research shows that the debt to equity ratio has a positive and significant effect on financial distress, while Erayanti (2019) shows that the debt to equity ratio has no significant effect on financial distress. Based on the explanation above, the hypotheses to be tested are:

H_2 = Debt to equity ratio has a significant negative on financial distress.

2.3.3 Effect of Current Ratio on Financial Distress

In Islami & Rio (2019), it shows that the current ratio can predict financial distress because if current assets do not pay the company's short-term obligations, it can trigger the possibility of financial distress affecting the company's operations, while in Erayanti (2019), the current ratio has no effect. On the prediction of financial distress. Based on the explanation above, the hypotheses to be tested are:

H_3 = Current Ratio has a significant positive on financial distress.

Based on the description of the theoretical study, literature review, and hypothesis development which have been defined previously, the research model may be visible in Figure 1:

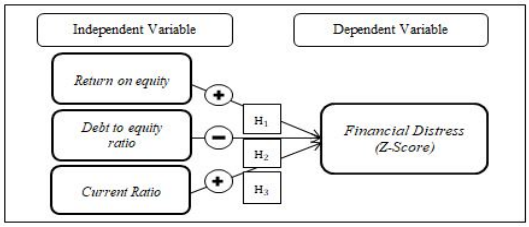

Figure 1: Research Model

3 RESEARCH METHOD

The research method used in this study is a quantitative approach which is a specific, clear, and detailed type of research to display the connection between the independent variable and the dependent variable.

3.1 Operational Variable and Indicator

3.1.1 Dependent Variable

The dependent variable used in this study is financial distress. As for a researcher named Edward I Altman, who introduced a z-score analysis model. The ratio is calculated by the following formula:

$$Z = 3.25 + 6.56X_1 + 3.26X_2 + 6.72X_3 + 1.05X_4$$

Source: (Altman & Hotchkiss, 2006)

Description:

X_1 : *working capital/total assets*
X_2 : *retained earnings/total assets*
X_3 : *earnings before interest and taxes/total assets*
X_4 : *book value of equity/book value of total debt*

Table 1: The Altman Model Parameter Index

No.	Z-Score	Classification
1	>2.60	The company in good condition
2	1.10<Z<2.60	The company in grey zone
3	<1.10	The company in bankrupt

Source: (Altman &Hotchkiss, 2006)

3.1.2 Independent Variable

The independent variables used in this study are return on equity, debt to equity ratio, and current ratio. Operational variables and their indicators can be seen in table 1:

Table 2: Independent Variables and Indicator

Variable	Indicator		
Independent Variable			
ROE	=	Net Income After Tax	
		Total Equity	
DER	=	Total Liabilities	
		Total Equity	
CR	=	Current Assets	
		Current Liabilities	

The object of research used in this study is a retail trade company that publishes its financial statements and is listed on the Indonesia Stock Exchange. The sample taken is a sample decided on the usage of predetermined criteria. Twenty-six corporations are indexed as populace corporations at the Indonesia Stock Exchange, because this study uses purposive sampling where the sample must be based on specific predetermined criteria. There are 12 companies that do not meet the criteria of the research sample. Then, the researchers found 14 companies that match the research criteria to be used as research samples. Next, 14 companies are multiplied by five years, so the total sample is 70 samples.

3.2 Data Analysis Technique

The data analysis technique in this study uses panel data regression analysis which is a combination of time series data and cross section data.

3.2.1 Descriptive Statistics

Descriptive statistical analysis is an analytical method used to collect and present quantitative data so as to produce useful information. Descriptive reports in the form of data in general in the frequency distribution table include the average value (mean), minimum value, maximum value and standard deviation.

3.2.2 Classic Assumption Test

The classical assumption test is a test carried out to see the significant effect between each variable, both the independent variable and the dependent variable. The classical assumption test consists of Heteroscedasticity Test and Multicollinearity Test.

3.3 Panel Data Regression Analysis

According to Winarno (2017) the panel data regression model has three approaches, namely fixed effect model, random effect model and common effect model. To choose the most appropriate model in managing panel data, there are several tests that can be done, namely chow test, hausman test and lagrange multiplier test.

4 RESULT AND DISCUSSION

4.1 Descriptive Statistical Analysis

Based at the monetary document statistics studied, the subsequent is a descriptive statistical table for the independent variables ROE, DER, CR and the dependent variable Z-Score:

Table 3: Descriptive Statistical

Variable	Mean	Max	Min	Std.Dev
Z-Score	7.457411	21.31383	-0.151235	3.984879
ROE	0.236643	7.991000	-0.781600	0.981138
DER	0.020286	0.181900	0.000900	0.024601
CR	0.020442	0.122023	0.006413	0.019655

4.2 Classis Assumption Test

4.2.1 Multicollinearity Test

The results of the multicollinearity test can be seen in table 4:

Table 4: Multicollinearity Test

	ROE	**DER**	**CR**
ROE	1.000000	0.751720	-0.068611
DER	0.751720	1.000000	-0.359267
CR	-0.068611	-0.359267	1.000000

Based on table 4, the correlation coefficient between variables has a value of less than 0.8. This suggests that the information on this take a look at does now no longer contain multicollinearity disorders (Ghozali, 2016).

4.2.3 Heteroscedasticity Test

The output results of the Breusch-Pagan-Godfrey test are shown in table 5:

Table 5: Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistic	0.643964	Prob. F(4,80)	0.5895
Obs*R-squared	1.990705	Prob.Chi-Square(4)	0.5743
Scaled explained SS	9.818901	Prob.Chi-Square(4)	0.0202

The results of Table 5 shows that the probability value is 0.5743, which is more significant than 0.05. This indicates that the data does not experience heteroscedasticity problems.

4.3 Model Selection

4.3.1 Chow Test

The Chow test is used to decide the maximum suitable version among the fixed-effect model or the common effect model.

Table 6: Chow Test

Effects Test	Statistic	d.f.	Prob.
Cross-section F	3.356469	(13,53)	0.0009
Cross-section Chi-square	42.044777	13	0.0001

Table 6 shows that the chi-square cross-section probability of 0.0001 is smaller than the alpha level (5%). The outcomes of the Chow test indicate that it is more appropriate to use the fixed effect model than the common effect model.

4.3.2 Hausman Test

The Hausman test is a test to determine the correct version among the fixed effect model or the random effect model.

Table 7: Hausman Test

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	24.393209	3	0.0000

Table 7 above shows the probability value of a random cross-section of 0.0000. The random cross-section probability value is smaller than the alpha level (5%), so the Hausman take a look at effects to display that the fixed effect model is extra suitable than the random effect model.

4.4 Panel Data Regression Analysis

The results of panel data regression using the fixed-effect model can be seen in Table 8 below.

Table 8: Fixed Effect Model

Variable	Coefficient	t-Statistic	Prob.
C	8.910100	27.560690	0.0000
ROE	1.738537	10.684850	0.0000
DER	-71.61540	11.0665	0.0000
CR	-20.12152	-1.253855	0.2154
R-squared			0.987406
Adjusted R-squared			0.983605
Prob(F-statistic)			0.000000
N			70
Model Result			Fixed

From the results of the panel data regression, the following equation can be obtained:

$$Z\text{-}Score_t = 8.910100 + 1.738537ROE_t - 71.61540DER_t - 20.12152CR_t$$

4.5 Hypothesis Test Results

4.5.1 Test Result of H_1

Hypothesis 1 states that Return on Equity (ROE) has a significant positive effect on financial distress. Table 8 shows that ROE has a significant effect on financial distress because the probability value is 0.0000, which is smaller than 0.05. The coefficient value of 1.738537 indicates a positive direction, meaning that if the ROE increases by 1 with the assumption that other variables are fixed, there will be an increase in the z-score of 7.874606. The conclusion that can be drawn from the description above shows that hypothesis 1 is supported.

4.5.2 Test Result of H_2

Hypothesis 2 states that the Debt to Equity Ratio (DER) has a significant negative effect on financial distress. Table 8 shows that DER has a significant effect on financial distress because the probability value is 0.0000, which is smaller than 0.05. The coefficient value of -71.61540 indicates a negative

direction, meaning that if the z-score increases by 1 with the assumption that other variables are fixed, there will be a decrease of -71.61540. The conclusion that can be drawn from the description above shows that hypothesis 2 is supported.

4.5.3 Test Result of H_3

Hypothesis 3 states that the current ratio (CR) has a significant positive effect on financial distress. Table 8 shows that CR has no significant effect on financial distress because the probability value is 0.2154, which is more significant than 0.05. The coefficient value of -20.12152 indicates a negative direction, meaning that if the z-score increases by 1 with the assumption that other variables are constant, there will be a decrease of -20.12152. The conclusion that can be drawn from the description above shows that hypothesis 3 is not supported.

4.6 Data Analysis

The following is a summary table of test results from this study:

Table 9: Summary of Test Result

Hypothesis		Prob.	Coeff.	Result
H_1	ROE has a significantly positive effect on Financial Distress	0.0000	1.738537	Supported
H_2	DER has a significantly negative effect on Financial Distress	0.0000	-71.61540	Supported
H_3	CR has a significantly positive effect on Financial Distress	0.2154	-20.12152	Not Supported

4.6.1 Effect of Return on Equity on Financial Distress

Based on the H_1 test in table 8, suggests that the profitability ratio as measured by ROE has a significant positive effect on financial distress. This indicate that ROE can expect the incidence of financial distress. If the ROE is higher, the agency is taken into consideration to be getting better and is capable of manipulating to manage its resources greater effectively and efficiently. The better the agency, the higher the z-score, so the agency is much less possibly to reveal in financial distress.

The results of this study are following the research of Desiyanti et al. (2019) and Widati & Pratama (2014), which state that ROE has a significant positive effect on financial distress. If the ROE percentage is high, the company is said to be far from financial distress. This ratio is essential for the business enterprise because it could take degree to earn earnings with the equity owned by the company. A low ROE can illustrate that the company cannot use equity to generate profits and makes it more incredible hard for the company's finances in inner investment reasserts for investment, so that the company's increase will become much less trues and financial distress The company's growth that is not good will give a signal (signal theory) or information to shareholders that the company is less able to maintain survival and is less able to develop. High company growth will indicate that the company is in good health and not under pressure.

4.6.2 Effect of Debt to Equity Ratio on Financial Distress

Based on the H_2 test table 8, indicates that the leverage ratio measured by the use of DER has a significant negative effect on financial distress. This shows that DER can expect the incidence of financial distress. If the DER is lower, the company is taken into consideration able to paying off its responsibilities without sacrificing the interests of the owners of too much capital so that the possibility of financial distress is also getting smaller with a higher z-score.

The outcomes of this observation are according with the results of studies with the aid of using by Desiyanti et al. (2019) which states that DER has a significant negative effect on financial distress. The outcomes of this observation also are in keeping with the studies of Masdupi et al. (2018), which states that if the company manages debt well, the company is capable of boom income and company cost to keep away from financial distress. The outcomes of this observation are according with the trade-off theory, which states that debt will increase the value of the company to reduce financial distress, so it can be concluded that the use of debt in the retail trade sector affects financial distress.

4.6.3 Effect of Current Ratio on Financial Distress

Based on the H_3 test in table 8, it suggests that the liquidity ratio as measured by CR has no significant negative effect on financial distress. It can be

concluded that CR cannot are expecting the prevalence of financial distress. The consequences of this has a examine contradict the impact of Islami & Rio (2019) research which states that the current ratio can expect financial distress. The distinction withinside the consequences of this have a take a follow can be because of variations withinside the pattern and the studies period, at the same time as the results of this have a take a observe are according with the consequences of studies with the aid of using Widati & Pratama (2014) which states that the current ratio has no significant negative effect on financial distress.

CR is not the principle element that impact financial distress in retail trade sub-sector companies because it does not have a significant effect. One of them is due to the fact the agency has a reasonably excessive short-time period responsibility, after which the agency is not able to pay its short-time period duties till adulthood so that debt that turned into at first classified as short-time period debt will become long-time period debt. From the outline above, it may be concluded that companies with high CR values will not necessarily avoid financial distress, and companies with the lowest CR values do not always experience financial distress.

5 CONCLUSIONS

Based on the consequences of the studies conducted, it becomes located that Return on equity (ROE) had a significant positive effect on financial distress. From the implications of the study, the higher the ROE, the more effective and efficient the company is in dealing with sources so that the opportunity of financial distress is smaller and the z-score is higher. The Debt to equity ratio (DER) has a significant negative effect on financial distress. From the consequences of the study, the decrease the DER, the company is taken into consideration capable of repaying its duties without sacrificing the hobbies of the proprietors of capital so that the opportunity of financial distress is smaller and the z-score is higher. Current ratio (CR) has no significant negative effect on financial distress. From the results of the study, a high CR value does not necessarily guarantee that the company can pay its maturing debts, so companies with a high CR value will not necessarily avoid financial distress.

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