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# FINANCIAL DISTRESS ANALYSIS WITH SPRINGATE AND ZMIJEWSKI MODELS AT PT AEROFOOD ACS INDONESIA UNIT DENPASAR

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**Abstract.** Correct prediction financial distress is an important thing for companies because financial distress generally leads to bankruptcy or company failure. PT Aerofood ACS Indonesia Unit Denpasar suffered significant losses in the last few periods due to loss of potential sales because the condition of providing inflight catering was not carried out optimally so it was necessary to do a financial distress to find out how big the potential for financial distress for the 2019-2021 period was using the springate and zmijewski models. The data used in this study are financial statements in the form of profit and loss and balance sheets. The data analysis technique used in this research is descriptive quantitative analysis with the springate and zmijewski methods. So to adjust to financial distress conditions, this study uses standards or criteria used in analyzing financial distress using the springate collect the cut off value that applies to this method is 0.862. A score that is smaller than 0.862 indicates that the company is predicted to experience financial distress. However, if the score is bigger than 0.862, it indicates that the company is not predicted to experience financial distress. Based on the results of the study, it is shown that (1) the springate shows that there are two periods analyzed for experiencing financial distress and one for non-distress. (2) Zmijewski's shows that there are two periods analyzed as experiencing financial distress and one other period being analyzed as non-distressed..

**Keyword:** Financial Distress, Springate Model, Zmijewski Model

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## Introduction

The sustainability of the company is an important thing that must always be considered. Every company certainly has almost the same goal, namely to get the maximum profit. If the company is not able to achieve the predetermined profit target, of course the impact will be serious for the company's sustainability, such as reducing the number of workers and the worst possibility is that the company will experience financial distress or even bankruptcy if it cannot finance its activities. Through the table of the financial statements of PT Aerofood ACS Denpasar for 2019-2021, it shows that the company has suffered losses for the last two years. The right prediction with a good level of accuracy can minimize and even prevent a company from experiencing business losses. The characteristics of the company's financial distress are the dismissal of workers, cash flow that is smaller than the current long-term debt, net income (net operating income) negative.

Given the current state of the COVID-19 pandemic, the tourism sector is getting worse, especially in Bali. I Gusti Ngurah Rai Airport has decided not to serve international flights on the legal basis of Government Regulation No. 21 of 2020. As a result, the airport has experienced a decrease in the number of international tourist arrivals, which has an impact on food supply companies at Ngurah Rai International Airport, especially PT Aerofood ACS Indonesia. Denpasar Unit. If we look at the financial statement table of PT Aerofood ACS Indonesia Denpasar Unit from 2019 to 2021, the amount of debt has increased every year which resulted in the company's debt being greater than the total equity owned by the company, which means that most of the company's processing activities were paid from company debt. This certainly has an impact on the balance of

the capital structure. There are many analyzes that have been developed and can be used to analyze financial distress in a company, such as Spingate, Altman Z-Score, Grover, Zmijewski. Through this, researchers want to analyze financial distress predictions using two analytical models, namely springate and zmijewski at PT Aerofood ACS Indonesia Denpasar Unit in 2019-2021.

## Metode

This research uses descriptive research with a quantitative approach. This research was conducted to provide an overview of the financial distress conditions that occurred in the company PT Aerofood ACS Indonesia Denpasar Unit in 2019-2021. Analyzing the viability of a company is carried out using two models of measuring instruments with a combination of several ratios and given different weights according to the applicable criteria, which will produce data in the form of numbers to draw conclusions. The data obtained are secondary data, namely documentation and library research. The population in this study is the entire financial report at PT Aerofood ACS Indonesia Denpasar Unit. Based on this, this study takes a sample in the form of financial reports at PT Aerofood ACS Indonesia Denpasar Unit for the period 2019 to 2021.

This study uses three variables, namely financial distress, the springate model, and the zmijewski model. This study uses the ratio data analysis method using the springate and zmijewski models. In the springate ratio, four ratios are used, namely working capital to total assets, net income before interest and taxes to total assets, net income before tax to current liabilities and sales to total assets. While in the Zmijewski model there are three ratios, namely profit after tax to total assets, total debt to total assets, and current assets to current liabilities.

## Results and Discussion

### 3.1 Description of Research Results

Financial distress at PT Aerofood ACS Indonesia Denpasar Unit was analyzed using financial statement data for the last three years, 2019-2021. The data were analyzed using the ratios contained in the springate and zmijewski models, calculated the S-Score and X-Score values for the next three periods, then clarified these values into cut offs with predetermined criteria.

The following is an analysis of financial distress using the four springate model ratios at PT Aerofood Indonesia Denpasar Unit. The analysis of the ratio of working capital to total assets is still in a minus condition, which means the company has not been able to generate working capital properly and optimally. Then the second ratio is net income before interest and taxes to total assets where the amount of profit generated from its operational activities is in a loss condition, the ratio is in a minus condition which means that the company's profitability level is in poor condition. The third is that net income before tax on current liabilities gets the results that the company has not been able to cover current liabilities to its full potential. Finally, the ratio of sales to total assets produces a negative ratio value where this value shows the company's inability to maximize the management of all its assets that can be used to increase sales. Furthermore, the analysis of financial distress uses three ratios of the Zmijewski model. The first is the ratio of profit after tax to total assets, this ratio is to measure the company's profitability to the value of its assets. It can be concluded that 2019 produced a value of 0.140 then in 2020 it became negative at -0.329 and is still in a minus condition in 2021 of -0.256. The second is the ratio of total debt to total assets, the results in 2019 yielded of 0.670 then in 2020 it will increase to 0.821 and in 2021 it will produce a value of 0.734. Third, the ratio of current assets to current liabilities, the result in 2019 yielded a value of 0.813 then in 2020 it increased to 1.008 and in 2021 it produced a value of 0.662.

### 3.2 Results of Answering Research Questions

#### 3.2.1 Springate Model

S-Score =  $1.03A + 3.07B + 0.66C + 0.4D$  is as follows:

**Table 1.** Result of S-Score Using The Springate Model

Year	A	B	C	D	Value
2019	-0,091	0,141	0,290	1,687	1,205
2020	-0,250	-0,327	-0,526	0,429	-1,437
2021	-0,193	-0,255	-0,449	-0,087	-1,314

Source: Secondary data processed, 2022

Based on research at PT Aerofood ACS Indonesia Unit Denpasar for three periods using the springate model with these equations, the results obtained in 2019 the value of the model equation was 1.205 then in 2020 the value was minus -1.437 while in 2021 it was -1.314. Then the last step is to calculate the criteria, with cut-off a predetermined.  $S < 0.862$  the company is included in the financial distress, if  $S > 0.862$  the company is non distress.

#### 3.2.2 Zmijewski Model

X-Score =  $-4.3 - 4.5X_1 + 5.7X_2 - 0.004X_3$  is as follows:

**Table 2.** Result of X-Score Using The Springate Model

Year	X <sub>1</sub>	X <sub>2</sub>	X <sub>3</sub>	Value
2019	0,140	0,670	0,813	-1,115
2020	-0,329	0,821	1,008	1,853
2021	-0,256	0,734	0,662	1,032

Source: Secondary data processed, 2022

Based on research at PT Aerofood ACS Indonesia Denpasar Unit for three periods using the zmijewski model with these equations, the results obtained in 2019 the model equation value is -1.115 then in 2020 the value is 1,853 while in 2021 it will be 1,032.

### 3.3 Discussion

The discussion of financial distress based on the research results, shows that the results adjusted by the theories of the two models can be summarized as follows: the company has not been able to see the availability of working capital to finance its daily operations, the company's ability to generate operating profit from the assets used are getting lower so that the company's profitability against financial distress is certainly higher, then the company's management has not been able to cover current debts using profits that have been deducted with tax burdens and the lower total sales to total assets, the company has not been efficient in using all assets to generate sales, in other words a low value of the ratio of sales to total assets indicates that the assets owned by the company are too large compared to its ability to generate sales. Then when viewed from the total debt which has increased every year, the company must put more pressure on the amount of debt to reduce the losses that occur considering the company's profit is in a minus condition and liquidity position must be evaluated so that it does not get worse.

Financial distress at PT Aerofood ACS Indonesia Unit Denpasar is included in category B. In this category, it is proven that the company has suffered on going losses such as continuous loss of sales potential, economic crisis, lack of funding, and most of the processing of company activities is paid from company debt. One of the impacts of financial distress that we can observe in the current situation is the layoff policy issued by the company unilaterally, early retirement for several employees with various considerations.

Based on the analysis that has been done using the two models, it can be used as a benchmark and assessment indicator in predicting the sustainability of the company in the future, so that it can be used as a reference to anticipate the occurrence of financial difficulties as has been analyzed using the two models. Predicting financial distress not only considers the number of assets and assets of the company, but also has to be seen how the conditions in terms of liabilities and company equity describe the effectiveness of the use of debt, the company's ability to meet obligations and how the company utilizes assets and equity to get maximum profit in accordance with the company's goals. So that these two methods become methods that can be considered by companies in predicting and seeing whether there are indications financial distress from the financial performance that occurs.

## Conclusion

Based on the results of the discussion and analysis that has been carried out, the conclusions that can be presented are as follows:

1. The conclusion from the results of the springate model ratio, working capital to total assets in 2019-2021 shows the results, namely -0.091, -0.250, -0.193. Then net income before interest and taxes on total assets for 2019-2021 shows the results of 0.141, -0.327, -0.255. Net income before interest and taxes on current liabilities for 2019-2021 showed results of 0.290, -0.526, -0.449. Furthermore, sales of total assets for 2019-2021 showed results, namely 1.687, 0.429, -0.087. The four ratios are included in the Springate model equation, which results in 2019 of 1.205, in 2020 of -1.437, and in 2021 of -1.314.
2. The conclusion from the results of the zmijewski model ratio, profit after tax to total assets in 2019-2021 shows the results, namely -0.140, -0.329, -0.256. Then the total debt to total assets in 2019-2021 showed results, namely 0.670, 0.821, 0.734. Furthermore, current assets against current liabilities in 2019-2021 showed results, namely 0.813, 1.008, 0.662. The three ratios are entered into the zmijewski model equation which results in 2019 of -1.115, in 2020 of 1.853, and in 2021 of 1.032.
3. The springate model used to analyze the financial distress of the company PT Aerofood ACS Indonesia Denpasar Unit in the 2019-2021 period, there were two periods of analysis experiencing financial distress, namely 2020 and 2021 because the results showed the equation of the S-score model was less than 0.862 then one period was analyzed non distress, namely in 2019 with an S-score greater than 0.862.
4. The zmijewski model used to analyze the financial distress of the company PT Aerofood ACS Indonesia Denpasar Unit in the 2019-2021 period, there are two periods analyzed for experiencing financial distress, namely 2020 and 2021 because the results show the X-score model equation is more than 0 then one period is analyzed non-distress, namely in 2019 with results of

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