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PREDICTION OF BANKRUPTCY LEVELS USING THE ALMANT Z-METHOD SCORE IN BANKING COMPANIES ON THE INDONESIA STOCK EXCHANGE FOR THE 2018-2021 PERIOD

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Abstract

This research was conducted at banking companies listed on the Indonesia Stock Exchange from 2018 to 2021 with the aim of knowing the condition of the company using the modified almant z-score method. The population in this study is 45 companies but only 5 companies that meet the sample criteria. This type of research is descriptive with a quantitative approach. The type of data used is quantitative data and qualitative data, while the data source used in this study uses secondary data in the form of financial reports for the last 4 years. The variables used in this research are Working Capital to total Assets (X1), Retained Earning to Total Assets (X2), Earning Before Interest Taxes to Total Assets (X3), and Market value of Equity to Book Value of Liabilities (X4). This research data analysis uses the almant z-score method as a tool to predict corporate bankruptcy. The results of this study indicate that from 2018 to 2021 there is one banking company that is in an unhealthy condition or is included in the bankrupt company category, namely Bank Mega tbk (MEGA) with an average value of -3.32. And there are four companies that are not bankrupt or in good health, including Bank Negara Indonesia (persero) tbk (BBNI) with an average Z-Score of 4.49, Bank Bukopin tbk (BBKP) with an average Z-Score of 4.57, Bank Mandiri (persero) tbk (BMRI) with an average Z-score of 4.38, and Bank Rakyat Indonesia tbk (BBRI) with an average Z-Score of 4.62 .

1. INTRODUCTION

Background problem

Banking is the lifeblood of the economy throughout the nation. Banking in Indonesia has a very important role, one of which is maintaining monetary stability due to its policy towards public deposits as well as payment traffic. The importance of the role of banking in financial system and economic stability, Bank Indonesia continues to strive to monitor and take various steps to maintain banking soundness and financial system stability, including by regulating and supervising banks, to increase monitoring effectiveness, activities are needed surveillance more intensive analysis on several indicators that may affect financial stability.

Banking is an important part of the financial system for the smooth running of a country's economic activities. The failure of one bank does not only cause problems for individual banks but can cause a domino effect in other industries because banks have a role as intermediaries. The risks faced are enormous if the banking intermediation process stops because it will result in a breakdown in the payment system and paralyze economic activity as a whole. The consequences of failure in this sector can have a negative impact on the entire economic system. The impact of the system is a concern because actually if it is seen that there is a potential for bankruptcy from a bank, customer anxiety will easily spread and will also have an impact on healthy banks.

There are two types of banking systems in Indonesia, namely conventional banks and Islamic banks. Conventional banks are based on a general operational system that is profit-based on interest rates. Meanwhile, Islamic banks are based on sharia principles contained in the Koran, al-Hadith, and the ijtihad of the scholars. The economic crisis which resulted in shocks to the global financial system greatly impacted the banking sector in Indonesia, especially for conventional banks. Conventional banking has experienced a very negative impact from the global economic crisis, because Indonesian conventional banks have a high level of integrity with the global financial system. In addition, conventional banks are very vulnerable to fluctuations in exchange rates and interest rates. This predetermined interest amount is greater than the amount of interest received from credit, giving rise to negative spread. These things resulted in many conventional banks experiencing financial difficulties. It can be seen that in October 2008 Bank Mandiri Tbk, Bank Negara Indonesia Tbk, and Bank Rakyat Indonesia Tbk requested liquidity assistance from the government.

In banking, liquidity problems must be managed appropriately and effectively. According to Kasmir, (2018) a bank is said to be liquid if the bank in question is able to pay all of its debts, especially short-term debt. Based on data from the Central Statistics Agency, (2020) this impact continues to have an impact on economic development in Indonesia which is experiencing a slowdown and decline in economic growth. Unstable economic conditions encourage banks to have good financial performance to survive. The following is the development of banking companies for the 2018-2021 period, namely:

Table 1. Development of Banking Companies in 2018-2021

No	Bank Group	Number of Banks			
		2018	2019	2020	2021
1	Conventional Commercial Banks - State-Owned Banks	4	4	4	4
2	Conventional Commercial Bank - Bank Regional development	24	24	25	25
3	Sharia Commercial Bank - Regional Development Bank	2	2	2	2
4	Sharia Commercial Bank - National Private Bank	14	14	14	14
Number of banks		44	44	45	45

Source: www.idx.co.id

Based on table 1, it shows the development of banking companies from 2018-2021, which experienced an increase or decrease in the number of banks. In 2018 and 2019 the banking sector totaled 44 banks, then in 2020 to 2021 it will increase to 45 banks. The banking sector is one of the financial sectors in the capital market that is in great demand by investors to invest their capital. One of the causes of bankruptcy is the existence of increasingly fierce business competition, therefore companies are required to always improve themselves so they can compete with other companies. Bankruptcy is the biggest challenge for a company, therefore it is necessary to analyze bankruptcy prediction so that companies can anticipate bankruptcy in the future. One form of bankruptcy prediction analysis is by analyzing ratios to assess the company's financial condition in the past, present and future. There are many causes for companies to go bankrupt and because of the many causes, a method has emerged to analyze the symptoms of company bankruptcy which is expected to be used to anticipate the financial condition of a company before the company reaches the point of bankruptcy/bankruptcy.

Banks in carrying out their business collect funds from the public and channel them back into various investment alternatives. Banks as trusted institutions that have financing from various parties in quite large amounts and also sell their shares on the stock exchange and are purchased by the wider community (for banks that have go public). In line with its business characteristics, the bank is a business segment whose activities are heavily regulated by the government. Tight regulation by the monetary authorities on banking activities is inseparable from their role in the implementation of monetary policy. So it will be very useful if the public can find out signs of financial difficulties or predictions towards bank bankruptcy that can be processed from published financial reports.

The liquidation risk of a bank can actually be known and measured using financial reports. The measurement is carried out by analyzing the financial statements issued by the bank concerned. Financial statement analysis is a very important tool to find out how the company's financial position and also the results achieved are related to the selection of company strategies that have been carried out. The soundness level of the company is important for the company to increase efficiency in running its business, so that the ability to earn profits can be increased which can ultimately avoid the possibility of bankruptcy of a company. The bankruptcy of a company will cause several problems related to owners and employees who have to lose their jobs. This actually will not cause bigger problems if the bankruptcy process in a company can be predicted earlier which can reduce the risk of bankruptcy.

This bankruptcy prediction is not only important for the company, but this predictive analysis is also very important for investors who will invest their money in the company. Bankruptcy prediction analysis is very important for public companies (go public) so as not to harm many parties such as investors, creditors and company employees who can terminate employment relations which can interfere with the management of the company itself. Empirically, the prediction of bankruptcy or liquidation can be proven by using financial ratios. Financial ratios can be used as a predictor of company failure, although not all ratios can predict equally well and cannot predict with the same level of success. Discriminant analysis is performed to predict the bankruptcy of a company two to five years before the company is predicted to go bankrupt. The emergence of various bankruptcy prediction models is an anticipation and early warning system for financial distress because the model can be used as a means to identify and even improve conditions before and arrive at a crisis or bankruptcy. This encourages the need for early warning is the emergence of financial problems that threaten the company's operations. capital factor and financial risk have an important role in explaining the phenomenon of bankruptcy / financial pressure of the company.

Altman Analysis Method Z-Score was first put forward by Edward I Altman in 1968 as a result of his research. After selecting 22 financial ratios, 5 ratios can be combined to see which companies are bankrupt and which are not bankrupt. Altman conducted several studies with company objects in different conditions. Because of that, Altman produces several different formulas that can be used in several companies with different conditions. The bankruptcy prediction model in this study is Altman Z-Score, where Altman uses Multiple Discriminant Analysis (MDA) to predict the bankruptcy of a company. According to Altman, the technique of using MDA has the advantage of considering the general characteristics of relevant companies, including interactions between these companies and combining various ratios into a meaningful predictive model that can be used for all companies, whether public, private, manufacturing, or service companies. various sizes.

The results of the analysis show that financial ratios (profitability, liquidity and solvency) are useful in predicting bankruptcy with accuracy which tends to decrease over a longer period of time. The weakness of this model is that there is no definite timeframe for when bankruptcy will occur after the results Z-score known to be lower than the standard set and cannot be absolutely used because sometimes there are different results if we use different objects. Altman Z model Score divided into three, namely the Altman model Z-Score Original, Altman Z-Score Revision and Altman Z-Score Modification. The Altman Z-Score model used in this study is the Altman Z-Score model Score modification. According to (Ramadhani and Lukviarman) in Kartika's research, (2015), Altman's model Z-Score This modification can be used for all companies such as manufacturing, non-manufacturing, and bond issuing companies in developing countries (emerging market). This is because in the Altman model the variable X5 is modified (sales to total assets) omitted, because non-manufacturing companies do not have accounts sales (sales) and replace X4 (market value of equity to book value of debt) become book value of equity to book value of debt (book value of equity to total liabilities), because many industries have not been listed on the stock exchange so they do not yet have a stock market value.

Actually, research related to the almant Z-Score This has also been done by previous researchers. As research by Kamal, (2012) "Bankruptcy Prediction Analysis of Go Public Banking Companies on the Indonesia Stock Exchange (using the Altman Z-score model)" with the results of the study showing that in 2008 there was one banking company that was at grey area or about 5% and 95% are predicted to experience bankruptcy. It is marked with a value result Z-score which is below 2.99. Only Bank Rakyat Indonesia Tbk. whose result is 2.611 close to the value of 2.99 is at grey area. It can be seen that there are a number of banks that have started to improve their financial conditions by seeing that in 2009 as many as 40% were in good health, 45% were predicted to experience bankruptcy which was reduced compared to the previous year, and 15% were in grey area. In 2010, the prediction of bankruptcy in banks resulted in 55% of banking being healthy, 5% being in the gray area and 40% still being predicted to be bankrupt.

Based on the financial statements, a number of financial ratios can be calculated which are commonly used as the basis for bankruptcy prediction. The results of financial statement analysis will help interpret various relationships and trends that can provide a basis for consideration regarding future predictions of a bank whether it will survive or not. One of the bankruptcy prediction models is the Altman model Z-Score modification, model Altman Z-Score often used by many researchers because of the accuracy of the results of up to 95% in determining the prediction of bankruptcy of a company. To determine bankruptcy prediction and company financial performance based on the results of discriminant analysis using the Altman model Z-Score modification that is based on the ratio of four variables viz Net Working Capital to Assets, Retained Earning to Total Assets, Earning Before Interest and Taxes to Total Assets and Book Value Of Equity to Book Value of Total Debt.

Based on the background description, what distinguishes this research from previous research lies in the research period, where the research period is 2018-2021 and also the author wants to re-examine with the same variables and indicators to see whether this research has different results between variables. Therefore the authors are interested in researching the use of the almant method Z-score to predict the bankruptcy of banking companies for the last four years, namely 2018-2021 with the title **“PREDICTION OF BANKRUPTCY LEVELS USING THE ALMANT Z-SCORE IN BANKING COMPANIES ON THE INDONESIA STOCK EXCHANGE FOR THE 2018-2021 PERIOD”.**

Formulation of the problem

Based on the background that has been described, in this study the formulation of the problem is How to Predict Bankruptcy Levels Using the Almant Z-Score Banking Companies on the Indonesia Stock Exchange for the 2018-2021 Period?

Research purposes

Based on the problems that have been formulated, the purpose of this study is to determine the Prediction of Bankruptcy Levels Using the Almant Z-Score For banking companies on the Indonesia Stock Exchange for the 2018-2021 period

2. LITERATURE REVIEW

Definition of Financial Management

Financial management according to Sundjaja and Barlian (2003) in Fauzan's research, Rusdiyanti (2022) explains that financial management is "Management related to duties as a financial manager in a business company[1]. Finance managers actively manage the financial affairs of various types of businesses, whether financial or non-financial, private or public, large or small, profit or non-profit. They carry out various activities, such as budgeting, financial planning, cash management, credit administration, investment analysis and efforts to obtain funds. Financial managementis art(art) and knowledge(science), to me-manage money, which includes, processes, institutions/agencies, markets and instruments involved with money transfer issues between individuals, businesses and governments (Kasmir, 2016). According to James C. Van Horne in the book (Kasmir, 2016) Financial management is all activities related to the acquisition, financing and management of assets with several overall objectives.

According to Agus Sartono (2015) in Fauzan's research, yogi (2021) Financial Management can be interpreted as good fund management related to allocating funds in various forms of investment effectively and collecting efforts to finance investment or learning efficiently[2]. From the theories above, it can be concluded that financial management is an effort to manage funds that are collected and allocated to finance all company activities in order to achieve the goals of the company. Based on this understanding, it can be concluded that financial management is all company activities related to how to obtain funds, use funds, and manage assets within a company organization to create and maintain company value.

Definition of Indonesian Stock Exchange

According to Budisantoso and Triandaru, (2006), the meaning of the stock exchange (Stock exchange) is a system that organized arrangement that brings together sellers and buyers of securities, either directly or indirectly direct. IDX is an institution that organizes and provides facilities (access) to meet offers to buy and sell securities (securities) from buyers (investors) and sellers (companies going public). The place where securities buying and selling transactions occur is known as the capital market. So, this IDX is what carry out activities in the Indonesian capital market. In the capital market mechanism, there are two securities buying systems, namely through the primary market and the market secondary. The definition of the primary market is a place where shares (securities) are traded for the first time. In other words, when the company performs Initial Public Offering (IPO), they directly offer shares (securities) to the Indonesia Stock Exchange (IDX). While the notion of the secondary market is a continuation of prime market. So, all transactions that occur in the secondary market are also carried out on the Indonesia Stock Exchange (IDX).

Definition of Financial Statements

According to the statement of financial accounting standards (PSAK) No.01, (2015), financial reports are part of the financial reporting process. Complete financial statements usually include a balance sheet, income statement, statement of changes in financial position (which can be presented in various ways, for example as a statement of cash flows, or a statement of flows of funds), notes and other reports and explanatory material which are an integral part of the financial statements In addition, it is also included schedule and additional information related to the report, for example, financial information on industry and geographical segments and disclosure of the effect of price changes. According to Kasmir, (2018), financial reports are reports that show the company's financial condition at this time or in a certain period. The purpose of the financial statements that show the company's current financial condition is the current condition. The current condition of the company is the company's financial condition on a certain date (for the balance sheet) and a certain period (for the income statement). The place where securities buying and selling transactions occur is known as the capital market. So, this IDX is what carry out activities in the Indonesian capital market.

In the capital market mechanism, there are two securities buying systems, namely through the primary market and the market secondary. The definition of the primary market is a place where shares (securities) are traded for the first time. In other words, when the company performs Initial Public Offering (IPO), they directly offer shares (securities) to the Indonesia Stock Exchange (IDX). While the notion of the secondary market is a continuation of prime market. So, all transactions that occur in the secondary market are also carried out on the Indonesia Stock Exchange (IDX).

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According to Kasmir, (2018), financial reports are reports that show the company's financial condition at this time or in a certain period. The purpose of the financial statements that show the company's current financial condition is the current condition. The current condition of the company is the company's financial condition on a certain date (for the balance sheet) and a certain period (for the income statement). According to Kasmir, (2014), in general there are 5 types of financial reports that are usually prepared, namely balance sheets, profit and loss statements, reports on changes in capital, cash flow reports, and notes on financial statements. The types of financial statements can be explained as follows:

1. Neraca (balance sheet) is a report that shows the company's financial position on a certain date, meaning that the financial position in question is the position of the amount and type of assets (assets) and liabilities (liabilities and equity) of a company.
2. Income statement (income statement) is a financial report that describes the results of a company's operations in a certain period. This income statement shows the amount of income and the sources of income earned. Then also illustrated the amount of costs and types of costs incurred during a certain period. From the total income and total costs there is a difference called profit or loss.
3. Report on changes in capital is a report that contains the amount and type of capital held at this time. Then, this report also explains changes in capital and the causes of changes in capital in the company.
4. The cash flow statement is a report that shows all aspects related to the company's activities, whether they have a direct or indirect effect on cash. The statement of cash flows consists of cash inflows (cash in) and cash outflow (cash out) during a certain period.
5. Report notes on financial reports are reports that provide information if there are financial reports that require certain explanations. This means that sometimes there are components or values in the financial statements that need to be explained in advance so that they are clear.

Definition of Banks

According to the statement of financial accounting standards (PSAK) No. 31, (2007) the definition of a bank is an institution that acts as a financial intermediary between parties who have excess funds and parties who have require funds, as well as an institution that functions to expedite payment traffic. The philosophy underlying the bank's business activities is public trust. This can be seen in the main activities of the bank which accept deposits from the public in the form of demand deposits, savings and time deposits and provide credit to those who need funds. According to Kasmir, (2016) Banks are financial institutions whose main activities are collecting funds from the public and channeling these funds back to the community and providing other bank services. While the definition of banking is everything related to banks, including institutions, business activities, as well as methods and processes in carrying out their business activities. So, it can be concluded that the bank includes three main activities, namely:

1. Raising funds

2. Channeling funds
3. Providing other banking services

The definition of a bank emphasizes that the main business of a bank is to collect funds in the form of deposits which are a source of bank funds. The definition of raising funds is collecting and seeking (money) by buying from the wider community in the form of demand deposits, savings and time deposits. Banks buy funds from the public by installing various strategies so that people want to invest their funds. This fundraising activity is often referred to asfunding. Likewise, in terms of channeling funds, the bank should not only obtain the maximum profit for the owner, but also its activities should also be directed at increasing the standard of living of the community.

Financial Distress (Financial distress)

According to Nasution, (2015) in Fauzan's research, Ardiansyah, (2022) Financial Distress (Financial Difficulties) is the initial stage before bankruptcy. The company will experience financial difficulties if the company's operating cash flow is unable to meet short-term obligations such as paying interest on loans that are due[3]. The greater the liabilities owned by the company, the greater the risk of financial difficulties. According to Hery, (2016) Financial difficulties (Financial Distress) is a situation where a company has difficulty meeting its obligations, a situation where the company's revenue cannot cover the total costs and suffers a loss. Financial distress (Financial Distress) is a problem that occurs in the company's liquidity, it is difficult to solve if there is no change in the company's structure. At the time of financial difficulties, the company experienced a shortage of working capital (working capital), Lack of working capital can be caused by high operating costs or liabilities. Companies that are experiencing financial difficulties will file for bankruptcy, but there are several companies that do not do this because the company is still able to survive in the midst of the problems that occur.

Bankruptcy (bankruptcy) usually interpreted as a failure of the company in running the company's operations to generate profits. Bankruptcy is often also called company liquidation or company closure or insolvency. Bankruptcy as a failure that occurs in a company is defined in several senses, namely:

1. Economic Failure (Economic Distressed) Failure in the economy means that the company loses money or the company's income is unable to cover its own costs, this means that its profit rate is less than the cost of capital or the present value of the company's cash flows is less than its liabilities.
2. Business Failure A company is declared to have experienced a business failure if it has closed one or more of its business operations resulting in financial losses for creditors.
3. Technical Insolvency (Technical Insolvency) A company can be said to experience technical insolvency if it is unable to meet its short-term obligations when they fall due. Even though the total assets exceed the total debt or occur when a company fails to fulfill one or more conditions in its debt provisions such as the ratio of current assets to current liabilities that has been determined or the ratio of assets net against the required total assets. Technical insolvency also occurs when cash flow is insufficient to meet interest payments or principal repayments on a certain date.
4. Insolvency in Bankruptcy A company is said to experience Insolvency in Bankruptcy if the total book value of the liability has exceeded the market value of the asset. This condition is more serious than technical insolvency as this generally signifies economic failure and leads to liquidation of the company.
5. Legal Bankruptcy A company may not be legally declared bankrupt before the person concerned is declared bankrupt by a court decision.

Method Almant Z-Score

Method taking Z-Score is a bankruptcy prediction developed in several countries. The inventor, Altman (1983, 1984), conducted surveys in America, Japan, Germany, Switzerland, Brazil, Australia, England, Ireland, Canada, the Netherlands and France. The Indonesian Banking Industry over the past decade has experienced rapid and turbulent development. Behind the very rapid development of the banking industry, it turns out to have various weaknesses that have fatal consequences for both the banking industry itself and the national economy. Considering that banks are trusted institutions that have financing from various parties in quite large amounts and also sell their shares on the stock exchange and are purchased by the wider community (for banks that go public), then it will be very beneficial if the public can know the signs of financial difficulties or predictions towards bank bankruptcy that can be processed from published financial reports.

Z Bankruptcy Analysis is a tool used to predict the level of bankruptcy of a company by calculating the value of several ratios and then entering it into a discriminant equation. To calculate the Z value, we must first calculate five types of financial ratios. Over time and adjustments to various types of companies, Altman revised his model so that it can be applied to all companies, such as manufacturing, non-manufacturing and bond issuing companies in developing countries to become Modified Altman Z-Score Model, (1995). In the Z-model Score this modification, Altman eliminates the variable X5 (sales to total assets) because this ratio is not used in non-manufacturing companies, generally offer service and not selling goods. The value of X5 describes assets turnover whose philosophy is to understand how efficiently owned assets can generate income. At the company service, fixed asset usually not directly related to income. For example, if a company adds one office, its income will not automatically increase. Another case with manufacturing companies. If the machine capacity is increased by X%, the revenue will increase by X%. That's why in manufacturing companies, value assets turnover often does not provide significant information.

The classification of healthy and bankrupt companies is based on the Z-value Score modified Altman model, namely:

1. If the value of $Z < 1.1$ then it is a bankrupt company
2. If the value is $1.1 < Z < 2.6$ then it is included grey area (unable to determine whether the company is classified as healthy or bankrupt)
3. If the Z value is > 2.6, then it is a company that has not gone bankrupt.

The following is the Z-Score modified Altman, (1995):

$$Z\text{-Score} = 6{,}56\ X1 + 3{,}26\ X2 + 6{,}72\ X3 + 1{,}05$$

Information:

Z =Overall Index
X1 =Working Capital/Total Assets
X2 =Retained Earnings/Total Assets
X3 =Earnings Before Interest and Taxes/Total Assets
X4 =Book Value of Equity/Total Liabilities

From the company's financial report data will be analyzed using several financial ratios that are considered to be able to predict the bankruptcy of a company. Each ratio of almant z-score modification of the description can be explained as follows:

1. Working Capital to Total Assets
   This ratio is calculated by dividing net working capital by total assets. Net working capital (Working Capital) obtained by means of current assets minus current liabilities (Kasmir, 2014). Net working capital will most likely face problems in covering its short-term liabilities due to the unavailability of sufficient current assets to meet these obligations.
2. Retained Earnings to Total Assets
   This ratio is the ratio that measures leverage company because from the value of this ratio it can also be known the proportion of assets of the company that is financed using its own profits without using debt (Kasmir, 2014). It can also be interpreted that this ratio is a measure of the cumulative profit generated by the company, because the longer the company operates, the more likely it is to accelerate the accumulation of retained earnings.
3. Earning Before Interest And Taxes (EBIT) to Total Assets
   This ratio shows the company's ability to generate profits from company assets before paying interest and taxes (Kasmir, 2014).
4. Market value of Equity to Book Value of Liabilities
   This ratio is used to assess the company's solvency, namely the company's ability to meet long-term obligations or measure the company's capital ability to bear all of its obligations (Kasmir, 2014). The results of Altman's

research to predict bankruptcy that will occur, find that financial ratios can be jointly used to predict bankruptcy that will occur in a company.

3. RESEARCH METHOD

Research Object and Time

The objects of this research are banking companies listed on the Indonesia Stock Exchange, namely Bank Negara Indonesia (Persero) Tbk, Bank Bukopin Tbk, Bank Mega Tbk, Bank Mandiri (Persero) Tbk, and Bank Rakyat Indonesia Tbk using the website website Indonesia stock exchangewww.idx.co.id. In conducting this research, the research time starts in July 2022 until it is finished.

Data Types and Sources

The data used is quantitative data, namely data measured on a numerical scale (numbers). In this study the authors used secondary data sources, namely data directly collected by researchers as the main data. It can also be said that data is arranged in the form of documents. In this study using secondary data, namely the company's annual financial statements taken and quoted from existing data then processed and analyzed. All data used in this study were obtained from the financial reports of the banks sampled for 2018-2021.

Population and Sample

The population is a generalized area consisting of objects or subjects that have certain qualities and characteristics determined by researchers to be studied and then conclusions drawn by Sugiyono, (2017). The population in this study are all banking companies listed on the Indonesian stock exchange. The research population includes banking company data for the 2018-2021 period. That is as many as 45 companies.

Sampling by purposive based on certain considerations made by the researchers themselves, based on previously known characteristics or characteristics of the population. The criteria for the companies sampled in the study are as follows:

Table 2. Sample Criteria

No	Sample Criteria	Amount
1	Go public banking company listed on the Indonesia Stock Exchange for the 2018-2021 period	45
2	Issuing financial reports that have entered the final period, namely 31 December during the 2018-2021 period	10
3	Banking company that provides complete financial reports for the 2018-2021 period	5

Source: www.idx.co.id

Based on table 1, the total number of banking companies listed on the Indonesian stock exchange for the 2018-2021 period is 45 companies, but only 5 companies fulfill the sample criteria above and 40 other companies do not meet the requirements for the author, so the sample used in this study is as many as 5 samples of companies listed on the Indonesian stock exchange for the 2018-2021 period. Companies included in the research sample criteria can be seen in the following table:

Table 3. List of Company Names and Codes

No	Company name	Code
1	Bank Negara Indonesia (Persero) Tbk	BBNI
2	Bank Bukopin Tbk	BBKP

3	Bank Mega Tbk	MEGA
4	Bank Mandiri (Persero) Tbk	BMRI
5	Bank Rakyat Indonesia Tbk	BBRI

Source: www.idx.co.id

Data Collection Techniques

Data collection techniques obtained from:

1. Field studies (Field Research)
   The information data used in this study is secondary data, where the data is obtained from the internet media.
2. Literature study (Library Research)
   Literature study is a technique of collecting data by conducting research through books, literature, and various kinds of records relating to the problem to be solved. So it can be said that literature study can affect the credibility of the results of the research conducted.
3. Web Searching
   The author collects articles, documentation journals and others that have something to do with this scientific research material on the internet.

Data analysis

The data analysis technique used in this study is the analytical model multivariate discriminant, namely the Altman Z-Score modification. Data from the financial statements are then analyzed further using the ratios in the Altman Z-analysis model.Score modification. In processing the data the researcher used a tool in the form of a Microsoft Office Excel computer.

The modified Altman Z-Score analysis model is as follows:

$$\text{Z-Score} = 6{,}56X1 + 3{,}26X2 + 6{,}72X3 + 1{,}05X4$$

Description: Z = Bankruptcy Index
X1 =Working Capital to Total Assets
X2 =Retained Earning to Total Assets
X3 =Earning Before Interest Total Assets
X4 =Market value of Equity to Book Value of Liabilities
(Source: Kasmir, 2014)

The classification of healthy and bankrupt companies is based on the modified Z-Score as follows:

1. Z value < 1.10 is categorized in distress zone. This means that the company is experiencing financial difficulties and the risk of bankruptcy is high.
2. Values 1,10 < Z < 2,60 are categorized in grey area. This means that in this condition the company is experiencing financial problems that must be handled immediately with proper management. If it is too late and handled improperly, the company may experience bankruptcy. So in this gray area there is a possibility that the company will go bankrupt and some are not depending on how the company's management can immediately take action to immediately overcome the problems experienced by the company.
3. Z value > 2.60 is categorized in safe zone. This means that the company is in a very healthy state so that the possibility of bankruptcy is very small.

4. RESULTS AND DISCUSSION

Working Capital To Total Assets (X1)

Ratio Working Capital To Total Assets included in the liquidity ratio and this ratio is used to measure the company's liquidity from the company's total or net working capital, working capital here is obtained from the company's current assets minus the company's current liabilities, using this ratio it can be seen that the company's ability to manage the company's obligations to generate sufficient working capital is negative or positive, how to use this ratio is by dividing working capital by total assets. As for finding the value of X1 during the period 2018 to 2021 in banking companies

Table 4. Calculation Working capital / Total assets (X1) Period 2018-2019(In million rupiah)

Company	Year	Working capital	Total assets	X1 (WCTA)
BBNI	2018	502.682.630	808.572.011	0,621691851
	2019	511.496.698	845.605.208	0,604888301
	2020	536.633.058	891.337.425	0,602053771
	2021	547.282.292	964.837.692	0,567227314
BBKP	2018	63.258.186	95.643.923	0,661392632
	2019	71.387.115	100.264.248	0,711989731
	2020	56.567.519	79.938.578	0,707637294
	2021	-72.050.716	132.879.390	-0,542226421
MEGA	2018	-56.623.005	83.761.946	-0,675999158
	2019	-62.803.149	100.803.831	-0,623023434
	2020	-63.148.279	112.202.653	-0,562805578
	2021	-72.050.716	132.879.390	-0,542226421
BMRI	2018	697.835.039	1.202.252.094	0,580439862
	2019	776.813.211	1.318.246.335	0,580439862
	2020	814.133.406	1.541.964.567	0,589277732
	2021	989.832.222	1.725.611.128	0,52798451
BBRI	2018	762.946.628	1.296.898.292	0,588285629
	2019	816.361.343	1.416.758.840	0,576217575
	2020	988.857.157	1.610.065.344	0,614172065
	2021	976.439.105	1.678.097.734	0,581872608

Source: www.idx.co.id

Based on table 1 Value working capital to total assets in banking companies it shows a fluctuating value with the lowest value at Bank Mega tbk which has a negative value caused by the value of working capital which is negative(deficit),so that after dividing by the total assets, the ratio value is negative (-). Meanwhile, the total assets generated at the above banks continue to increase every year. This indicates that the liquidity level of Bank Mega Tbk is very bad in the 2018-2021 period. This has an impact on results (X1) in 2018-2021 which have decreased in value to produce a negative value (-). Meanwhile, Bank Negara Indonesia (Persero) Tbk, Bank Bukopin Tbk, Bank Mandiri (Persero) Tbk and Bank Rakyat Indonesia Tbk continued to experience a slight increase in value working capital to total assets.

Retained Earning To Total Assets (X2)

This ratio assesses the company's ability to generate profits during the company's operating period. The age of the company affects this ratio because the longer the company operates, it makes it possible to smooth the accumulation of retained earnings. This causes companies that are still relatively young to generally show low ratio results, except for those with large profits at the start. This ratio is used to see how big the contribution of retained earnings is to total assets, because retained earnings are a reflection of retained earnings reserves to be able to increase capital gains so as to increase company productivity. As for finding the value of X2 during the period 2018 to 2021 in banking companies.

Table 5. Calculation Retained Earnings / Total assets (X2) Periode 2018-2021 (In million rupiah)

Company	Year	Retained earning	Total assets	X2 (RETA)
BBNI	2018	71.046.832	808.572.011	0,087867043
	2019	82.463.505	845.605.208	0,097520101
	2020	66.980.701	891.337.425	0,07514629
	2021	78.250.204	964.837.692	0,081101935
BBKP	2018	2.945.004	95.643.923	0,030791334
	2019	3.200.834	100.264.248	0,031923982
	2020	1.408.501	79.938.578	0,017619791
	2021	3.665.882	89.215.674	0,041090112
MEGA	2018	4.907.921	83.761.946	0,058611556
	2019	6.344.571	100.803.831	0,062955087
	2020	8.331.574	112.202.653	0,074268743
	2021	10.473.226	132.879.390	0,078829478
BMRI	2018	127.084.686	1.202.252.094	0,105705523
	2019	143.310.060	1.318.246.335	0,108712656
	2020	119.556.775	1.541.964.567	0,077535358
	2021	142.587.934	1.725.611.128	0,082630398
BBRI	2018	163.130.389	1.296.898.292	0,125785029
	2019	181.327.431	1.416.758.840	0,127987506
	2020	166.972.167	1.610.065.344	0,103705211
	2021	185.009.048	1.678.097.734	0,110249269

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Source :www.idx.co.id

In table 2 above it can be seen the calculation of the value Retained Earning To Total Assets in banking companies has a very small value and does not show a stable value. Seen in the table, the increase in value Retained Earning To Total assets only occurred at Bank Negara Indonesia (Persero) Tbk and Bank Mandiri while other banks experienced a decline, this indicates that the company's ability to pay dividends to share holders is weak. At Bank Bukopin Tbk the value of the X2 ratio is income is unstable, this indicates that the ability of its assets to earn retained earnings is very low due to the income or profit received is not able to cover the expenses that must be borne during that period.

Earning Before Interest Taxes to Total Assets (X3)

This ratio is calculated by comparing the value of earnings before interest and taxes divided by total assets. This ratio is a measure of productivity, which measures how much a company's ability to generate profit before interest and taxes is seen from the company's actual assets. The lower the level of company profitability means the more inefficient and ineffective the company is in using all of its assets in generating company profits and vice versa. As for finding the value of X3 during the period 2018 to 2021 in banking companies.

Table 6. Calculation Earnings Before interest and taxes / Total assets (X3) Period 2018-2021

Company	Year	EBIT	Total assets	X3 (EBITTA)
BBNI	2018	19.820.715	808.572.011	0,024513234
	2019	19.369.106	845.605.208	0,022905613
	2020	5.112.153	891.337.425	0,005735373
	2021	12.550.987	964.837.692	0,013008392
BBKP	2018	216.335	95.643.923	0,002261879
	2019	133.794	100.264.248	0,001334414
	2020	3.922.869	79.938.578	0,04907354
	2021	3.144.025	89.215.674	0,035240725
MEGA	2018	2.002.021	83.761.946	0,023901319
	2019	2.508.411	100.803.831	0,024884084
	2020	3.715.053	112.202.653	0,033110206
	2021	4.952.616	132.879.390	0,037271514
BMRI	2018	33.943.369	1.202.252.094	0,028233154
	2019	36.441.440	1.318.246.335	0,027643877
	2020	24.392.405	1.541.964.567	0,015819044

	2021	38.358.421	1.725.611.128	0,022228891
BBRI	2018	41.753.694	1.296.898.292	0,032195041
	2019	43.364.053	1.416.758.840	0,030607928
	2020	29.993.406	1.610.065.344	0,018628689
	2021	40.992.065	1.678.097.734	0,024427698

Source :www.idx.co.id

From the calculation of the ratio Earning Before Interest Tax (Ebit) to Total Assets fluctuated, especially at Bank Bukopin tbk which experienced an impairment Earning Before Interest (EBIT) to Total assets in 2019, this was due to a decrease in the company's profitability during that year. This shows that the company's management is still unable to manage all of its assets effectively in generating profits. Bank Negara Indonesia (Persero) Tbk is a bank that has value Earning Before Interest (EBIT) to Total assets small but has increased in 2021, which is equal to 0.013, this reflects that the company's financial performance in generating profits is less stable. In accordance with the opinion of Kasmir, (2008) in Fitriani Saragih, (2017) which explains that by obtaining maximum profits the company can do much for the welfare of owners, employees, as well as improve products and make new investments.

Market value of Equity to Book Value of Liabilities (X4)

The ratio used in this valuation variable is a ratio that can indicate the level of solvency that describes the ability of a company to guarantee all of its obligations, in this case all of these obligations are guaranteed by the market value of the company's shares. The calculation of this ratio is done by comparing the book value of equity divided by the total liabilities borne by the company. The results of the calculation obtained will describe how much the total liability that can be borne by the value of the company's shares circulating in the market. Here's how to find the X4 value during the period 2018 to 2021 in banking companies.

Table 7. Calculation Market value of Equity to Book Value of Liabilities (X4) Period 2018-2021

Company	Year	Total Equity	Total Liabilities	X4 (BVETL)
BBNI	2018	110.373.789	671.237.546	0,164433277
	2019	125.003.948	688.489.422	0,181562627
	2020	112.872.199	746.235.663	0,151255434
	2021	126.519.977	838.317.715	0,150921273
BBKP	2018	8.594.437	87.049.486	0,098730474
	2019	8.905.485	91.358.763	0,09747817
	2020	8.466.442	71.472.136	0,11845794
	2021	13.205.904	76.009.770	0,17373956
MEGA	2018	13.782.673	69.979.273	0,196953647
	2019	15.541.438	85.262.393	0,18227776

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	2020	18.208.150	93.994.503	0,193715052
	2021	19.144.464	113.734.926	0,168325286
BMRI	2018	184.960.305	941.953.100	0,196358295
	2019	209.034.525	1.025.749.580	0,203787093
	2020	204.699.668	1.186.905.382	0,172465026
	2021	222.111.282	1.326.592.237	0,167429958
BBRI	2018	185.275.331	1.090.664.084	0,169873872
	2019	208.784.336	1.183.155.670	0,176463961
	2020	229.466.882	1.347.101.486	0,170341199
	2021	291.786.804	1.386.310.930	0,210477172

Source :www.idx.co.id

Based on table 4 values(Market Value of Equity to Book Value of Total Liabilities) This shows the extent to which the company's assets are financed by debt. Seen from the table above, Bank Mega Tbk and Bank Mandiri (Persero) Tbk have experienced a decrease in their X4 values in 2021. In the table above the values Market Value Of Equity To Book Value Of Liabilities the lowest was Bank Negara Indonesia (Persero) Tbk which only experienced an increase in 2020, namely 0.18. This shows that Bank Negara Indonesia (Persero) Tbk not good enough in terms of showing the company's ability to guarantee its debts through its own capital.

Calculation Results Altman Z-Score Modification

After obtaining the results from the calculation of Altman ratiosZ-Score, these results are calculated by the Altman Z-model equationScore Modifications to banking companies in 2018-2021 as follows: **Modified Almant Z-Score Equation**

WITH-Score = 6,56X1 + 3,26X2 + 6,72X3 + 1,05X4

Information :
Z < 1.10 : Bankrupt(Distress Zone)
1.1 < Z < 2.60 : Gray area(Grey Area)
Z > 2.60 : Not bankrupt(Safe zone)
x1 :Working Capital/Total Assets
X2:Retained Earnings/Total Assets
X3 :Earnings Before Interest and Taxes/Total Assets
X4 :Book Value of Equity/Total Liabilities

Then the Z value will be calculated-Score and the results of Almant Z-Score This modification of banking companies for the 2018-2021 period is to see if the company has the potential to experience bankruptcy(Distress Zone), entering a bankrupt area(Grey Area), or enter into the criteria of a healthy company(Safe zone) who are not bankrupt.

1. Calculation Almant Z-Score at Bank Negara Indonesia (Persero) Tbk (BBNI)

Table 8. The results of calculating the ratio variable value (X1-X4) at Bank Negara Indonesia (Persero) Tbk

Year	X1 (WCTA)	X2 (RETA)	X3 (EBITTA)	X4 (BVETL)
2018	0,62	0,09	0,024	0,16

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2019	0,60	0,10	0,022	0,18
2020	0,60	0,08	0,005	0,15
2021	0,56	0,08	0,013	0,15

Source: Processed Data, 2022

After getting the value of each variable Almant Z-Score, then calculate the value of Z-Score by entering the results of the almant ratio variable z-score into the z-almant equation score modification by multiplying the results of the data from each variable and then adding up the results of the multiplication as follows:

Table 9. Calculation Results of Almant Z-Score Modifications to Bank Negara Indonesia (Persero) Tbk

Year	X1	x2	X3	X4	Z- Score	Cut-Off Point	Criteria
2018	0,62	0,09	0,024	0,16	4,68	Z > 2.60	Healthy
2019	0,60	0,10	0,022	0,18	4,59	Z > 2.60	Healthy
2020	0,60	0,08	0,005	0,15	4,38	Z > 2.60	Healthy
2021	0,56	0,08	0,013	0,15	4.17	Z > 2.60	Healthy

Source: Processed Data Almant Z-Score Method

Based on table 6 the calculation results of the Altman Z-Score modifications to Bank Negara Indonesia (Persero) Tbk in 2018-2021 show that the company is in good health (safe zone) because it is above the dotcut-off Z > 2.60. From the table above it can be seen that even though the company is still unable to manage all of its assets effectively in generating profits (X3) which are of small value compared to other ratios, this reflects that the financial performance companies in generating less stable profits. In 2020 the value of Z-Scoreit experienced a decrease of 4.38 and then decreased again in 2021, namely 4.17.

2. Almant Z-Score Calculation at Bank Bukopin Tbk (BBKP)

Table 10.The results of calculating the ratio variable value (X1-X4) at Bank Bukopin Tbk

Year	X1 (WCTA)	X2 (RETA)	X3 (EBITTA)	X4 (BVETL)
2018	0,66	0,03	0,002	0,10
2019	0,71	0,03	0,001	0,10
2020	0,71	0,02	0,049	0,12
2021	0,54	0,04	0,035	0,17

Source: Processed Data, 2022

In table 7 it is known the value of each variable Almant Z-Score in table 4.7, then calculate the value of Z-Score by entering the results of the almant z-s ratio variablecore into the z-almant equationscore modification by multiplying the results of the data from each variable and then adding up the results of the multiplication as follows:

Table 11. Calculation Results of Almant Z-Score Modifications to Bank Bukopin Tbk

Year	X1	x2	X3	X4	Z- Score	Cut-Off Point	Criteria

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2018	0,66	0,03	0.002	0,10	4,55	Z > 2.60	Healthy
2019	0,71	0,03	0,001	0,10	4,87	Z > 2.60	Healthy
2020	0,71	0,02	0,049	0,12	5,18	Z > 2.60	Healthy
2021	0,54	0,04	0,035	0,17	4,09	Z > 2.60	Healthy

Source: Processed Data Almant Z-Score Method

From the table above it can be seen the calculation of the Z-value Score modifications at bank Bukopin tbk fluctuated. In 2018 it produced a Z-value Score 4.55 which is above the pointcut-off Z > 2.60, where Bank Bukopin Tbk is in good health. In 2019 and 2020 Bank Bukopin Tbk produced a Z value Score of 4.87 and 5.18 are above the pointcut-off Z > 2.60 there is an increase in value due to the high value (Wcta) and the Bank is still in good health. However, in 2021 the Z-value Score obtained by Bank Bukopin tbk there was a decrease of 4.09 but this value was still at the pointcut-off Z > 2.60 or still in good health.

3. Almant Z-Score Calculation at Bank Mega Tbk (MEGA)

Table 12. The results of calculating the ratio variable value (X1-X4) at Bank Mega Tbk

Year	X1 (WCTA)	X2 (RETA)	X3 (EBITTA)	X4 (BVETL)
2018	-0,68	0,06	0,02	0,20
2019	-0,62	0,06	0,02	0,18
2020	-0,56	0,07	0,03	0,19
2021	-0,54	0,07	0,04	0,17

Source: Processed Data, 2022

In table 9 it is known the value of each variable Almant Z-Score, then calculate the value of Z-Score by entering the results of the almant ratio variable z-score into the z-almant equationscore modification by multiplying the results of the data from each variable and then adding up the results of the multiplication as follows:

Table 13. Calculation Results of Almant Z-Score Modifications to Bank Mega Tbk for the 2018-2021 period

Year	X1	x2	X3	X4	Z- Score	Cut-Off Point	Criteria
2018	-0,68	0,06	0,02	0,20	-3,92	Z < 1.10	Potential Bankruptcy
2019	-0,62	0,06	0,02	0,18	-3,55	Z < 1.10	Potentially Bankrupt
2020	-0,56	0,07	0,03	0,19	-3,04	Z < 1.10	Potentially Bankrupt
2021	-0,54	0.07	0,04	0,17	-2,83	Z < 1.10	Potentially Bankrupt

Source: Processed Data Almant Z-Score Method

Based on table 10 the results of the calculation of Z-Score the modification of Bank Mega tbk in 2018-2020 shows that the company is in an unhealthy condition or has the potential to experience enormous bankruptcy. This indicates that the liquidity level of Bank Mega Tbk is very bad in the 2018-2021 period. In 2018 the value of Z-Score obtained is -3.92 which is below the pointcut off Z < 1.10, means that the company is included in the category distress zone or a dangerous zone with the potential for bankruptcy. In 2019 the value of Z-Score experienced an increase of -3.55 from the previous year, and in this case the Z-value Score produced is still in the unhealthy category. In 2020 it shows that the company is still in an unhealthy condition because the z-value score obtained is -3.04, where if the company is categorized as healthy it is at pointcut-off Z > 2.60, while the value generated by Bank Mega Tbk is not good, that is, it is negative (-). In 2021 the value of Z-Score increased from the previous year to -2.83, but the Z-value Score produced remains in the unhealthy category. This shows that the company is in a state of financial difficulties so that the company is in the unhealthy category or has the potential to experience a very large bankruptcy.

4. Almant Z-Score Calculation at Bank Mandiri (Persero) Tbk (BMRI)

Table 14. The results of calculating the ratio variable value (X1-X4) at Bank Mandiri Tbk

Year	X1 (WCTA)	X2 (RETA)	X3 (EBITTA)	X4 (BVETL)
2018	0,58	0,11	0,03	0,19
2019	0,59	0,11	0,03	0,20
2020	0,53	0,08	0,02	0,17
2021	0,57	0,08	0,02	0,17

Source: Processed Data, 2022

Based on the value of each variable Almant Z-Score, then calculate the Z-Score value by entering the results of the almant ratio variable z-score into the z-almant equationscore modification by multiplying the results of the data from each variable and then adding up the results of the multiplication as follows:

Table 15. Calculation Results of Almant Z-Score Modifications to Bank Mandiri (Persero) Tbk

Year	X1	x2	X3	X4	Z- Score	Cut-Off Point	Criteria
2018	0,58	0,11	0,03	0,19	4,56	Z > 2.60	Healthy
2019	0,59	0,11	0,03	0,20	4,64	Z > 2.60	Healthy
2020	0,53	0,08	0,02	0,17	4,05	Z > 2.60	Healthy
2021	0,57	0,08	0,02	0,17	4,31	Z > 2.60	Healthy

Source: Processed Data Almant Z-Score Method

Based on the calculation results Z-Score modifications to Bank Mandiri (persero) tbk in 2018 resulted in a Z-Score value of 4.56 which is above the pointcut-off Z > 2.60, or in good health. In 2019 the value of Z-Score of 4.64 is above the pointcut-off Z > 2.60, this year there is an increase in value due to the high value (Wcta) and the Bank is still in good health. However, in 2020 the Z-value Score obtained by Bank Mandiri (persero) tbk decreased by 4.05 but this value was still at pointcut-off Z > 2.60 or still in good health. And in 2021 there will be an increase in the value of Z-Score to 4.31 is on pointcut-off Z > 2.60 or still in good health.

5. Almant Z-Score Calculation at Bank Rakyat Indonesia Tbk (BBRI)

Table 16. The results of calculating the ratio variable value (X1-X4) at Bank Rakyat Indonesia Tbk

Year	X1 (WCTA)	X2 (RETA)	X3 (EBITTA)	X4 (BVETL)
2018	0,59	0,13	0,03	0,17

2019	0,58	0,13	0,03	0,18
2020	0,61	0,10	0,02	0,17
2021	0,58	0,11	0,02	0,21

Source: Processed Data, 2022

In table 13 there is a value for each variable Almant Z-Score, then calculate the value of ZScore by entering the results of the almant ratio variable z-score into the z-almant equationscore modification by multiplying the results of the data from each variable and then adding up the results of the multiplication as follows:

Table 17. Calculation Results of Almant Z-Score Modifications to Bank Rakyat Indonesia Tbk

Year	X1	x2	X3	X4	Z- Score	Cut-Off Point	Criteria
2018	0,59	0,13	0,03	0,17	4.67	Z > 2.60	Healthy
2019	0,58	0,13	0,03	0,18	4,62	Z > 2.60	Healthy
2020	0,61	0,10	0,02	0,17	4,64	Z > 2.60	Healthy
2021	0,58	0,11	0,02	0,21	4.52	Z > 2.60	Healthy

Source: Processed Data Almant Z-Score Method

Based on table 14 of the calculation results based on the Altman Z-Score The modification from the 2018-2021 period shows that Bank Rakyat Indonesia Tbk is in good health because the Z-value Score it is above 2.60, which means that the bank is experiencing a healthy financial condition. Increase in z-value score this is due to the value of the variable Working Capital to Total assets (X1) has a high ratio or value compared to other variables and the ups and downs of profit do not affect the z-value score or bankruptcy of the company.

5. CONCLUSION

Based on the results of the research and discussion that has been carried out at 5 banking companies listed on the Indonesia Stock Exchange during 2018, 2019, 2020 and 2021, the following conclusions can be drawn:

1. Analysis of banking companies using the Altman Z- method score shows that in 2018 there were 4 companies that entered the Safe Zone, including: Bank Negara Indonesia (Persero) Tbk, Bank Bukopin Tbk and Bank Mandiri (Persero) Tbk, Bank Rakyat Indonesia Tbk, and there was 1 company that was in Distress zone namely, Bank Mega Tbk with a Z-value Score obtained is -3.92 which is below the pointcut-off Z < 1.10, means that the company is included in the category distress zone or a dangerous zone with the potential for bankruptcy.
2. In 2019 there were 4 companies that were still in the Safe Zone, including: Bank Negara Indonesia (Persero) Tbk, Bank Bukopin Tbk and Bank Mandiri (Persero) Tbk, Bank Rakyat Indonesia Tbk, and companies that entered the Distress Zone namely, Bank Mega Tbk with a Z-value Score experienced an increase of -3.55 from the previous year, but in this case the Z-valueScore produced is still in the unhealthy category.
3. In 2020 there are 4 companies that are in a safe zone, including: Bank Negara Indonesia (Persero) Tbk, Bank Bukopin Tbk and Bank Mandiri (Persero) Tbk, Bank Rakyat Indonesia Tbk, and there is 1 company that is indistress zone namely Bank Mega Tbk with a value of Z-Score -3,04.
4. In 2021 4 companies have managed to survive and remain in the Safe Zone, including: Bank Negara Indonesia (Persero) Tbk, Bank Bukopin Tbk and Bank Mandiri (Persero) Tbk, Bank Rakyat Indonesia Tbk, but there is 1 company that is in distress zone, namely Bank Mega Tbk with a Z-value Score - 2,83.

6. ADVICE

1. For the Development of Science

Based on the results of the research, the researcher provides suggestions that can be used as input for the development of science, namely this research is expected to provide additional knowledge about the Almant Z-Score, as a source of information and knowledge in predicting the bankruptcy of a company.

2. For Further Researchers
   Based on the results of the study, the researcher provides suggestions that can be used as input for further researchers. For further researchers, it is expected to conduct further research by expanding the sample period, and research data so that it can be known whether the results will be the same or not. It is also hoped that future studies can use other bankruptcy prediction models. To be used as a comparison in predicting bankruptcy. Because in this study it was found that there are several methods that can be used as a tool in predicting bankruptcy besides the Almant Z-Method Score.
3. For the company
   Based on the above conclusions, the company's management should be more careful in terms of asset management, so that the resulting working capital flows become negative. Investing in accounts receivable that are too large is also dangerous because it can disrupt the company's performance. If there is a disruption to accounts receivable, this will disrupt the company because it will indirectly have an impact on the company's cash receipts in the future.
4. For Investors
   For investors this is early warning in making investment decisions so that they must be more selective in choosing companies, especially companies that have good financial performance, so that investors can invest their funds more safely.

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