Analysis of Financial Distress and its Impact on Stock Prices in the Consumer Cyclicals Sector Listed on the Indonesian Stock Exchange

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Abstract. The goals of this research is to see how financial ratios affect financial distress to stock prices. ROA, DAR, and CR as an intervening variable. The companies in this study are listed on the Indonesian Stock Exchange for the 2018-2022 period. Sample data was collected using purposive sampling technique. Panel data analysis and regression analysis are used to carry out data analysis. The findings are expected to be able to determine the effect of financial distress on stock prices through financial ratios such as ROA, DER, and CR.

Keywords: Financial Distress, Stock Prices, X-Score Method

1   Introduction

The World Bank reported an article titled "Is a Global Recession Imminent?" that provides predictions about the possibility of a global economic recession that will occur in 2023. Economic growth experienced a sharp slowdown in several countries. Reported from (worldeconomics.com) the whole ASEAN countries contributed 7% of total global GDP in 2022 and 9% of global GDP growth in the last 10 years (2012—2022). Indonesia is the country that has the highest GDP value, namely 2.8% among other ASEAN countries with a value of 4,810.9 billion. BPS data shows that Indonesia's economic growth in terms of GDP according to business fields in 2022 will grow to 5.31 percent. The highest growth occurred in the Transportation and Warehousing Business Sector at 19.87%. Meanwhile, in terms of expenditure, the highest growth was achieved by the Goods and Services Export Component at 16.28 percent.

Sub Sector	2016	2017	2018	2019	2020	2021
Machines and Heavy Equipment	81.63	80.77	80.87	85.82	329.11	120.54
Automotive and Its Components	44.51	45.48	46.88	50.87	18.77	59.33
Textiles and Garments	73.13	71.58	72.95	76.17	29.38	10.46
Footwear	40.28	39.93	40.30	41.04	16.15	57.11
Cable	28.18	27.85	28.71	30.09	11.48	46.70
Electronics	24.86	24.79	25.49	26.93	10.20	38.70
Other	33.25	30.65	32.25	31.60	12.77	79.91

Fig. 1. Percentage of Market Capitalization Contribution to Sub-Sectors of Various Indonesian Industries 2016-2021

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Each subsector has different characteristics. The automotive and components subsector is one part of the miscellaneous industrial sector which is included in consumer cyclicals sector. Fig. 1 shows that the automotive and components subsector has a relatively positive improvement every year compared to other subsectors in various industrial sectors which experienced instability in the same year. The consumer cyclicals sector is one of the basic industries that consistently receives priority in the business world because it makes a significant contribution to national economic development and is a prime location for investment. Apart from that, the consumer cyclicals sector has a role in providing the needs of business actors such as production needs, business development, to consumer satisfaction.

According to Kufsumawati & Birnanitta (2020), maximizing shareholder opulence or maximizing company value is one of the main goals in starting a business. According to Wijaya (2017), the company value of a public company is reflected in the market price of the company's shares, while the company value of a private company is reflected when the company is sold. By maximizing company value and maintaining the company's price on the stock market, there is a possibility to persuade investors to invest.

When a company's financial situation worsens, the company's value may decrease. These events create an impact on the company's share price which fluctuates and eliminates investors' confidence in investing in delisted shares because investors have already lost money and cannot buy and sell shares in the company. In general, when a company is delisted by the Indonesian Stock Exchange due distress analysis is carried out to analyze the company's financial performance through stock prices and find out whether there is an impact between financial distress and the company's stock price.

2   Literature Theory

2.1   Financial Distress

The main precursor to corporate bankruptcy is financial distress. Ross et al. (in Setyobudi, Amboningtyas, & Yulianeu, 2016) claim that financial distress is the result of a company's failure to pay its debts, which is often known as insolvency. When a company's total liabilities exceed its total assets, this may occur. when a business cannot maximize revenue, which is its economic goal. so that the Company experiences a period of financial difficulties, which could lead to bankruptcy. According to Mamduh (in Muthmainnah, 2016), "financial distress is a continuum condition that ranges in severity from moderate conditions, such as difficulty paying short-term debts (liquidity), to severe or more significant conditions, that cannot be resolved. According to several studies above, a company is in financial trouble when its performance tends to decline and it experiences losses." However, this does not mean that businesses experiencing a financial crisis or facing financial difficulties go bankrupt. Therefore, financial difficulties should not be ignored and must be anticipated as early as possible.

2.2   Stock Prices

Stock prices can reveal details about a country's macroeconomic environment and its economic sectors. The sum of all the rising stock prices in a country can indicate that the country's economy is strengthening. Shares are a sign of participation or ownership of a person or entity in a company, a share is a piece of paper which states that the owner of the paper is the owner (regardless of the portion/amount) of the company that issued the paper (shares). A share has a value or price.

2.3   Signaling Theory

According to Brigham & Houston (2019) a signal is an action taken by company management that provides clues to investors about how management views the company's prospects. This Signal Theory explains that all actions contain information, and this is due to information asymmetry.

Information asymmetry is a condition where one party has more information than the other party. This theory is based on the assumption that managers and shareholders do not have access to the same company information, so there is asymmetric information between managers and shareholders. One way for companies to increase company value is by reducing information asymmetry.

One way to reduce information asymmetry is to provide signals to external parties, in the form of positive and trustworthy financial information which will reduce uncertainty regarding the company's future prospects so as to increase the company's credibility and success (Brigham & Houston, 2019). Signal theory itself explains how a company should be able to provide signals to users of financial reports, especially investors

who will make investments. This signal can be in the form of information about what management has done to realize investors' wishes.

The signals or signals issued by the company are important, because they influence the investment decisions of external parties to the company. The better the signal given by the company, the better the company's performance will be. Good company performance will usually reflected in the increase in company's share price.

2.4 Efficient Market Hypothesis Theory

The Efficient Market Hypothesis is a hypothetical theory which states that the price of shares or securities is a picture, reflection of all available information about the securities or shares. This hypothesis states that if new information spreads, stock prices will adjust quickly and without bias to the new information, so that stock prices will be corrected back to fair value and there is no opportunity for investors to obtain abnormal returns.
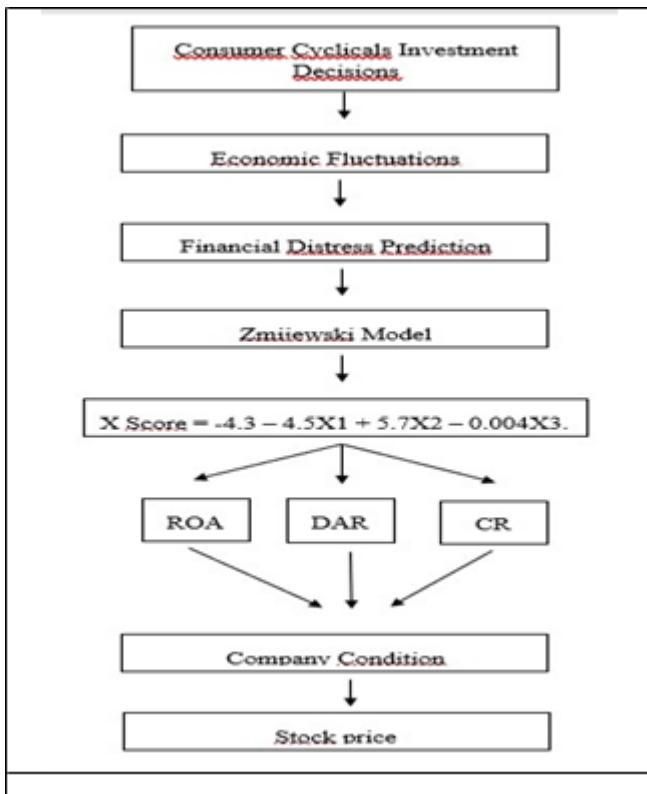
2.5 Framework

Fig. 2. Theoritical Thinking Framework

2.6   Hypothesis

According to the picture above, the research hypothesis can be formulated as follows:
   H1: Financial distress has an effect on stock prices
   H2: ROA has an effect on stock prices
   H3: DAR has an effect on stock prices
   H4: CR has an effect on stock prices
   H5: ROA, DAR, CR concurrently has an effect on stock prices

3   Research Methods

3.1   Research Object and Time

The research object is the subsector of automotive component companies that have been listed on the Indonesia Stock Exchange from 2018 to 2022. Research will be conducted from March to October 2023.

3.2   Operational Variable

   The research object used in this research consists of two variables. The first is the independent variable which consists of financial distress. Meanwhile, the second is the dependent variable consisting of stock prices.

3.3   Population and Sample

In this research, the population is subsector of automotive companies listed on IDX between 2018 and 2022. The sample selection method applied in this study was purposive sampling, a non-random sort of sample selection in which data is gathered based on particular criteria.

No	Information	Amount
1	Companies listed on the Indonesian Stock Exchange in the automotive and components sub-sector	15
2	Companies that have conducted an IPO before the 2018 research period	13
3	Companies that publish complete financial reports on the Indonesia Stock Exchange for the 2018-2022 period	15
4	Number of companies in the sample	6

Fig. 3. Criteria Sample

   Based on these criteria, the sample in this study was 6 companies from 15 15 automotive and component sub- sector companies listed on the Indonesian Stock Exchange.

No.	Company Code	Company name
1.	AUTO	Astra Otoparts Tbk.
2.	BOLT	Garuda Metalindo Tbk.
3.	INDS	Indospring Tbk.
4.	LPIN	Multi Prima Sejahtera Tbk.
5.	PRAS	Prima Alloy Steel Universal Tbk.
6.	SMSM	Selamat Sempurna Tbk.

Fig. 4. Companies Sample

3.4   Data Type and Sources

Quantitative data, or data that can be quantified on a numerical scale, is the type of data used in this research. The data source used is secondary data in the form of financial reports for the automotive components subsector published on the IDX, Central Statistics Agency, Bank Indonesia, and other supporting magazines related to the study problem.

In this study, correlation methods, non-probability sampling, and purposive sampling strategies were applied. According to Sugiyono (2013), purposive sampling is a sampling method which, can also be seen as a sampling method that sets standards for research. Next, the following criteria were created for the sample companies:
1) Companies that have been registered on the IDX
2) Companies that enter the automotive components and components sub-sector.
3) Companies that have been registered since at least 2018.

3.5   Analysis Method

Financial Distress Prediction Analysis Zmijewski Model. The prediction model produced by Zmijewski in 1983 was the result of 20 years of research which was reviewed (Prihanthini: 2013). Predictions of bankruptcy or financial distress can be calculated using the Zmijewski model method (X-Score). The equation of the Zmijewski analysis model are presented as follows:

$X = -4.3 - 4.5X1 + 5.7X2 - 0.004X3$

Where :
$X1$ = ROA (Return on Assets)
$X2$ = Leverage (Debt Ratio)
$X3$ = Liquidity (Current Ratio)

According to Prihanthini (2013) in Tri Nurhaeni (2022), the greater the value. If the score obtained by a company from the X-score bankruptcy prediction model exceeds 0 then the company is predicted to have the potential to experience bankruptcy $(X)>0$. On the other hand, If a company has a score of less than 0 then the company is

predicted to have no potential for bankruptcy (X)<0.combining SI and CGS units, such as current in amperes and magnetic field in oersteds. This often leads to confusion because equations do not balance dimensionally. If you must use mixed units, clearly state the units for each quantity that you use in an equation.

Determination of Panel Data Estimation Model.
1. Common Effects Model
    The common effect model technique combines cross section data with time series without looking at time differences between company data. The approach used in this model is the ordinary least squares (OLS) method.
2. Fixed Effect Model
    The fixed effect model technique estimates panel data using dummy variables to capture differences in intercepts. Because, in this fixed effect model there are differences in intercepts between companies but the intercepts are the same over time. The approach used in the fixed effect model is the least square dummy variable (ILSDV) method.
3. Random Effect Model
    The random effect model technique estimates panel data where disturbance variables may be interconnected over time and between companies. The differences between the two are accommodated through error and the approach to this model uses the generalized least squares (GLS) method

Estimation Model Test. There are three tests to choose a panel data estimation technique, namely the Chom test (f statistical test), the Hausamn test, and the Lagrange multiplier test (Widarjono, 2017)
1. Test Chow
    The Chow test is used to select the most appropriate fixed effect model or common effect model. Decision making is made if:
    Prob value. F < critical limit, then reject Ho or choose the fixed effect model rather than the common effect model.
    Prob value F > critical limit, then accept Ho or choose the common effect model rather than the fixed effect model.
2. Hausman test
    The Hausman test is used to choose between fixed effects or random effects which is most appropriate to use. Decision making is made if:
    The calculated chi square value > chi square table or chi square probability value < significant level, then reject Ho or choose the fixed effect model rather than the random effect model.
    The chi square value is calculated at a significant level, then accept Ho or choose the random effect model rather than the fixed effect model.
3. Lagrange Multiplier Test
    Lagrange multiplier (LM) test used to find out whether the random effect model is better than the common effect (OLS) model without dummy variables. Decision making if:

The p value < critical limit, then reject Ho or choose the random effect model rather than the common effect model.

The p value > critical limit, then accept Ho or choose the common effect model rather than the random effect model.

Classic Assumption Test. In this research, heteroscedasticity tests and multicollinearity tests are used.

1. Heteroscedasticity Test

   Heteroscedasticity test is the presence of unequal variance of residuals for all observations in the regression model (Basuki and Prawoto, 2017). The way to find out whether there is heteroscedasticity in a multiple linear regression model is by looking at the scatterplot graph. If there is no particular pattern and it does not spread above or vice versa below zero on the y-axis, then it can be concluded that heteroscedasticity does not occur (Ghozali, 2016)

2. Multicollinearity Test

   According to Ghozali (2016), the multicollinearity test aims to find out whether the regression model found a correlation between the independent variable and the dependent variable. To determine whether there is multicollinearity or not, you can determine the tolerance value and variance inflation factor (VIF) value. A low tolerance value is the same as a high VIF value. The cut off value used is a tolerance value of 0.10 or a VIF value above 10.

Simple Linear Regression Analysis. Simple linear analysis is testing the extent of the causal relationship between variable X and variable Y. Where in this research variable X is the X-score and variable Y is the stock price. The simple linear regression analysis model is as follows:

Yit= a+bX+ e

Where:

Y: Stock price a: Constanta

b: regression coefficient

X: X-score

E: Error rate

Multiple Linear Regression Analysis. Multiple linear regression analysis is a linear regression model involving more than one independent variable which aims to determine the relationship between the independent variable and the dependent variable, whether each variable is positively or negatively related. In this study, to determine the influence of the three independent variables, namely Return On Assets, Debt to Assets Ratio, and Current Ratio on the dependent variable, namely stock prices. The multiple regression linear equation are presented as follows:

Yit = a + b1 X1it + b2 X2it + b3X3it + e

Information: Y: Stock price a: constant

X1: Return on assets

X2: Debt to Assets Ratio

X3: Current Ratio e: Error rate

Hypothesis Testing.
1. Partial Test (t Test)
   According to Gujarti (2007) decision making if:
   The calculated t value > t table or the prob t-statistic value < significant level, then reject Ho or which means that the independent variable has an effect in the model on the dependent variable.
   The calculated t value < t table or prob t-statistic value > significant level, then accept Ho or which means that the independent variable has no effect in the model on the dependent variable.
2. Simultaneous Test (f Test)
   In the simultaneous test (f test) to ensure that the selected model is appropriate or not for interpreting the influence of the independent variable on the dependent variable. This simultaneous test is very important because if the f test does not pass then the t test will not be relevant. According to Gujarti (2007) decision making if:
   Calculated F value > F table or prob value. F-statistic < significant level, then reject Ho or which means that the independent variables together influence the dependent variable.
   Calculated F value > F table or prob value. F-statistic > significant level, then accept Ho or which means that the independent variables together do not affect the dependent variable.
3. Determinant Coefficient Test (R2)
   According to Ghozali (2016), the determinant coefficient measures how far the model's ability to explain the dependent variable. If the R2 value is close to one then the model used is good and conversely if the R2 value is close to zero then the model used is not good.

References

1. Agustina, S., & Mranani, M. (2021, February). The Effect of Profitability and Sales Growth on Financial Distress with Capital Structure as a Moderating Variable (Empirical Study of State-Owned Companies Listed on the Indonesian Stock Exchange for the 2015-2019 Period). In UMMagelang Conference Series (pp. 534-549).
2. Carolina, V., Marpaung, EI, & Pratama, D. (2017). Financial ratio analysis to predict financial distress conditions (empirical study of manufacturing companies listed on the Indonesia Stock Exchange for the 2014-2015 period). Journal of Accounting, 9(2).
3. Cadence, ON (2018). The Effect of Potential Bankruptcy on Share Prices in Manufacturing Companies Listed on the Indonesian Stock Exchange. Business-Net Journal of Economics and Business, 1(1).

4. Cinantya, IGAAP, & Merkusiwati, NKLA (2015). The influence of corporate governance, financial indicators, and company size on financial distress. Udayana University Accounting E-Journal, 10(3), 897-915.

5. Ghozali, Imam. 2016. Aplikasi Analisis Multivariete Dengan Program Pada PT. XL AXIATA Tbk. Dan PT. INDOSAT Tbk", Jurnal EMBA, 63 IBM SPSS 23 (Edisi 8). Cetakan ke VIII.

6. Hakim, MZ, Wiyanti, AT, Hidayat, I., Pambudi, JE, Abbas, DS, & Alamsyah, S. (2023). Determinants of Financial Distress in Consumer Cyclicals Sector Companies Listed on the Indonesian Stock Exchange. Journal of Tourism and Hospitality Economics, Management, 2(1), 470-475.

7. Imron, HR, Suhui, AM, Zabidi, I., Hendra, L., & Suryono, DW (2022). Financial Distress Prediction for Companies in the Consumer Cyclical Industrial Sector. Journal of Accounting and Management, 19(02), 63-77.

8. Kusumawati, R., & Birnanitta, R. 2020. Financial distress and influencing variables. Journal of Management and Business. 1-21.

9. Muzharoatiningsih, M., & Hartono, U. (2022). The influence of financial ratios, sales growth and company size on financial distress in the consumer goods industry sector listed on the IDX 2017-2020. Journal of Management Science, 747-758.

10. Nurhaeni, T., Arimuljarto, N., & Nia, VM (2022). ANALYSIS OF FINANCIAL DISTRESS AND ITS INFLUENCE ON STOCK PRICES IN TRANSPORTATION SUB-SECTOR COMPANIES LISTED ON THE INDONESIAN STOCK EXCHANGE FOR THE 2016-2020 PERIOD. Student Online Journal (JOM) in Management, 7(3).

11. Pangkey, PC, Saerang, IS, & Maramis, JB (2018). Bankruptcy prediction analysis using the Altman method and the Zmijewski method for bankrupt companies that have gone public on the Indonesia Stock Exchange. EMBA Journal: Journal of Economic, Management, Business and Accounting Research, 6(4).

12. Primasari, NS (2017). Analysis of Altman Z-Score, Grover Score, Springate, and Zmijewski as Signaling Financial Distress (Empirical Study of the Consumer Goods Industry in Indonesia). Accounting and Management Journal, 1(1).

13. Salim, SN, & Dillak, VJ (2021). The influence of company size, managerial agency costs, capital structure and gender diversity on financial distress. Scientific Journal of Management, Economics & Accounting (MEA), 5(3), 182-198.

14. Septiani, TA, Siswantini, T., & Murtatik, S. (2021). the influence of liquidity, leverage and profitability on financial distress in the consumer goods industry sector listed on the IDX. Journal of Economic Appreciation, 9(1), 100-111.

15. Silanno, G.L., & Loupatty, L.G. (2021). The influence of the current ratio, debt to equity ratio and return on assets on financial distress in companies in the consumer goods industry sector. Journal of Economics, Social & Humanities, 2(07), 85-109.

16. Wawo, A., & Nirwana, N. (2020). The Effect of Financial Distress on Stock Prices. Civilization Accounting Scientific Journal, 6(1).

17. Widarjo, W., & Setiawan, D. (2009). The influence of financial ratios on the financial distress conditions of automotive companies. Journal of business and accounting, 11(2), 107-119.