FINANCE | RESEARCH ARTICLE

Prediction of Bankruptcy Risk Using Financial Distress Analysis

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Abstract: Financial distress analysis using X-Score Zmijewski model, Z-Score Altman model, and S-Score model Springate is intended to determine the potential for bankruptcy at PT. Hero Supermarket, Tbk. Secondary data was used in the 2016-2020 financial statements. The results of the calculation of the X-Score method from 2016 - 2019 were in a non-financial distress condition, but in 2020 they were in a distressed situation. This follows the X-Score principle, which focuses on the company’s liabilities. We decrease the safe zone to the danger zone from the Z-Score method. In the S-Score process, the company can go bankrupt. The analysis results of the three ways conclude that the company is experiencing financial difficulties. Fast and appropriate handling is needed to fix its condition, and management must improve financial performance. Company management must improve financial conditions, significantly reducing total liabilities every year. The actual existing company liabilities are not more significant than the income earned, so that the level of losses that will be experienced will be reduced. Furthermore, the company should conduct a company evaluation of efforts to improve operational and financial performance as response to the company’s financial condition. So that, the economic distress experienced can be appropriately resolved.

Keywords: Financial Statements, Financial Distress, Bankruptcy.
JEL Classification Code: D53, F36, F38

1. INTRODUCTION

The cause of retail store bankruptcy is the search for many business observers lately. It can be witnessed by many people if the famous retail stores in the capital begin to fall one by one. Previously there were Matahari and Ramayana, and now Lotus Department Store has started to close several of its outlets (Anggraeni & Sitorus, 2019). The Indonesian Retail Entrepreneurs Association (or Aprindo) stated that several reasons make department store owners choose to complete their outlets. The higher operating costs of a department store that are not accompanied by revenue is an early indication of why a retail business can go bankrupt (Lin et al., 2012); (Kingyens et al., 2016); . In addition to competing with other retailers, the entrepreneur of a department store must compete with online stores. This can be strongly suspected as the cause of the decline in consumer visits to shopping centers. In addition, department store owners have to bear the recurring costs of department store operations. What makes it even more difficult is that the operational costs are getting more and more expensive (Berman, 2019; Gleason et al., 2000; Paavola, 2021). Rent is continually increasing, employee salaries are increasing, and the number of customers who come is decreasing. That is the cause of retail store bankruptcy. The department store owner chose to shut down some outlets. From a business point of view, store closures are understandable as the high operating costs of the business will burden the company’s finances. This condition has caused some retail stores to switch to online stores (Gielens & Steenkamp, 2019; Zhang et al., 2022). Automatically operating costs dropped drastically because the number of employees was minimal, and renting a place was no longer needed. The business cost of running an online store is less expensive than that of a single store (Choo et al., 2007).
Retail stores in Indonesia enjoy continuous healthy and profitable growth with so many retail stores in Indonesia, this causes competition between retail stores, so that each retail store must have effectiveness or strategy to survive in this competition. PT. Hero Supermarket Tbk. is one of the companies engaged in the supermarket in Indonesia. PT. Hero is the largest supermarket retail industry in Indonesia, which was first established on August 23, 1971, on Jl. Faletehan 1 No. 23, Kebayoran baru, South Jakarta. In 1987 PT. Hero Supermarket proved its performance by getting the ARTA trophy from the Indonesian warehouse room as the best supermarket in Indonesia. Based on financial report data obtained from the IDX in 2016, PT. Hero Supermarket earned IDR 243,405 billion. In 2017 PT. Hero Supermarket recorded a net loss of IDR 259,040 billion. PT. Hero suffered a loss because last year’s net income fell 4.71% from the previous IDR 13,677,931 trillion to IDR 13,033,638 trillion. This decline was due to the weakening of the food business. PT. Hero Supermarket closed 26 outlets, resulting in the termination of employment (PHK) of 532 employees, which was considered not surprising. This is because the retail sector at PT. Hero, especially in supermarkets, faces intense competition, resulting in losses and unwanted events for four consecutive years from 2017-2020. In addition, an unwanted event also occurred in 2020 in the form of a greater loss than the previous year, resulting in a difference between 2019 and 2020 of IDR 1,184,626 trillion. The time used to analyze bankruptcy predictions is usually two to five years as a tolerance limit for declining performance to detect the possibility of company bankruptcy. Bankruptcy prediction analysis is carried out to obtain early warnings about the potential for bankruptcy of the company (Masdiantini & Warasniasih, 2020). The earlier the signs of bankruptcy are detected, the better for management because management has the opportunity to make various improvements. Bankruptcy is a condition where a company is no longer able to run its business or a situation where the financial difficulties experienced by a company are so severe that the company can no longer operate correctly. A company is declared bankrupt based on a competent court decision or based on its application if it has two or more creditors and the company is unable to pay at least one of its outstanding debts in Bankruptcy Law No. 4/1998 (Al Kautsar & Muhammad, 2020).

Company bankruptcy is also usually found in several signs or indicators of managerial and operational, namely (Fakhrurozie, 2007: 18), for example, indicators of the business environment. Low economic growth is a relatively important indicator of weak business opportunities, especially if, at the same time, many new companies are entering the market. The size of specific companies is the reason for the shrinking of other companies. Second, internal indicators where management cannot make business forecasts with analytical tools, so management has difficulty developing a proactive attitude. More likely to be reactive and, therefore, usually late in anticipating change. The third is a combination indicator; Often, sick companies are caused by the interaction of threats from the business environment and weaknesses from the company’s background. If both cause it, it usually brings more complex consequences than that caused by one or the other. The bankruptcy prediction method in this study is used with three models, namely Zmijewski (X-Score), Altman (Z-Score), and Springate (S-Score). The Zmijewski, Altman, and Springate models were chosen because they are relatively easy to use. In addition, based on the results of previous studies, the three models have a relatively high level of accuracy in predicting the potential for bankruptcy of a company. The use of Altman as a measure of bankruptcy performance is not permanent or stagnant. Still, it develops from time to time, where Altman continues to expand testing and model discovery to be applied to all companies (Oktarina, 2017). Meanwhile, the Springgate model focuses more on the value of a company's current debt. The higher the value of a company’s existing debt indicates that the company has a low level of liquidity, thus making the company potentially bankrupt (Mandalurang, et al., N 2019). The Altman model refers to the results of relevant research, namely in predicting bankruptcy that will occur in telecommunications companies that have been listed on the IDX (Martini et al., 2015) and (Pangkey, et al., 2018), namely the analysis of bankruptcy predictions using the Altman method and the Zmijewski method in bankrupt companies that have gone public on the IDX. The prediction of the Altman Z-Score method is also applied to PT. Pos Indonesia (Martini et al., 2020). Meanwhile, the Zmijewski model and the Springate model refer to the research results (Effendi, 2018), namely research in the context of transportation services as a guide to provide an overview of the level of bankruptcy risk.
prediction that the Indonesian department store industry will experience. By doing bankruptcy prediction analysis, the company will find it easier to determine how big the company will experience the level of bankruptcy (Saija & Sudiarawan, 2021). Statement of financial position in the form of total assets, liabilities, and equity and profit or loss of PT. Hero Supermarket, Tbk. during 2016-2020, illustrated in figure 1.

![Figure 1: Illustration of Bankruptcy of PT. Hero Supermarket, Tbk.](image)

The financial position shows that PT. Hero Supermarket, Tbk. every year there is an increase in the liability account but also shows a loss that occurs every year starting from the second year in 2017 to 2020. Therefore, our concern is to analyze the study of bankruptcy detection through the times series data which is expected to provide novelty in the research entitled on bankruptcy forecasting. In addition, this study believes to be able to have an impact not only theoretically but also managerial implications as a guide for stakeholders to be able to create a healthy company financial situation.

2. Literature Review and Hypothesis Development

Financial statements describe the financial condition of a company at a particular time or a specific period through the accounting process, including balance reports, income statements, cash flow statements, and reports on changes in capital position. Lubis (2017) states that financial statements are the result of recording, which is a summary of economic transactions that occurred during the period or financial year concerned. Meanwhile, based on PSAK No 1/2017, financial statements are a structured presentation of an entity’s financial position and financial performance. Financial reports consist of five types, namely: Income Statement; Statement of Changes in Equity; Balance Sheet / Statement of Financial Position: Cash Flow Statement; Notes to Financial Statements (CaLK). In general, financial statements are required by two parties, namely internal and external parties. Two parties require financial information with each need. Internal parties need financial reports to make it easier to know the current economic condition of the company. In addition, external parties require helpful financial statements to see the company’s performance.

Financial distress is a phenomenon that shows a declining trend in a company’s financial performance. A company can be called experiencing economic distress or financial difficulties if the company offers several negative numbers on operating profit, net income, and a book value of equity when a merger occurs (Rossi et al., 2020; Martini, et al., 2021); Hanafi and Halim (2016) stated that financial difficulties are described between two extreme points, namely short-term liquidation difficulties to insolvency. Financial problems are usually temporary but can develop to be tough. Bankruptcy, in general, is a condition of a company experiencing a decline in performance, economic difficulties, and lack of internal funds, such as a decrease in profits to the acquisition of losses, problems, and insufficient funds in running its business. The factors causing
bankruptcy include internal factors and external factors. Internal factors come from within the company itself, such as management ability, imbalance of capital owned, and debt. At the same time, external factors come from outside the company, such as raw material difficulties, relationships with creditors, business competition, global economic conditions, and others (Parquinda, 2019). According to Hanafi and Halim (2015), bankruptcy information is helpful for management, creditors, accountants, and investors. Ashari (2010) stated that the ability to predict bankruptcy would benefit many parties, especially creditors and investors. Bankruptcy prediction also serves to guide parties regarding the company’s financial performance whether it will experience financial difficulties or not in the future. Bankruptcy is a legal proceeding initiated when a person or business is unable to repay outstanding debts or obligations. The bankruptcy process begins with a petition filed by the debtor, which is most common, or on behalf of creditors, which is less common. All the debtor’s assets are measured and evaluated, and the assets may be used to repay a portion of the outstanding debt. Bankruptcy offers an individual or business a chance to start fresh by forgiving debts that simply cannot be paid while giving creditors a chance to obtain some measure of repayment based on the individual’s or business’s assets available for liquidation. In theory, the ability to file for bankruptcy benefits the overall economy by allowing people and companies a second chance to gain access to credit and by providing creditors with a portion of debt repayment. Upon the successful completion of bankruptcy proceedings, the debtor is relieved of the debt obligations that were incurred prior to filing for bankruptcy. Bankruptcy as a failure that occurs in a company is defined in several senses by (Otero González et al., 2020):

1. Economic failure (economic distress). Failure in an economic sense usually means that the company loses money, or its income cannot cover it at its own expense. This means that the rate of profit is less than the cost of capital or the present value of the company’s cash flows is less than liabilities. Failure occurs when the company’s actual cash flow is far below the expected cash flow. Even failure can also mean that the return on the historical cost of the investment is less than the company’s cost of capital spent on the investment (Agustia et al., 2020; Elnahas et al., 2017).

2. Financial failure (financial distress). Financial failure is challenging to define precisely. This is caused by various incidents of the company’s downfall during economic distress. The events of the company’s collapse caused by financial distress are almost endless, such as dividend reductions, company closures, losses, dismissals, resignations of directors, and falling stock prices (Coburn, 2006; Hsu et al., 2022; Kassem & Turksen, 2021).

According to Linardi (2020), there is no appropriate term for financial distress from previous studies. Each study has its definition. Earlier research, financial distress can be interpreted if a company has a negative net operating income for several years, it is used by Hofer (1980) and Whitaker (1999) cited by (Gong et al., 2022). Secondly, the cash flow from the company’s operations is not sufficient to meet the company’s obligations, as used by (Chen & Frank, 2020). Third, financial distress condition as a condition in which the company is delisted due to net income and the negative book value of equity in a row and the company has merged, is used by Luciana (2004). Fourth, financial distress can be interpreted as the company’s inability to pay financial obligations when due, which can lead to company bankruptcy, used to Darsono and Ashari (2010). From the statements, it can be interpreted that financial distress is the initial stage of a decline in economic conditions before bankruptcy. This financial distress information can be used as an early warning of bankruptcy so that management can act quickly to prevent problems before bankruptcy occurs. There are several bankruptcy terms used (Antill, 2022), namely:

1. Economic Failure. This means that the company’s income cannot cover the total cost, including the cost of capital. Businesses that experience economic failure can continue their operations if creditors are willing to provide additional money, and owners can receive a return below the market interest rate.

2. Business Failure. This term is the main compiler of failure statistics to define businesses that stop their operations due to losses for creditors. Thus, a business can be classified as a
failure even though it usually does not go through bankruptcy. And also, a business can stop or close, but it is not considered a failure.

3. Technical insolvency. A company can be considered bankrupt if it does not meet its maturing obligations. This technical insolvency may indicate a temporary lack of liquidity where at one time, the company can raise money to meet its obligations and stay alive. On the other hand, if this technical insolvency is an early symptom of economic failure, then this is a sign of financial collapse (financial disaster).

4. Insolvency in bankruptcy. A company is said to be bankrupt if the book value of total liabilities exceeds the market value of the company’s assets. This is a more complex situation when compared to technical bankruptcy because, in general, this is a sign of economic failure that leads to the liquidation of a business. It should be noted that the company

3. Research Method and Materials

This type of research is quantitative, and the results are then described in the discussion section. This study focuses on calculating and analyzing financial distress in detecting the level of bankruptcy at PT. Hero Supermarket, Tbk. by using the X-Score Zmijewski model, the Z-Score Altman model, and the Springate model. The data used is secondary data from financial statements for five consecutive years, 2016, 2017, 2018, 2019, and 2020 which are financial reports issued by PT Hero Supermarket, Tbk. from www.idx.co.id in 2021.

3.1. Zmijewski Method (X-Score)

Zmijewski’s model uses financial ratios that measure company performance, leverage, and liquidity to develop the model. Zmijewski model equation (X-Score) is:

\[ X\text{-Score} = -4.3 - 4.5X_1 + 5.7X_2 - 0.004X_3 \]

Description:
X: Overall index
X1: Net Profit / Total Assets
X2: Total Debt / Total Assets
X3: Current Assets / Current Debt

The Cut-Off value that applies in this model is 0. This means that companies whose X value is greater than or equal to 0 are predicted to experience Financial Distress in the future. On the other hand, companies with an X value less than 0 are expected not to experience distress.

3.2. Altman Method (Z-Score)

Altman Z-score is used as a measurable control tool on the financial status of a company that is experiencing financial difficulties. The Altman Z-Score equation can be formulated:

\[ Z\text{-Score} = 1.2X_1 + 1.4X_2 + 3.3X_3 + 0.6X_4 + 0.999X_5 \]

Description:
X1 = Working Capital (Current Assets – Current Liabilities) / Total Assets
X2 = Retained Earnings/Total Assets
X3 = Income Before Tax/ Total Assets
X4 = Book Value of Equity / Total Liabilities
X5 = Sales /Total Assets
The bankruptcy prediction model made for companies engaged in services and companies engaged in non-manufacturing as follows:

\[ Z \text{-Score Value Interpretation} \]

<table>
<thead>
<tr>
<th>(Z)</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Z &gt; 2.99)</td>
<td>The company has no problems with financial condition.</td>
</tr>
<tr>
<td>(2.7 &lt; Z &lt; 2.99)</td>
<td>The company had some financial problems (though not serious).</td>
</tr>
<tr>
<td>(1.88 &lt; Z &lt; 2.69)</td>
<td>The company will experience financial problems if it does not make significant improvements in management and financial structure.</td>
</tr>
<tr>
<td>(Z &lt; 1.88)</td>
<td>The company is experiencing serious financial problems</td>
</tr>
</tbody>
</table>

Source: (Rajalakshmi & Gopal, 2020)

The bankruptcy prediction model made for companies engaged in services and companies engaged in non-manufacturing as follows:

\[ Z \text{-Score} = 6.56X_1 + 3.26X_2 + 6.72X_3 + 1.05X_4 \]

Description:
- \(X_1\) = Working Capital (Current Assets – Current Liabilities) / Total Assets
- \(X_2\) = Retained Earnings / Total Assets
- \(X_3\) = Income Before Tax/Total Assets
- \(X_4\) = Book Value of Equity / Total Liabilities

3.3. Springate Method

The Springate model is a ratio model that uses multiple discriminatory analysis (MDA). To determine which ratios can detect the possibility of bankruptcy, Springate uses MDA to select four ratios from 19 financial ratios popular in the literature, which can best distinguish between bankrupt and non-bankrupt sound businesses. This model has the following formula:

\[ S = 1.03A + 3.07B + 0.66C + 0.4D \]

Description:
- \(A\) = Working Capital (Current Assets – Current Liabilities)/Total Assets
- \(B\) = Net Profit Before Interest and Tax/Total Assets
- \(C\) = Net Profit Before Tax/Current Liabilities
- \(D\) = Sales / Total Assets

The Springate model classifies companies with an S-Score score > 0.862 as companies that do not have the potential to go bankrupt, and vice versa if the company has an S-Score score < 0.862 is classified as an unhealthy company has the potential to go bankrupt.

4. Results and Discussion

4.1. Bankruptcy Rate Analysis According to Zmijewski Method (X-Score)

PT. Hero Supermarket, Tbk. Experiencing financial distress in 2020. It can be said that they are in financial distress because, in that year, the X-Score value obtained was 0.3402, which means that the cut-off value exceeded 0, then it was categorized as economic distress. The highest X-Score value using the Zmijewski method occurred in 2016, which was -2.8332, which means that in 2016 the financial condition experienced by the company was perfect. During the last five years, from 2016 - 2020, PT. Hero Supermarket, Tbk, was in the category of non-financial distress to financial distress, which means that the company began to experience financial difficulties in 2020. From 2016 to 2019, the company was in a healthy condition, meaning that the company was able to maintain its financial situation and reduce the use of liabilities even though there were fluctuations every year. Companies must remain vigilant because, in 2020, the company will experience an unhealthy condition (financial distress). If this condition continues, it is inevitable that PT. Hero Supermarket, Tbk, will experience financial difficulties and will even be the beginning of bankruptcy. In total, these conditions are presented in Table 2.
4.2. Bankruptcy Rate Analysis According to Altman Method (Z-Score)

The Z-Score value fluctuates every year (See. Table 3). The highest Z-Score value occurred in 2016, 4.6966 or 469.66%, while the lowest value occurred in 2020 with a value of -2.7063 or -270.63%. In 2017 the Z-Score value was at 3.6438, which means that this number has exceeded 2.99 so that in 2017 it is included in the safe zone category. After obtaining the safe zone category for two consecutive years, PT. Hero Supermarket, Tbk, experienced a dangerous zone with a Z-Score value of 1.4951, which means the value is less than 1.81. In 2018 it became an unsafe zone for the company. Furthermore, in 2019 the company experienced an increase in the Z-Score value of 1.9623, which resulted in the company’s area turning into a gray area, this was because the Z-Score value obtained by the company exceeded 1.81 but did not exceed 2.99, so it was included in the gray zone category. After experiencing an increase in 2019, PT. Hero Supermarket, Tbk. Again experienced a significant decrease in the value of the Z-Score in 2020, even the number became a negative number, namely -2.7063 or -270.63% (See. Table 3). The Z-Score value generated in 2020 is included in the distress or distress zone because the resulting value is less than 1.81.

Table 2: Bankruptcy Rate Zmijewski Method PT. Hero Supermarket, Tbk.

<table>
<thead>
<tr>
<th>Year</th>
<th>Value X1</th>
<th>Value X2</th>
<th>Value X3</th>
<th>Value X4</th>
<th>Value X5</th>
<th>Category Z-Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>0.0161</td>
<td>0.2710</td>
<td>1.4293</td>
<td>-2.8332</td>
<td></td>
<td>Nonfinancial Distress</td>
</tr>
<tr>
<td>2017</td>
<td>-0.026</td>
<td>0.2939</td>
<td>1.2714</td>
<td>-2.5125</td>
<td></td>
<td>Nonfinancial Distress</td>
</tr>
<tr>
<td>2018</td>
<td>-0.2031</td>
<td>0.3786</td>
<td>1.3087</td>
<td>-1.2329</td>
<td></td>
<td>Nonfinancial Distress</td>
</tr>
<tr>
<td>2019</td>
<td>-0.0046</td>
<td>0.3574</td>
<td>1.0686</td>
<td>-2.2456</td>
<td></td>
<td>Nonfinancial Distress</td>
</tr>
<tr>
<td>2020</td>
<td>-0.2510</td>
<td>0.6166</td>
<td>1.1170</td>
<td>0.3402</td>
<td></td>
<td>Financial Distress</td>
</tr>
</tbody>
</table>

Source: Data Processed (2021)

4.3. Bankruptcy Rate Analysis According to the Springate Method

During the last five years PT. Hero Supermarket, Tbk. (Table 4) experienced conditions that tend to be negative, meaning situations that position the company potential for bankruptcy or unhealthy. In 2016, the S-Score value exceeded 0.862 so that the category obtained by the company is not potentially bankrupt. Furthermore, in 2017 the company began to experience a decrease in the value of the S-Score from 0.9843 to 0.5963, resulting in the company being in the category of potentially bankrupt. After experiencing a potentially bankrupt state in 2017, in the following years, the company remained in a potentially bankrupt state from 2018 to 2020, and the S-Score value generated in 2018 and 2020 was negative. Companies must be vigilant because the last four years have experienced situations that can go bankrupt. If conditions continue, it is inevitable that the company will experience distress and will be the beginning of bankruptcy.

Table 3: Bankruptcy Rate Altman Method PT. Hero Supermarket, Tbk.

<table>
<thead>
<tr>
<th>Year</th>
<th>X1</th>
<th>X2</th>
<th>X3</th>
<th>X4</th>
<th>Value Z-Score</th>
<th>Category Z-Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>0.113</td>
<td>0.2963</td>
<td>0.0246</td>
<td>2.6896</td>
<td>4.6966</td>
<td>Safe zone</td>
</tr>
<tr>
<td>2017</td>
<td>0.0737</td>
<td>0.2661</td>
<td>-0.0341</td>
<td>2.4019</td>
<td>3.6438</td>
<td>Safe zone</td>
</tr>
<tr>
<td>2018</td>
<td>0.109</td>
<td>0.114</td>
<td>-0.2035</td>
<td>1.6914</td>
<td>1.4951</td>
<td>Danger Zone</td>
</tr>
<tr>
<td>2019</td>
<td>0.0256</td>
<td>0.0705</td>
<td>-0.0071</td>
<td>1.5355</td>
<td>1.9623</td>
<td>Gray Zone</td>
</tr>
<tr>
<td>2020</td>
<td>-0.1525</td>
<td>-0.2861</td>
<td>-0.2122</td>
<td>0.6216</td>
<td>-2.7063</td>
<td>Danger Zone</td>
</tr>
</tbody>
</table>

Source: Data Processed (2021)

Table 4: Bankruptcy Rate Springate Method PT. Hero Supermarket, Tbk

<table>
<thead>
<tr>
<th>Year</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>Value S-Score</th>
<th>Category S-Score Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>0.113</td>
<td>0.0246</td>
<td>0.0935</td>
<td>1.8269</td>
<td>0.9843</td>
<td>Not Potentially Bankrupt</td>
</tr>
<tr>
<td>2017</td>
<td>0.0737</td>
<td>-0.0341</td>
<td>-0.1257</td>
<td>1.7701</td>
<td>0.5963</td>
<td>Potentially Bankrupt</td>
</tr>
<tr>
<td>2018</td>
<td>0.109</td>
<td>-0.2035</td>
<td>-0.5764</td>
<td>2.1074</td>
<td>-0.0499</td>
<td>Potentially Bankrupt</td>
</tr>
<tr>
<td>2019</td>
<td>0.0256</td>
<td>-0.0071</td>
<td>-0.0191</td>
<td>2.0119</td>
<td>0.7967</td>
<td>Potentially Bankrupt</td>
</tr>
<tr>
<td>2020</td>
<td>-0.1525</td>
<td>-0.2122</td>
<td>-0.4509</td>
<td>1.8382</td>
<td>-0.3708</td>
<td>Potentially Bankrupt</td>
</tr>
</tbody>
</table>

Source: Data Processed (2021)
The three methods have the same accuracy and are mutually reinforcing in predicting the bankruptcy of PT Hero Supermarket, Tbk. This can be attributed to the company's ups and downs. Starting from 2019, PT Hero Supermarket closed 26 outlets, resulting in the termination of employment of 532 employees. From 2017 to 2020, the financial statements published by the company also wrote that for four consecutive years, the company did not make a profit, or in other words, the company suffered a loss. The highest losses occurred in 2018 and 2019, and the resulting ratio also became negative. In the Zmijewski method, the emphasis is on the company's liabilities so that the company's liabilities have a mutually influencing relationship. In the Altman method (Martini, et al., 2020; Martini, et al., 2021; Arifin, et al., 2021), the emphasis is on profitability between the variables working capital to total assets, retained earnings to total assets earning before interest and tax to total assets. Book value of equity to book value of total liabilities that have a mutually influencing relationship, the value of working capital which shows the productivity of the company's assets, and can generate operating profit as expected. The Springate method emphasizes the importance of current debt. The higher the value of a company's existing debt indicates that the company has a low level of liquidity, thus making the company potentially bankrupt.

5. Conclusion

PT. Hero Supermarket, Tbk. in the period 2016 - 2019 based on the X-Score method of the Zmijewski model, the financial condition is in a non-financial distress condition. Still, in 2020 the company is in a distress condition. This must be managed quickly with the proper method so that the distress conditions experienced by the company are not sustainable. The Altman model Z-Score method for the last five years shows fluctuating results; in 2016 and 2017, the conditions experienced by the company were in the safe zone, but in 2018 and 2020, the company's situation became a dangerous zone, so it can be concluded that in this method the company is in a state of financial difficulty. Furthermore, in the S-Score process of the Springate model, the company experiences conditions that have the potential to go bankrupt, especially in 2017 - 2020. For four consecutive years, the company has suffered losses every year, with the resulting S-Score value being below a score of < 0.862, so that the company’s condition is potentially bankrupt. The method used to predict the level of bankruptcy at PT. Hero Supermarket, Tbk. has different focal points and degrees of accuracy. However, the most accurate is the Springate method of the three ways. For the last four years, the company has been in a distress zone, which is also following the company's financial condition in the financial statements of PT. Hero Supermarket, Tbk. The significant decline in profits from 2017 - 2020 was also a factor in the financial difficulties at PT. Hero Supermarket, Tbk, and the increase in liabilities that happened every year caused losses for the company. It showed that the company was in financial difficulty or financial distress. Company management must improve financial conditions, significantly reducing total liabilities every year. The actual existing company liabilities are not more significant than the income earned, so that the level of losses that will be experienced will be reduced. The company’s condition is not on the verge of bankruptcy. Furthermore, the company should conduct a company evaluation of efforts to improve operational and financial performance to take quick action in the right way in responding to the company’s financial condition so that the economic distress experienced by the company can be appropriately resolved.

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