

Analysis of Financial Statements as a Means of Predicting the Possibility of Bankruptcy Using The Altman Z'-Score Method in Manufacturing Sector Companies for The Period 2019-2021

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ABSTRACT

The manufacturing industry plays a very important role for Indonesia's economic growth. This industry is a strategic industry for business actors. There are lots of good manufacturing business prospects in this country. This study aims to determine the potential bankruptcy of manufacturing companies in the metal sub-sector and the like using the Altman Z'-Score prediction tool based on financial reports published in 2019-2021 and which have been listed on the Indonesia Stock Exchange. The research method used is descriptive quantitative. The data analysis technique uses manual calculations with the Altman Z'-Score formula, which is used as a predictor of the possibility of bankruptcy in companies. The sample in this study was obtained using purposive sampling, based on the criteria obtained 6 companies. The data used is secondary data obtained from the 2019-2021 Indonesia Stock Exchange. The results showed that 2 companies were declared healthy, namely PT. Alakasa Industrindo Tbk and PT. Copper Mulia Semen Tbk with an Altman Z'-Score value above 2.90 which indicates that both companies are in a healthy financial condition. Three other companies were declared in gray condition, namely PT. Betonjaya Manunggal Tbk, PT. Gunawan Dianjaya Steel Tbk, and PT. Lion Metal Works Tbk, all three of which have an Altman Z'-Score value between 1.20 and 2.90. In addition, there is 1 company declared in a state of bankruptcy or distress, namely PT. Alumindo Light Metal Industry Tbk because it has an Altman Z'-Score value below 1.20.

Keywords: Altman Z'-Score 1, Bankruptcy 2, The manufacturing industry 3, Financial Performance 4.

1. INTRODUCTION

Finance is currently a hot topic of discussion in many circles. Various events that have occurred in recent years are intertwined with financial aspects. As the main foundation in life, finance plays an important role, both in the scope of individuals and countries. One form of finance that is of major concern is national finance. According to Law of the Republic of Indonesia Number 17 Year 2003 Article 1 Paragraph 1, state finances include all state rights and obligations that can be valued in money, as well as everything in the form of money and goods that can belong to the state related to the implementation of these rights and obligations. This definition encourages the public to be more responsive to the condition of national finances and their personal finances. In the context of national finance, public participation is needed because the progress of the country depends on the economic stability of its people. For this reason, the government and the community need to work together to build national economic strength. One of the strategic steps is to educate the public to invest

Investment according to Jogiyanto (2010) is the postponement of current consumption in order to obtain greater results in the future through efficient production within a certain period. In another sense, investment is an investment activity that is expected to generate profits in the future. By investing, the value of wealth can increase over time. However, investment cannot be done carelessly. People need to understand the basic principles of investment, especially first-time investors. Some important tips to know before investing include determining investment goals and timeframes, recognizing risk profiles, providing special funds, improving financial literacy, and investing consistently. Two of the most crucial things are knowing the risk profile and understanding the information of the company that will be used as a place to invest, especially through its financial statements.

A company, according to Willem Molengraff (in Salaiman, 2017), is an entity that carries out continuous activities to make a profit through trade or business agreements. One type of company is a manufacturing company, which is a company that converts raw materials into finished goods with high selling value using machines and labor. Many of these companies are listed on the Indonesia Stock Exchange and are divided into various sub-sectors, such as metals and the like and chemicals. A company's financial report, as explained by Sugiyanto (2018), is a document that contains financial information for one accounting period. This report includes a balance sheet, income statement, statement of changes in financial position, and other additional notes. With financial statements, investors can assess the feasibility of investing in a company. Although not everyone is able to read financial statements in detail, people need to understand at least the basic techniques to analyze the potential bankruptcy of a company. Bankruptcy, according to Lesmana (2018), is the inability of a company to continue its operations due to a decline in financial condition. Rudianto (2017) adds that bankruptcy is a failure in carrying out operational activities to achieve company goals. Economic factors such as inflation, deflation, financial policy, interest rates, devaluation, and trade balance also cause bankruptcy. Therefore, it is important to analyze bankruptcy early, one of which is the Altman Z-Score method.

The Altman Z-Score method, first developed by Edward I. Altman in 1968, is used to predict bankruptcy by analyzing several financial ratios through discriminant equations (Sari, 2017). This method serves as an early warning system so that companies can immediately take countermeasures before conditions worsen. In this study, Altman Z-Score is used to analyze the potential bankruptcy of manufacturing companies in the metal and chemical sub-sectors listed on the Indonesia Stock Exchange. This sub-sector was chosen because many companies in it experienced bankruptcy in the 2019-2021 period. Indonesia's GDP data shows that in 2019 economic conditions were quite stable. Economic growth was able to reduce unemployment and poverty, and improve the trade balance even though it was still in deficit. However, in 2020, the COVID-19 pandemic hit and caused a significant economic contraction, affecting all sectors of life including the manufacturing sector. This provides an important backdrop for understanding why many companies suddenly went bankrupt during this period.

2. THEORETICAL FOUNDATION

2.1 Financial Report

Wahyuni (2018) says that financial reports are basically the result of a reflection of the many transactions that occur in a company. Financial transactions and conditions must be recorded, classified and summarized in the most appropriate way in units of money, and then interpreted for various purposes. Rahmat (2020) says that financial statement analysis is an analytical tool for comprehensive corporate financial management, which can be used to detect and diagnose the company's health level, through analysis of cash flow conditions or the company's organizational performance, both partial and overall organizational performance. It can be concluded that with the financial statements, management can find out whether the company is healthy or not.

A complete financial report generally includes a balance sheet, income statement, statement of changes in equity, cash flow statement, and notes to the financial statements. In this research, the author uses the balance sheet and income statement as the calculation material.

2.2 Bankruptcy

Bankruptcy by Sugiyono (2017) is uncertainty about the ability of a company to continue its operations if its financial condition has decreased. Based on the provisions of Law Number 4 of 1998, bankruptcy can be interpreted as a condition where an entity is declared by a court decision that the entity concerned has two or more creditors and is unable to pay off its obligations, at least one debt that is due and collectible.

2.3 Altman Z'-Score Method

Z'-Score analysis was developed by Prof. Edward Altman with the intention of predicting the financial health of a company and the possibility of bankruptcy. Therefore, this analysis is used as a measure of the level of financial risk of a company. The method of predicting corporate bankruptcy was developed by Altman (1968) who then formulated a formula or model known as the Altman Z'-Score model. In a broader sense, Altman Z'-Score is a formula that can be used as a tool to predict the possibility of bankruptcy in the company early by taking into account the value of several financial ratios related to the company's liquidity capabilities. Furthermore, these ratios are included in a discriminant equation that has been formulated. For this reason, Altman attempted to refine the interpretation of these financial ratios by using regression statistical formulations.

3. RESEARCH METHOD

This research uses a descriptive quantitative approach. The quantitative approach focuses on processing and analyzing numerical data to test predictions of company bankruptcy based on financial statement indicators. According to Sugiyono (2018), quantitative methods are a scientific way to obtain numerical data used to prove hypotheses. This research is a non-case study, which does not focus on a single entity, but rather analyzes historical financial data from a number of metal subsector manufacturing companies listed on the Indonesia Stock Exchange (IDX) for the 2019-2021 period.

3.1 Research Design

The research design used is descriptive quantitative, which is research that aims to describe the characteristics of certain phenomena systematically and factually. This design is used to describe the company's financial condition based on the results of the Altman Z'-Score calculation in order to classify the company's condition into healthy, bankruptcy-prone, or bankrupt categories.

3.2 Population and Sample

The population in this study are all manufacturing companies in the metal subsector and the like listed on the Indonesia Stock Exchange during the 2019-2021 period. Based on data from the IDX, there are 54 companies included in the research population. The sampling technique used was purposive sampling, which is a sampling technique based on certain criteria (Sugiyono, 2017). The inclusion criteria in this study:

1. Listed as a metal subsector manufacturing company on the IDX during 2019-2021.
2. Publish complete and consecutive financial reports during the period.
3. Have been listed on the IDX for at least the previous five years.

3.3 Data Type and Source

The type of data used is secondary data in the form of quantitative data, namely annual financial reports (audited) obtained from the official IDX website. The data includes total assets, liabilities, equity, earnings before tax and interest (EBIT), net sales, and other elements needed for the calculation of Altman Z'-Score.

3.4 Data Analysis Technique

Data analysis techniques are carried out through several stages:

1. Data Reduction

This process involves sorting and filtering data from the annual financial statements of the sample companies, which are then calculated based on the Altman Z'-Score formula.

2. Data Presentation

The data is organized in tables and graphs to facilitate classification of the Z' score results for each company and each year.

3. Inference

Interpretation of the Z' score is done by referring to the Altman classification, in order to determine whether the company is classified as healthy, bankruptcy-prone, or in a bankrupt condition.

4. RESULTS AND DISCUSSION

4.1 Result

This study observed students' creative thinking skills through the implementation of problem-based learning. The pretest results showed that the majority of students were in the very low (32.26%) and low (35.48%) categories. After problem-based learning, the posttest results showed improvement: there were no students in the very low category, and most students were in the medium (45.16%) and high (35.48%) categories. The improvement analysis showed that there

was a significant increase in students' creative thinking skills. This is evidenced by an increase in the average score from 45.81 (pretest) to 71.61 (posttest), and an increase in the gain score of 0.47 (medium category).

4.2 Discussion

This improvement in creative thinking skills is associated with a problem-based learning approach that encourages students to be active, think critically, and find solutions. This learning provides space for students to develop aspects of creative thinking such as fluency, flexibility, originality, and elaboration. Student activities involving discussion, problem analysis, and solution presentation are important keys in this improvement. This finding is in line with several previous studies which state that problem-based learning is effective in improving students' creative thinking skills. In addition, the teacher's role as a facilitator is also influential in creating a learning atmosphere conducive to creative thinking.

5. CONCLUSIONS

This study was conducted with the aim of analyzing the potential bankruptcy of manufacturing companies in the metal sub-sector and the like listed on the Indonesia Stock Exchange so that it can be seen what companies are classified as potentially bankrupt during the assessment period of 2019, 2020, 2021. The analysis was carried out using the Altman model discovered in 1968 as a tool to assess the financial condition of the companies studied. The Altman Z'-Score model can make it easier for the board of directors, investors and researchers to describe the company's financial performance based on the calculation of cumulative bankruptcy indicator ratios that describe the company's ability to fulfill its obligations.

The results of this study conclude that from the calculation of the average Z'- Score of similar metal sub-sector manufacturing companies listed on the Indonesia Stock Exchange for three assessment years, namely 2019, 2020 and 2021, it shows that there are 2 companies in the healthy category, namely PT. Alakasa Industrindo Tbk and PT. Copper Mulia Semen. There are 3 other companies in gray conditions, namely PT Betonjaya Manunggal Tbk, PT Gunawan Dianjaya Steel Tbk and PT Lion Metal Works Tbk. Furthermore, there is only one company that is declared in distress, namely PT Alumindo Light Metal Industry Tbk.

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