CHAPTER I

INTRODUCTION

1.1   Background of the Study

The economic growth of Indonesia is influenced by many sectors, such as manufacturing, agriculture, property, and many more. The sector that contributes the most to the national economic growth in Indonesia is the manufacturing sector. According to Mr. Airlangga Hartarto as Coordinating Minister for Economic Affairs of the Republic of Indonesia, the manufacturing industry is the backbone of national economic growth. In addition, it is a key sector in spurring equity toward inclusive development and community welfare (*Kementrian Perindustrian Republik Indonesia* [*Kemenperin*], 2019). The manufacturing sector consists of three industries, which are basic industry and chemicals, consumer goods, and miscellaneous industry. Consumer goods is the industry that contributes the most to the manufacturing sector. More specifically, the food and beverage that is the sub-sector of the consumer goods industry contributes most to the manufacturing sector. Therefore, the government of Indonesia must focus to increase the economic growth through supporting several sectors, especially the manufacturing sector which is in food and beverage sub-sector.

The food and beverage industry is a mainstay manufacturing sector that contributes significantly to the national economic growth. So far, the performances of it have been positive overall, starting with its role in increasing investment, productivity, employment, and exports (*Kementrian Perindustrian*

Republik Indonesia [*Kemenperin*], 2019). Moreover, the food and beverage industry is among the sectors receiving development priorities, including encouragement to use industrial technology 4.0. This digital transformation is thought to have a positive impact on increasing investment and productivity in the industrial sector, as well as on developing a skilled workforce (*Kementrian Perindustrian Republik Indonesia* [*Kemenperin*], 2021). As a result, more and more new companies are emerging in the food and beverage sector, resulting in increasingly fierce competition between companies. Companies must be able to compete with other companies in order to survive in facing of increased fierce competition. Furthermore, the company must be able to maintain its survival by overcoming any problems or changes that may arise, such as financial problems. If a company is unable to overcome the problems, it will experience decline in business performance, which can lead to financial distress and bankruptcy.

Financial distress is a decline in financial condition which occurs before a company goes into bankruptcy or liquidation (Platt & Platt, 2002). Financial distress arises when a company fails to fulfill its debt obligations to creditors due to a lack of funds. The company's insufficient funds are the result of the company's inability to manage the stability of financial performance of the company. It results from the failure to market its products. As a result, sales value declined (Platt & Platt, 2006). The declining sales will result in decreasing income from operating activities and a net loss. The company's operational losses can result in a negative cash flow. This is because operating expenses exceed income received. If this situation continues, the company will face financial distress,

which will eventually lead to bankruptcy. When a large number of companies fail, the country's economic growth will suffer. Hence, it is crucial to conduct research to predict financial distress in order to avoid it in the future. Moreover, the prediction of financial distress will give information that is essential for investors as they will not invest in companies that are in financial distress. In addition, the information from the prediction of financial distress can be used as an input for the management of the companies in making decisions to prevent the occurrence of financial distress.

Predicting financial distress can be done through many models which have been developed through research by professionals. The first research on bankruptcy prediction was conducted by Beaver (1966), followed by Altman (1968), who developed a bankruptcy prediction model known as the Altman Z-Score. In the 1970s, the models for predicting bankruptcy continued to evolve in terms of formulas, model shapes, samples, and analysis systems such as the Springate Model (1978), Ohlson Model (1980), Zmijewski Model (1983), Fulmer Model (1984), Grover Model (2001), and Hazard Model (2001). Based on the measurements used, these models predict bankruptcy with varying levels of accuracy (Elviani et al., 2020). The Altman Z-Score and Zmijewski X-Score were chosen from among several bankruptcy prediction models, due to the large number of accounting researchers, practitioners, and academics using these models in prediciting financial distress and also the accuracy of the Altman Z-Score and Zmijewski X-Score, which are 95% and 94.9%, respectively.

In 1968, Edward I. Altman proposed a model used to predict the financial distress of various companies, known as the Altman Z-Score. Altman's research began with the gathering of 22 financial ratios that could be useful in predicting financial distress with a sample of 66 companies and a research period from 1946 to 1965. The research was conducted by examining the correlation between the ratios and the ability to predict financial distress. The ratio test results select five ratios that are thought to be the best for use as variables in the method (Fadrul & Ridawati, 2020). The five financial ratios consist of working capital divided by total assets, retained earnings divided by total assets, earnings before interest and taxes divided by total assets, market value of equity divided by book value of total liabilities, and sales divided by total assets. The accuracy of this Altman Z-Score in the first and second years before bankruptcy is 95% and 83%, respectively (Elviani et al., 2020). Moreover, the first Altman Z-Score was used for manufacturing companies, and later, Altman developed revision and modification of the Altman Z-Score which is for private companies and non-manufacturing companies, respectively.

Several years after the first Altman Z-Score was developed, there are many other financial distress prediction models. One of its models is the Zmijewski X-Score. In 1983, Mark E. Zmijewski proposed a model used to predict the financial distress of various companies, known as Zmijewski X-Score. In the research, Zmijewski used profitability, leverage, and liquidity ratio analysis, with a sample of 75 bankrupt companies and 73 healthy companies for the period of 1972 to 1978 (Fanny & Retnani, 2017). As a result, this model uses a combination of three

ratios, which are the return on asset ratio, the debt to asset ratio, and the current ratio, to show significant differences between healthy and unhealthy companies. Moreover, Zmijewski conducted a test to determine the accuracy level of this model, which is 94.9% in predicting the financial distress of a company.

As previously stated, the Altman Z-Score and Zmijewski X-Score have a high accuracy level, and the percentage of accuracy is very close to one another. Therefore, it is expected that these models will generate the same results and the results will be the same as in the real situation.

Table 1.1 The Results of Altman Z-Score and Zmijewski X-Score for Food and Beverage Company (PT. FKS Food Sejahtera Tbk.) During 2017-2019

Company	Year	Altman Z-Score		Zmijewski X-Score	
		Z-Score	**Category**	**X-Score**	**Category**
PT. FKS Food Sejahtera Tbk. (AISA)	2017	-13.2409	Distress Zone	11.3081	Distress Zone
	2018	-6.3635	Distress Zone	6.7615	Distress Zone
	2019	-0.3322	Distress Zone	3.7222	Distress Zone

Source: Prepared by the Writer (2021)

Table 1.1 shows that the results of the Altman Z-Score and Zmijewski X-Score that can be seen in category column are the same. The Altman Z-Score and Zmijewski X-Score show that PT. FKS Food Sejahtera Tbk. (AISA) is in a distress zone from 2017 to 2019. The distress zone denotes that the company is in financial distress and faces a high risk of going bankrupt. Negative working capital, retained earnings, and earnings before interest and tax cause the working capital to total assets, retained earnings to total assets, and earnings before interest and tax to total assets ratios in the Altman Z-Score to be negative, resulting in a low score generated from the model. Besides, the high score of the Zmijewski X-Score due to a high debt-to-asset ratio. This denotes that the assets of the company are mainly financed through debt. Moreover, the Altman Z-Score and Zmijewski

X-Score have different criteria. The higher the score of Altman Z-Score, the better it is, while the lower the score of Zmijewski X-Score, the better it is.

Furthermore, in reality, the shares of PT. FKS Food Sejahtera Tbk. (AISA) have been suspended by the Indonesia Stock Exchange (IDX) since July 2018. The suspension was carried out due to a failure to pay AISA's bonds interest and *sukuk ijarah* in 2013. The suspension was also carried out because AISA had failed to submit financial reports for a set period of time and had been late in paying fines. Moreover, the IDX has decided to lift the temporary suspension of securities trading in the entire first session market of securities trading as of August 31, 2020. This is due to AISA having completed two IDX requests. First, conducting incidental public exposures, including exposure to the latest financial and operational conditions. Second, submit a fair price assessment report from an independent appraiser registered with *Otoritas Jasa Keuangan* (OJK). The first request was fulfilled by AISA on July 30, 2020, and the second request has also been fulfilled. AISA submitted a fair price assessment report from an independent appraiser on August 19, 2020, as the second request from IDX. In an information disclosure, AISA revealed that the fair price assessment process was carried out by an independent appraiser from the public appraisal service office, Suwendho Rinaldy and colleagues registered with the OJK (Kontan, 2020).

In addition, based on Kontan (2021), the performance of PT FKS Food Sejahtera Tbk (AISA) in 2020 was quite good. Although net sales recorded a decline of 15.23% to 1.28 trillion rupiah in 2020, the company managed to increase its net profit. Most of AISA's net sales came from the basic food business

segment, amounting to 798.6 billion rupiah. Meanwhile, the consumer food business segment contributed to sales of 570.04 billion rupiah. The decrease in net sales is due to a significant decrease in the consumer food (snacks) business segment during this pandemic situation. Moreover, the increase in net profit by 6.19%, which is from 1.13 trillion rupiah in 2019 to 1.20 trillion rupiah in 2020, is due to significant decreases in the cost of goods sold, operating, and other expenses, and significant increases in other income. The AISA's cost of goods sold decreased by 9.43%, which is from 1.06 trillion rupiah in 2019 to 965.17 billion rupiah in 2020. The decrease was primarily due to the decrease in sales in 2020. The operating expenses of AISA also decreased by 10.85% to 480.13 billion rupiah in 2020 compared to 538.62 billion rupiah in 2019. The decrease was driven by the decrease in general and administrative expenses by 22.42% or 59.19 billion rupiah related to employee salaries and allowances, professional and consultant expenses, tax expenses, stock exchange, security fees, transportation, and accommodation. The decreases also happened to the other expenses, which decreased by 76.73% to 74.97 billion rupiah in 2020 compared to the realization in 2019 of 322.37 billion rupiah. Besides successfully cutting expenses, AISA's other income increased by 24.21% from 1.90 trillion rupiah in 2019 to 2.36 trillion rupiah in 2020. The increase is due to the difference between liabilities and settlements, and proceeds from the liquidation of PT. Sukses Abadi Karya Inti, formerly a subsidiary. Furthermore, AISA recorded total assets of 2.01 trillion rupiah or grew 8.06% compared to total assets in 2019 of 1.86 trillion rupiah. The growth occurred as there was an increase in current assets by 46.62% or 221.10

billion rupiah from 474.26 billion rupiah in 2019 to 695.36 billion rupiah in 2020. The significant increase in current assets was due to trade receivables of related parties of 252.68 billion rupiah in 2020. Moreover, AISA also recorded total liabilities of 1.18 trillion rupiah and total equity of 828.25 billion rupiah in 2020, where the total liabilities decreased, while the total equity increased from previous years. The decrease in liability is due to AISA having paid its debt to several creditors, including JP Morgan, Citibank, and Standard Chartered Bank on November 27, November 30, and December 1, 2020. The funds owned by AISA to repurchase bonds, *sukuk ijarah*, and payment of obligations to related banks were obtained through the private placement. AISA details that the maximum use of the funds obtained from the private placement will be placed on the payment of the company's debt of 650.86 billion rupiah or 52% for bonds payable, *sukuk ijarah*, and bank loans of JP Morgan. On the other hand, 183.71 billion rupiah or 14% of the private placement funds were given to subsidiaries for equity participation accompanied by the fulfilment of obligations to Citibank and Standard Chartered Bank. The remaining 425.43 billion rupiah or 34%, will be used for working capital, including the purchase of raw materials, rejuvenating assets, production machinery, and debt payments (Bisnis.com, 2020).

Based on the phenomenon above, the Altman Z-Score and Zmijewski X-Score produced results that were different from reality. The Altman Z-Score and Zmijewski X-Score predicted the company would go bankrupt, but in reality, the company did not go bankrupt and is still operating today. Thus, this research will test and compared the Altman Z-Score and Zmijewski X-Score to see if those

models can be used and accurate in predicting financial distress for food and beverage companies that are listed on Indonesia Stock Exchange (IDX). Based on the explanation above, the writer decided to conduct research with the title **"THE ANALYSIS OF FINANCIAL DISTRESS USING ALTMAN Z-SCORE AND ZMIJEWSKI X-SCORE MODELS FOR FOOD AND BEVERAGE COMPANIES LISTED ON INDONESIA STOCK EXCHANGE"**.

1.2   Problem Limitation

This research will be limited to the models used to predict financial distress, as well as the industry, and the period of the research. This research will be focusing on the Altman Z-Score and Zmijewski X-Score as financial distress prediction models. This research will only focus on the food and beverage companies listed on Indonesia Stock Exchange. Moreover, the research period is limited to the years 2017 to 2020.

1.3   Problem Formulation

Based on the background of the study outlined above, the problem formulation of the research is as follows:

1.   Is the Altman Z-Score appropriate in predicting the financial distress of food and beverage companies listed on Indonesia Stock Exchange?

2.   Is the Zmijewski X-Score appropriate in predicting the financial distress of food and beverage companies listed on Indonesia Stock Exchange?

3. Which is the most accurate model between the Altman Z-Score and Zmijewski X-Score in predicting financial distress for food and beverage companies listed on Indonesia Stock Exchange?

1.4 Objective of the Research

The objective of the research to solve the problem that has been found is as follows:

1. To find out whether the Altman Z-Score is appropriate in predicting the financial distress for food and beverage companies listed on Indonesia Stock Exchange.

2. To find out whether the Zmijewski X-Score is appropriate in predicting the financial distress for food and beverage companies listed on Indonesia Stock Exchange.

3. To determine the most accurate model between the Altman Z-Score and Zmijewski X-Score in predicting financial distress for food and beverage companies listed on Indonesia Stock Exchange.

1.5 Benefit of the Research

This research will generate two kinds of benefit, which are theoretical and practical benefit.

1.5.1 Theoretical Benefit

The research is expected to generate theoretical benefits as follows:

1.   For academic context, this research is expected to provide knowledge and a better understanding of the Altman Z-Score and Zmijewski X-Score for predicting financial distress.

2.   This research is expected to provide relevant information, contribution and references for literature development and support future researcher regarding Altman Z-Score and Zmijewski X-Score and financial distress.

1.5.2 Practical Benefit

The research is expected to generate practical benefits as follows:

1.   For Investors and Shareholders

This research is expected to provide information and knowledge regarding the method of predicting financial distress, which is the Altman Z-Score and Zmijewski X-Score, in order to help the investors and shareholders in taking the right decision to make a better investment in company that is not experiencing financial distress.

2.   For Management

This research is expected to provide knowledge and information regarding the way to predict the possibility of financial distress and the financial health of the company. To avoid bankruptcy, management will be able to make quick and correct decisions.