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Analysis of the Financial Distress Approach to Financial Performance in Automotive and Component Companies Listed on the Indonesian Stock Exchange

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Abstract

The purpose of this study is to analyze the condition of financial distress to the financial performance of companies listed on the Indonesia Stock Exchange in the automotive and component sectors. The sampling technique used is purposive sampling with certain criteria. The sample from this study amounted to 12 automotive and component companies registered in Indonesia in the 2018-2020 period. The source of data used in this study is to use secondary data in the form of company financial statements from the Indonesia Stock Exchange website and the website of each company. The analysis technique used is in the form of quantitative descriptive analysis techniques using financial ratios from the Altman Z-Score, Springate and Grover models. The results of this study prove that the Altman model has an accuracy rate of 81%, the Springate model 86% and the Grover model 53%. It can be said that the Springate model is the most accurate model for predicting the condition of financial distress in automotive and component companies for the period 2018-2020.

Keywords : Altman, Springate, Grover, Financial Distress

Introduction

The automotive industry is a supporting industry and is used as one of the foundation industries in Indonesia's economic development. This industry is engaged in the production of goods including all vehicle components, namely the initial process of manufacturing spare parts, production activities, assembled goods, sales systems and a large distribution network. Given the complete industrial chain, the automotive and component industries can be said to have become a sizable source of national income (Saputra Deni, 2021)

The problem faced by the automotive industry is the existence of financial difficulties due to decreased sales which have an impact on the company's difficulty paying debts, thereby disrupting production activities. To be able to see a company's ability to pay its debts, the current ratio can be used as a measure in predicting bankruptcy

There are two factors causing company difficulties that can lead to bankruptcy, namely internal factors and external factors. From internal factors, it can be seen from the company's financial aspect that the company cannot pay off all of its debts and fulfill its obligations. Therefore, causing the company to start experiencing difficulties and even the company can experience bankruptcy. As for external factors such as difficulties in obtaining raw materials, companies experience losses to carry out the production process in order to gain profits. These difficulties can be caused by natural factors such as an unthinkable disaster (Suhendi, 2021).

In June 2013, the government increased fuel prices with an average subsidy of 33%, this had an impact on car sales being limited. In 2014, Indonesia's car sales slowed as the Indonesian government doubled the price of additional fuel to ease the serious pressure caused by the government's budget shortfall (www.indonesia-investments.com 2017)

From data from the Association of Indonesian Automotive Industries (Gaikindo) in 2018, the production of vehicles used by passengers increased 4.77% from 99,440 units to 94,907 units. Meanwhile, production of commercial vehicles decreased by 20,257 units, or around 15.44%. In January-August 2019, passenger car production decreased by 2.28% to 15,885 units compared to last year's around 693,769 units now to 677,914 units. In addition, commercial vehicle production also decreased by 18.79% to around 153,749 units. This decline occurred in the third quarter of 2019 due to low domestic purchasing power (Bisnis.com 2019).

Throughout 2019 the manufacturing sector experienced a decline, including the automotive and component industry sectors, which fell by 7.03% due to reduced demand for vehicles. Since the beginning of 2019, out

of 13 automotive and component companies listed on the Indonesia Stock Exchange, 11 have experienced a decline in sales.
As a result of the COVID-19 pandemic, the car factory was temporarily closed and several activities were not carried out, such as a car show which was canceled due to the need to practice social distancing to prevent the spread of the corona virus. As a result, throughout 2020 car sales also decreased by around 48.35% (www.gaikindo.or.id 2021)
Financial distress (financial distress) is a condition that indicates a stage where the financial condition of a company that previously had symptoms of bankruptcy or liquidation worsened (Maharani, 2014). Meanwhile, bankruptcy is a situation where there is uncertainty about a company's ability to continue operating in the face of a decline in the company's financial health. To minimize the worries of investors and creditors, financial predictions are required. Bankruptcy does not occur without its own causes, one of which is the weakening of a company's financial performance (Al-Rahma, Salim, and Priyono 2021).
The failure of the company is characterized by a condition of financial difficulties. Prediction of financial difficulties is very important to ensure the company's finances are in a stable condition. The sooner a company realizes the financial difficulties it is experiencing, the greater the chance it has to evaluate the company's performance to avoid bankruptcy. Before experiencing this, every company is expected to predict bankruptcy so that they can find out the actual financial condition of the company. Before carrying out investment activities in the capital market, it is hoped that investors will have conducted previous research or sought information on the companies they wish to invest in, so that unwanted things do not occur.
Little previous research has been found that predicts financial distress in automotive and component companies listed on the Indonesia Stock Exchange, so this research is still quite interesting to explore in depth. (Al-Rahma, Salim, and Priyono 2021) and (Muzakky 2016) conducted an analysis of potential bankruptcy using the Altman, Springate and Zmijewski models in the automotive sector. which is listed on the Indonesia Stock Exchange. The results show that the Zmijewski model is the most accurate model for analyzing potential bankruptcy in the automotive sector. (Widiastuti 2018) also conducted research on bankruptcy prediction in automotive sector companies in 2015-2017 using the Altman, Springate and Zmijewski methods. The results of using these three methods show that the Springate method produces the highest bankruptcy rate in the automotive sector at 66.67%. (Mahardika and Setyawan 2022) also conducted an analysis of bankruptcy prediction for automotive companies during the Covid-19 pandemic using the Altman, Zmijewski and Springate models. The results of the study prove that the company's performance has decreased during the Covid-19 pandemic.
Of the many financial distress prediction models above, the authors will try to use the Altman Z-Score (1968), Springate (1978) and Grover (2001) models to predict financial distress. This study aims to analyze the prediction of financial performance financial distress and find out which model is the most accurate in predicting the financial distress of Automotive and Component Manufacturing Sub-Sector companies listed on the Indonesia Stock Exchange for the 2018-2020 period.

Methodology

The data analysis method used in this study has several stages as follows:
First. Perform a quantitative descriptive analysis.
Descriptive statistical analysis in this study is needed to describe information so that the resulting data is in a display that is easier to understand.
Second. Using the Altman Z-Score, Springate and Grover models to perform financial distress prediction analysis. The data used is the financial statements of automotive and component companies listed on the Indonesia Stock Exchange during the 2018-2020 period.
Third. Finding out the original condition of automotive companies and components by calculating DER (Debt Equity to Ratio). This is done to see the results of a comparison between the prediction model and the original conditions of each company.

$$DER = \frac{Total\ Utang}{Modal}\ x\ 100\%$$

The lower the value of the debt to equity ratio, the better the company's financial condition. A company is said to be healthy if the company has a debt to equity ratio below 0.8 or 80%.

Fourth. Calculating the Accuracy Level, Error Type I and Error Type II

The accuracy of these three research methods can be seen from the level of accuracy they produce. According to (Altman & Hotchkiss, 2006) the formula for calculating the level of accuracy is as follows.

$$Tingkat\ Akurasi = \frac{Jumlah\ Prediksi\ Benar}{Jumlah\ Sampel} \times 100\%$$

The number of correct predictions is the number of samples of automotive and component companies that have been declared by the Indonesian Stock Exchange not to be in a state of financial difficulty, when calculated using the Altman Z-Score model, Springate and Grover stated the same thing as the Indonesian Stock Exchange's statement.

Type I error is an error that occurs when the model predicts that the sample examined will not experience financial difficulties, but in fact the sample is listed on the Indonesia Stock Exchange as a company experiencing financial difficulties. Type I error is calculated as follows:

$$Type\ Error\ I = \frac{Jumlah\ Kesalahan\ Tipe\ I}{Jumlah\ Sampel} \times 100\%$$

Meanwhile, Type II Error is an error that occurs when the model predicts that the sample under study is experiencing financial difficulties, but actually according to the Indonesia Stock Exchange the sample is classified as a company that is not experiencing financial difficulties (Yudhawati, Saidah, and Nurhayati 2021). Type II error is calculated as follows:

$$Type\ Error\ II = \frac{Jumlah\ Kesalahan\ Tipe\ II}{Jumlah\ Sampel}\ X\ 100\%$$

The number of errors refers to the number of errors made by the Altman Z-Score, Springate and Grover models when analyzing samples of automotive and component companies that do not match the actual phenomena on the Indonesia Stock Exchange.

Result

Based on the results of calculating the accuracy level above, the Springate model and the Altman Z-Score model are the most accurate models for predicting financial distress in automotive and component sector companies listed on the Indonesia Stock Exchange for the 2018-2020 period. Judging from the results of this analysis, it can be used as an early warning for management to re-evaluate financial performance if there are signs of financial difficulties.

The results of the financial distress analysis that has been carried out show that the Altman Z-Score, Springate and Grover models predict that several companies will experience financial difficulties. As well as some prediction results according to the Indonesian Stock Exchange in accordance with the actual financial situation, but some are not in accordance with the company's original financial situation.

The differences in the three prediction models are due to differences in the formulas and ratios used in the Altman, Springate and Grover models. For example, from the 2018-2020 period PT. Selamat Sempurna Tbk (SMSM), according to Altman's model predictions, is experiencing a gray area condition. According to springate model, SMSM company in 2018 did not experience financial distress. However, from the 2019-2020 period it is predicted to be in a state of distress. According to the Grover model, SMSM did not experience financial distress for 3 consecutive periods. Meanwhile, according to the financial report data of PT. Selamat Sempurna Tbk which is listed on the Indonesia Stock Exchange from the 2018-2020 period is not experiencing financial distress.

Even though there are differences in the prediction results, these results can be used as a benchmark or indicator to find out whether a company is experiencing financial distress or vice versa, so that it can be used as anticipation or as a reference in predicting financial distress in the future.

The results of this study have similarities with previous studies, namely (Yudhawati, Saidah, and Nurhayati 2021) where the results of their research prove that the springate method is an appropriate method for analyzing financial distress in the health sector from the 2012-2016 period because the springate method has accuracy by 60% and type I error by 0%. The results of the study (Piscestalia 2019) also prove that the Springate method is the most accurate forecasting model with an accuracy of 85%, which means that the Springate method can be used to predict the financial distress of the coal mining sector which is listed on the Indonesia Stock Exchange. The results of the study (Edi and Tania 2018) prove that the Springate model is the best predictive model for predicting financial distress for all companies listed on the Indonesia Stock Exchange during the 2012-2016 period because it has the highest accuracy rate of 69.7% according to the results of the coefficient of determination test.

The benefit of predicting financial distress is that it can assist investors in obtaining information on a company's financial condition. Through the use of this method, it can be used as a selection of companies that are in accordance with predetermined criteria or are in a healthy financial condition so that they can be used as companies to invest. Before predicting financial distress, know in advance which model you want to use because each model has different formulas and variables. So the results of several financial distress prediction models are not so relevant to the actual condition of the company.

One thing to note is that the results of these prediction models can only predict financial difficulties, not operational or liquidation difficulties. Not only that, every formulation in the financial distress prediction model that is made does not give perfect results. And also the results of this calculation description cannot be considered absolute.

Conclusion

From the analysis of financial distress predictions and financial reports from the Indonesia Stock Exchange, which have processed the data, there are some companies that are predicted to have financial performance in non-distress conditions, meaning that these companies can be said to be in good health or not facing financial difficulties throughout the 2018-2020 period. These companies include Astra Auto Part Tbk, Indo Kordsa Tbk, Indospring Tbk, Multi Prima Sejahtera Tbk, Selamat Sempurna Tbk and Garuda Metalindo Tbk. Meanwhile, in the 2020 period, there was one additional company that did not face financial distress, namely Astra International Tbk. The Springate model is a very accurate model for predicting financial distress in the automotive and component sectors with the highest accuracy rate of 86%, with type I and type II getting the same result, namely 14%. In second place is the Altman Z-Score model with an accuracy of 81% and type I and type II get the same result of 19%. And the lowest level of accuracy is found in the Grover model of 53% and type I and type II get the same result of 47%.

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