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Phenomena Affecting Financial Distress through the Springate Method in Indonesia Stock Market

Nadira Choirunnisa[1)], Shinta Permata Sari[2)]
1) Faculty of Economics and Business, Universitas Muhammadiyah Surakarta, Indonesia
2) Faculty of Economics and Business, Universitas Muhammadiyah Surakarta, Indonesia

Abstract: *Financial distress is a phenomenon in a company that experiences bankruptcy because of internal and external factors. If the company experiences financial difficulties, investors will reconsider investing in the company. According to the risk of an unstable company's financial condition. Investors can use financial distress as a guideline in choosing a good firm, depending on its operations and financial management. This study aims to predict financial distress through the Springate method. Factors influencing financial distress are operating capacity, sales growth, operating cash flow, leverage, and managerial agency costs. The research is a manufacturing company of goods and consumer industries sector companies listed on the Indonesia Stock Exchange 2019-2021 consisting of 47 companies. The sampling of this research uses purposive sampling and analysis methods by logistic regression analysis. The results of this study indicated that operating capacity, sales growth, operating cash flow, and leverage affect financial distress. Meanwhile, managerial agency cost factors have no effect on financial distress.*

Keywords: springate method, financial distress, operating capacity

I. INTRODUCTION

The world economy is currently having changes at all times, one of the factors that cause these changes is due to Covid-19 pandemic. Based on June 2020 data, the International Monetary Fund (IMF) estimates a GDP growth reduction of -4,9%. According to BPSdata, the Indonesian economy decreases by 2,07% due to the impact of Covid-19, which influenced by the company's financial performance and condition. The regulation of the work system has changed due to the impact of Covid-19, causing the companies require its employees to do Work from Home (WFH) due to the implementation of mobility restriction policies. Based on data sources in 2020, around 96,5% of companies in Indonesia were influencing by Covid-19. Then, 57,1% of companies experienced a decrease in revenue, and 39,4% even stopped operating due to the impact of Covid-19 (Bayu, 2020). Companies influenced by the impact of Covid-19 have reduced the number of employees due to their revenue, which decreases from time to time. Therefore, its decrease can be an indication that the company has not been able to manage finances properly so resulting in losses (Wulandari&Jaeni. 2021).

Indonesian stock market due to Covid-19 impact is an industry sectors of consumer goods which causes profit decrease on a company. Based on the analysis of Return on Assets in 2019-2021, the consumer goods industry company that experiences a decrease in profit is Budi Starch and Sweetener Tbk. by 3% of the profit generated by the company. This experienced a very significant decrease compared to 2020 the company produced profitability of 12%. At PT Unilever Tbk, it produced the lowest profit in 2021, which is 30% compared to the profitability level in 2020 of 35%. These explanation can indicate a decrease in sales and will cause financial distress.

Financial distress is a phase before the bankruptcy of a company. Besides, it can assume that the company's condition has decreased in profits (Prasetyo&Kristanti, 2021). An indicator that influences financial distress is operating capacity. According to the exposure of PrasetyoandKristanti (2021) operating capacity shows the ratio of activities used to measure the effective and efficiency of the company in using its assets. The higher the operating capacity of the company, the more effective and efficient the company will be in using its assets for its operations.

In the review, the decrease in profit is also due to a decrease in sales because of low sales frequency. Kasmir (2015) states that sales growth is one of the gauges of a company's ability to protect its position in times of economic growth

and competition, particularly in its business sector. If the sales growth of a company is positive, it might be experience financial distress, otherwise, if the sales growth is negative, it has the opportunity to experience financial distress. Industries that are developing for the better are those in which there is a steady increase in their operating activities (Octaviani& Abbas, 2020).

High cash outflow in the company's operations can be one of the causes of declining profits in the company. Operating cash flow is the most important part of a company's cash flow (Hery, 2016). Operating cash flow can be used as a determinant of whether the company's operations can generate cash to pay off loans and maintain the ability of the company's operations, pay dividends and for investment (Febriyan&Prasetyo, 2019). A company has a high operating cash flow and be able to carry out its operational activities, especially in paying off obligations, managing resources, and paying dividends (Ramadhani&Khairunnisa, 2019).

In the discussion above, one of the causes of other profit decrease is companies that have not been able to pay off their debts or called leverage. Based on the statement of Hanafi and Halim (2012) who explain that leverage is a ratio used to measure how many assets have been financed by debt. If the value of leverage in the companies are high, it is concluded that the financial resources are from debt and have the opportunity to experience financial distress if the debt is not managed properly (Dewiet al, 2022).

On the other indicators that influence the level of profit in the next company is the cost that must be spent on monitoring the performance of the company called managerial agencies cost. Based on the theory of Jensen and Mecking (1976) which explains that the cost of this agency is a cost that has been borne by principal used to prevent agency problems then also used to maximize profits for the principal.

This research is important to conduct again because there are changes in economic conditions due to Covid-19, especially in Indonesian companies. Many corporate sectors are suffering losses to bankruptcy due to the impact of Covid-19, especially the consumer goods industry sector which has an important role for people's lives. Therefore, it can be known the effect of operating capacity, sales growth, operating cash flow, leverage and managerial agency cost on financial distress through this study.

II. LITERATURE REVIEW

Financial Distress

Financial distress is a condition in which financial difficulties occur which include the limitation of cash used for the normal operational activities of the company to have an impact on delayed and stopped repayment of overdue obligations (Supriati et al, 2019).Financial distress is the stage of financial condition decline before the bankruptcy of the company (Platt& Platt, 2002). It supports the signal theory that, an action taken by a company to provide signals or clues to investors about how management sees the company's prospects (Brigham &Houtson, 2019).This theory shows that the company's encouragement in providing information to external parties is expected to attract investment interest from external parties to invest in the company so that it will affect the company value, after giving a signal to external parties. The existence of such information about the phase of financial distress in the company can be more thorough in investing their capital to the investors (Setyowati&Sari, 2019).

Financial distress is a financial condition in a company that has decreased during a certain period (Octaviani& Abbas, 2020).This situation occurs due to the condition that the company's cash flow decreases for several periods and not in accordance with what is expected because the projection cannot be fulfilled. It This supports the shareholder's theory that, the main tasks of Management in order to maximize wealth or value for shareholders (Berle& Means, 1932).This theory aims management can reduce the risk of losses from the activities of the company by managing its resources properly. The relationship between shareholder theory and financial distress is that if management in a company is able to manage its resources well, that means the company can increase the wealth of shareholders and avoid disruption of financial conditions or financial distress. The method used in this study is the springate method which uses MDA (Multiple Discriminant Analysis). Then, the Springate method uses several indicators to predict financial turnover in companies, namely working capital, total assets, net profit before interest and taxes, current liabilities, and sales.

Operating Capacity

Hery (2016) states that the activity ratio is a ratio that is used as a measure of the level of efficiency in using resources by the companies to assess the ability during their activities. An effectiveness and efficiency of the company's operational performance in managing its assets can be demonstrated through operating capacity. The activity ratio used as a measuring tool is using Total Asset Turn Over Ratio. It is the extent to which a company can achieve net sales with

their own assets (Brigham & Houston, 2019). If the company's turnover is low, it has not been effective and efficient in carrying out sales operations, which means it has not been able to bring high profits. Based on this explanation, the company can experience losses and financial distress might occur (Prasetyo & Kristanti, 2021). This theory can be supported by Prasetyo and Kristanti's (2021) which proved that operating capacity has a negative effect on financial distress, then Putri(2021) shows that operating capacity has a positive effect on financial distress. Based on these explanations, these can be hypothesized:

H1: Operating capacity affects financial distress.

Sales Growth

The ratio used to measure the company's ability to maintain its position during economic development is the growth ratio (Fahmi, 2012). Sales growth is an overview of the company's performance in improving sales results from year to year. Setyowatiand Sari (2019) revealed that this growth is used as a consideration because companies that have high sales growth are indicated by growing assets. If the companies assets increase, they can meet their obligations so that they will not experience cash flow difficulties to meet their debts. Supported by Setyowati and Sari (2019) research which shows that sales growth has no effect on financial distress. Based on these explanation, it can be hypothesized:

H2: Sales growth affects financial distress.

Operating Cash Flow

Based on the explanation by Hery (2016) that operating cash flow is the most important part of cash flow in company activities. This information from operating cash flows discusses the cash outflows used for payment in cash to the procurement of goods and services for trading purposes and payment of production costs. This has correlation with the processing and transformation of industrial goods, cash payments to vendors and other service providers, payment of employee salaries, liabilities, and taxes (Kew et al, 2017; Tenai&Kimwolo, 2021). A company whose operating cash flow is positive, means the company's operating cash inflow is greater than the operating cash outflow. Otherwise, if the company's operating cash flow is negative, it means the operating cash inflow is smaller than the operating cash outflow (Syahadaet al, 2021). This is supported by Khasanahet al, (2021) and Putri (2021) that operating cash flow negatively affects financial distress. Based on these explanations, these can be hypothesized:

H3: Operating cash flow affects financial distress.

Leverage

Hanafi and Halim (2012) explain that leverage is a ratio used to measure how much debt has been used to finance assets. The high and low of this ratio also shows the influence on the level of investment in a company because it will have an effect on investor interest in investing in the company (Dirman, 2020). Based on OctavianiandAbbas (2020) which stated that leverage is a company's ability to pay off long-term debt, an insolvable company is a company that has greater a total debt than its total assets. This ratio is used on the right side or liabilities of the companies. Then, those that does not have leverage, so they has used 100% of their own capital for the use of debt. In addition, leverage is the company's ability to maximize the use of debt-financed assets and is used to increase company revenue (Restianti& Agustina, 2018). This is supported by Dirman (2021) which states that leverage negatively affects financial distress. Based on these explanations, these can be hypothesized:

H4: Leverage affects on financial distress.

Managerial Agency Cost

Based on the theory of Jensen and Mecking (1976) states that this agency fee is a cost that has been borne by the principal used to prevent agency problems and then also used to maximize profits for the principal. These managerial agency costs cause managers take explorative actions to achieve their own goals and make the company's resources unstable which results in the non-assurance of the company's performance (Rahmayanti&Hadromi, 2017). If agency costs are high when the manager's interests are not in line with the owner of the company, so the manager will use high company resources to make decisions for their own interests. Then, it can reduce the company's resources which can cause financial distress (Putri &Erinos, 2020). Supported research from Lifia et al, (2020) that managerial agency costs negatively affect financial distress. Based on this explanation, it can be hypothesized that:

H5: Managerial agency costs affect financial distress.

III. METHODOLOGY

This type of research is quantitative research which used the technique of secondary data on the annual financial statements of manufacturing companies in the consumer goods industry sector listed on the IDX. The population of this study is all manufacturing companies with a consumer good industry classification registered in the IDX period 2019-2021. This data is sourced from the official IDX website, namely www.idx.co.id period 2019-2021. There are 147 samples of 47 companies which are based on those criteria. This study employed purposive sampling technique that with several criteria:

1. Consumer goods industry company listed on the Indonesia Stock Exchange (IDX) for the period 2019-2021.
2. Consumer goods industry companies that provide annual financial reports for the 2019-2021 period.
3. Consumer goods industry companies that publish audited annual financial statements completing 2019-2021.
4. The financial statements of consumer goods industry enterprises for 2019-2021 provide indicators of independent and dependent variables.

Variables Measurements

Measurement of financial distress used the Springate method. Gorcon L.V has developed this method in 1978, this model is a ratio that uses MDA (Multiple Discriminant Analysis). The Springate method uses 4 financial ratios to predict financial distress in companies (Supriatiet al, 2019). Cut off used in this research is index S < 0,862, which means the companies are classified into those do not have any potential experiencing financial distress.The Springate equation can be formulated as follows:

$S\text{-}_{score}$ = 1,03 X1 + 3,07 X2 + 0,66 X3 +0,66 X4

To measure the independent variables using the formula in the following table:

Table 3.1 Variable Measurement

Variable	Measurement	Source
Operating capacity (TATO)	$TATO = \frac{Sales}{Total\ Assets}$	Prasetyo and Kristanti, 2021
Sales growth (SG)	$SG = \frac{Sales\ t - Salest\text{-}1}{Sales\ t - 1}$	Khasanahetal,(2021)
Operating cash flow (CFO)	$CFO = \frac{Cash - Flow\ Operating}{Total\ Assets}$	Wulandari and Jaeni (2021)
Leverage (LEV)	$DER = \frac{Total\ Liabilities}{Total\ Equity}$	Octaviani and Abbas (2020)
Managerial agency cost (MAC)	$MAC = \frac{Administrative\ and\ General\ Fee}{Sales\ or\ Revenue}$	Lifiaet al,(2020)

This study uses logistic regression analysis. The analysis techniques involves overall fit model test through-2Log likelihood, goodness of fit test hosmer and lemeshow test, as well as coefficient of determination. The formula of $Ln\ \frac{FD}{1-FD}$explains that financial distress with the use measure "1" refers to financial distress, then "0" refers to non-financial distress. Here is the logistic regression model used:

$Ln\ \frac{FD}{1-FD}$ = a + b_1 TATO +b_2 SG + b_3 CFO + b_4 LEV + b_5 MAC + e

IV. RESULT AND DISCUSSION

Descriptive Statistics

Table 4.1 Descriptive Statistics

Variable	N	Minimum	Maximum	Mean	Std. Deviation
TATO	147	0.04	8.08	1.1428	0.95774
SG	147	-0.86	2.47	0.0754	0.32476
CFO	147	-0.23	0.46	0.0920	0.12686
MAC	147	-0.52	-0.01	-0.0897	0.07232
LEV	147	-2.13	13.55	1,0267	1.34805
SCORE	147	0	1	0.73	0.443

Source: Data Process, 2022

The results of sampling are 147 samples with a period of 2019-2021 listed on the Indonesia Stock Exchange manufacturing companies in the consumer goods industry sector. In this descriptive statistic, it is found that the variable operating capacity (TATO) shows a standard deviation value of 0.95774 which is lower than the mean value of 1.1428, meaning that there is a lower variation between the maximum and minimum values of 0.04 and 8.08. Sales growth (SG) has a standard deviation of 0.32476 higher than the mean value of 0.0754. It can be concluded that these values has a high variation between the minimum and maximum values of -0.86 and 2.47. Cash Flow Operating (CFO) has a standard deviation of 0.12686 higher than the mean value of 0,0920 which means there is a high variation in the minimum and maximum values of -0.23 and 0.46.

Based on the descriptive statistics of the Managerial Agency Cost (MAC) shows a standard deviation value of 0.07232 higher than the mean value of -0.897. It means that the variable managerial agency cost has a high variation with minimum and maximum values of -0.52 and -0.01. Leverage has a standard deviation of 1.34805 greater than the mean value of 1,0267, it is concluded that it has a high variation with minimum and maximum values of -2.13 and 13.55. The dependent variable is financial distress (S-score) that has a standard deviation of 0.443 higher than the mean value of 0.73. It means that there is a high variation with minimum and maximum values of 0 and 1.

Discussion

Overall Model Fit		
-2 Log Likelihood Block=0		-2 Log Likelihood Block=1
170.089		77.839
Hosmer and Lemeshow Test		
Chi-square	df	Sig.
3.932	8	0.863
Coefficient of Determination		
-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
77.839	0.466	0.680

Table 4.2 Logistic Regression Analysis

Source: Data Process, 2022

The test results on the overall fit model of the industrial goods consumption sector at-2Log likelihood Block=0 170,089 compared with the value of 2log likelihood Block=1 value of 77,839. The value of block = 1 decreased then it can be indicated that the variable can improve the fit model. Then, the test results of the goodness of fit test on Hosmer and Lemeshow test shows a chi-square of 3,932 and a significance value of 0,863, which is more remarkable than 0,05 or 5% then the null hypothesis is rejected, and the model is accepted because it matches with the observation. Based on the analysis of the coefficient of determination, it shows the value of Nagelkerke R Square of 0,680 or 68%, which means financial distress is influenced by operating capacity, sales growth, operating cash flow, leverage, and managerial agency cost. In comparison, 32% of financial distress is influenced by other variables.

The results of hypotheses test based on the table below with, a significance level of 0.05:

Table 4.3 Hypotheses Test Result

Variable	B	Wald	Sig
TATO	4.728	17.044	0.000*
SG	2.887	4.618	0.032*
CFO	7.677	6.291	0.012*
LEV	-1.806	14.640	0.000*
MAC	3.238	0.490	0.484
Constant	-1.419	1.556	0.212

Source: Data Process, 2022

The impact of operating capacity on financial distress

The results of hypothesis testing on the operating capacity variable show a significance value of 0,000 which is less than 5%, H1 is accepted which means that operating capacity affects financial distress which also supports research from Putri(2021). Companies that have low total asset turnover can experience financial distress. This study shows that if the company's operating capacity turnover is low. The company has not been effective and efficient in carrying out sales operations, which means it has not been able to bring high profits. Based on this explanation, the company can experience losses and financial distress might occur (Prasetyo&Kristanti, 2021). It is concluded that the more effective the company in using its assets, the more effective the company will also be in carrying out its operations.

The impact of sales growth on financial distress

The variable sales growth shows a significance value of 0,032 which is less than 5%, H2 is accepted which means sales growth affect the financial distress and cannot support the research by Setyowati and Sari (2019). From this test, it can be shown that a high sales growth company is indicated by assets that continue to grow, then from the increased assets the company can meet its obligations. So, the company will not have cash flow difficulties to meet its debts (Setyowati& Sari, 2019). This test can also explain that companies that have high sales growth can avoid financial distress and companies with low sales growth can potentially indicate financial distress.

The effect of operating cash flow on financial distress

Based on the hypothesis test on operating cash flow which shows that the significance value is 0,012 less than 5%,H3 is accepted which means operating cash flow affects financial distress, but cannot support research from Putri (2021) and Khasanahet al, (2021). Low operating cash flow turnover can indicate that the company has the opportunity to experience financial distress. Operating cash flow in a company is high, so the company can avoid the phase of financial distress. The results of this analysis are also in line with the explanation from the study (Putri, 2021) that companies with good operating cash flow will feel confident that the company is able to pay off its debts and it will not experience financial distress.

The impact of leverage on financial distress

The leverage variable shows that the significance value of 0,000 is less than 5%, H4 is accepted which means that leverage affects financial distress. This can support research from Khasanahet al, (2021) but cannot support research from Dirman (2021). In this hypothesis, it can show that the higher the activity of the company financed by debt, the higher the financial distress. Then, if the debt to equity ratio of the company is high, so the higher the chances of the company experiencing financial distress. Thus, it will have difficulty in paying off its obligations.

The impact of managerial agency costs on financial distress

In the managerial agency cost variable, it shows a significance value of 0,212 which is more than 5%,H5 is rejected which means that managerial agency cost has no effect on financial distress and is supported by Lifiaet al, (2020) research. Suppose agency costs are high when the interests of managers are not in line with the company's owners. In

that case, managers will use high company resources to make decisions for their interests then, it can shrink the company's resources, thus triggering the existence of financial distress (Putri and Erinos, 2020).

V. CONCLUSION

Based on the results of this study, it shows that in calculating financial distress using the Springate method can prove that operating capacity, sales growth, operating cash flow, and leverage have a significant effect on financial distress in manufacturing companies in the consumer goods industry sector listed on IDX in 2019-2021. Meanwhile, managerial agency cost shows no influence on financial distress in manufacturing companies in the consumer goods industry sector listed on IDX in 2019-2021. Based on the research results, Springate method is suitable to be used for normal and ubnormal economic conditions such in Covid-19 pandemic because of using the ratio to predict financial distress on consumer goods industry sector. For further researches, it can be used listed company in other sector companies that use different variable measurement of this research.

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