THE FINANCIAL DISTRESS STRATEGY TO PREDICT THE BANKRUPTCY OF *SOEs* MANUFACTURING CLUSTERS DURING THE COVID-19 PANDEMIC FOR THE FISCAL YEAR 2020-2021

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Abstract

This study aims to test the accounting-based bankruptcy prediction model with real data on Growth Opportunities and Financial Performance. The research focused on one of the state-owned enterprises, namely PT. Barata Indonesia, which is currently experiencing poor performance in meeting its loan obligations due to the impact of the COVID-19 pandemic. Bankruptcy prediction is done using Springate (S-score), Zmijewski (X-score) and Grover (G-score) methods. The results showed that the Springate and Grover method showed that PT. Barata Indonesia is experiencing financial distress, while the Zmijewski method shows the opposite.

Keywords: financial distress, bankruptcy prediction, Growth Opportunities, Financial Performance

INTRODUCTION

Both profit organizations in the private sector (private) and government-owned (State-Owned Enterprises / BUMN) have one thing that they fear the most, namely bankruptcy. The main goal of profit organizations is to maximize the wealth of shareholders or owners (Friedman, 1970), so that the bankruptcy condition means that the organization can no longer carry out its main objectives and must be dissolved. The role of business predicting an organizational bankruptcy becomes important in the financial management of profit organizations. Because if the organization, whether consciously or not, allows the

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condition of financial difficulties, then surely one day, suddenly the company will not make any profit at all. a state-owned company, PT. Barata Indonesia, which has been engaged in manufacturing since 1901, certainly does not want to experience bankruptcy. State-Owned Enterprises were established by the government with the aim of providing benefits to the state, as well as a way for the state to overcome unemployment.

However, the presence of the COVID-19 pandemic is unavoidable, and its impact on almost all sectors of the economy, especially at PT. Barata Indonesia experienced a decline in financial performance due to budget overruns which caused difficulties in paying maturing obligations. While the government of the Republic of Indonesia is running a credit relaxation program, the management of PT. Barata Indonesia is pursuing a debt restructuring strategy and implementing business transformation. PT. Barata Indonesia started in 2016, when it managed to book an operating margin of 7% through its manufacturing business. In order to develop the business, PT. Barata Indonesia has started taking on EPC (Engineering, Procurement, and Construction) projects. The EPC project is a type of project that is more complex than an ordinary construction project because it is an all-in project, in which the design process/design of the system to be built, procurement/purchase of goods and proceeds with building/construction of what has been designed. EPC projects are usually related to the oil and gas industry (oil and gas), power generation and energy. Due to the complexity of this project that requires a large working capital, it will ultimately result in an increase in retention receivables (factoring) to more than 13 times, an increase in Employer's Gross Receipts and an increase in Inventories to more than 400% in the period from 2016 to 2020 Until 2020, PT. Barata Indonesia reached 1.5 trillion rupiah, the fruit of a loan in 2016 of 363 billion rupiah to meet working capital needs. This excess construction cost caused a loss in the 2020 fiscal year report, where the audit results noted that there may be a larger loss due to the accounting recognition of the cost overrun. provision for under-budgeted expenses and provision for any fines or losses on late payment of loans.

The government since the beginning of 2021 has appointed PT. Asset Management Company (Persero) or abbreviated as PPA to be able to help PT. Barata Indonesia is out of the financial problems it faces. Internally, the management of PT. Barata Indonesia has also appointed an independent financial advisor since March 2021 and has started an audit of financial conditions and projections. However, the results of the audit have not provided an overview/financial situation and business activities of PT. Barata Indonesia at this time, so it is necessary to prepare financial projections on a more conservative basis.

The advice given by an independent financial advisor on the results of the financial audit is PT. Barata Indonesia must immediately get a “fresh fund” in order to survive and continue its business activities. In addition, the debt restructuring strategy of PT. Barata Indonesia is advised to use the cash waterfall method based on conservative-based financial projections. This method is declared to be the most suitable method for PT. Barata Indonesia is currently providing fair treatment for creditors.

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However, the results of financial audits, both conducted by PPA and by independent financial advisors, do not explain the predictions of bankruptcy that may be experienced by PT. Barata Indonesia. If it is likened, the results of the financial audit provide directions for the road, but do not provide information on how deep the ravine is on the left and right sides of the road, so that even though the road you are taking is correct, if you are not careful, PT. Barata Indonesia could fall into a very deep abyss.

The advice given by the auditors can implicitly be translated that PT. Barata Indonesia still has the opportunity to develop. Therefore, this research was conducted with the aim of: 1) finding out how the prediction of bankruptcy that might be experienced by PT. Barata Indonesia, so that the management of PT. Barata Indonesia can get input as a consideration in making managerial decisions in the financial sector; 2) knowing the condition of the company's financial performance; and 3) knowing how big the chance of PT. Barata Indonesia to be able to escape from financial difficulties and develop.

METHODS

This study will look at and compare bankruptcy predictions from the perspective of Springate, Zmijewski and Grover bankruptcy prediction methods, growth opportunity by taking into account the ratio of total assets and sales ratios as well as financial performance using ROA, Cash Turnover Ratio and Debt to EBITDA Ratio. The research data is taken from the financial statements of PT. Barata Indonesia in 2020 (published in 2021) and the financial realization of PT. Barata Indonesia for the 2021 fiscal year as of September 2021.

Empirical Studies

Financial Distress

Financial Distress is a process in which the company experiences financial difficulties, so that the company is unable to fulfill its obligations. The company will experience financial distress if the company's operating cash flow is not able to meet short-term obligations such as payment of loan interest that has matured. The greater the obligations of the company, the greater the risk of financial distress.

Causes of Financial Distress

According to Rodoni & Ali (2010:176) in terms of financial conditions, there are three conditions that cause financial distress, including a lack of capital, too much debt and sustaining losses. Each aspect has a relationship so that the balance needs to be maintained so that the company can avoid financial distress until bankruptcy occurs.

Apart from internal aspects, financial distress is also caused by external factors where in recent years the condition of the world economy is still vulnerable and full of risks. Sari (2017) argues that lately a phenomenon caused by an economic slowdown in the second largest economy in the world, namely China. The economic slowdown was due to the continued decline in commodity

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prices and oil prices. In addition, the United States Central Bank's policy of gradually increasing interest rates.

According to Fachrudin (2008), there are several definitions of financial difficulties by type, including the following:

1) Economic Failure
   Economic failure is a condition where the company's income is not enough to cover the total costs, including the cost of capital. This business can still continue its operations as long as creditors are willing to accept a rate of return that is below the market.
2) Business Failure
   Business failure is defined as a business that ceases operations on the grounds of incurring a loss.
3) Technical Insolvency
   A company can be said to be in a state of technical insolvency if a company cannot meet its current obligations when they fall due. The inability to pay debt technically indicates that the company is experiencing a temporary liquidity shortage, which if given some time, the company is likely to be able to pay the debt and interest. On the other hand, if technical insolvency is an early symptom of economic failure, it may be the first stop sign towards bankruptcy.
4) Insolvency in Bankruptcy
   Insolvency in bankruptcy can occur in a company if the book value of the company's debt exceeds the current market value of its assets. This condition can be considered more serious when compared to technical insolvency, because in general it is a sign of economic failure, even leading to business liquidation. Companies that are experiencing this kind of situation need not be involved in a lawsuit for bankruptcy legally.
5) Legal Bankruptcy
   A company can be said to be legally bankrupt if the company makes a formal claim in accordance with applicable laws (Brigham and Gapenski, 1997).

According to Steel's (2020) view, the top ten signs that can indicate financial distress are cash flow problems, default on bills, extended terms, high interest payments, falling margins, increased overhead costs, decreased sales, unusually high accounts receivable, high turnover and moral decline.

Bankruptcy Prediction

The prediction models of bankruptcy due to financial difficulties Altman (1977), Springate (1978), Zmijewski (1984), Grover (2001), Fachrudin (2008) and Salehi & Mousavi (2016) have been widely applied to predict financial distress and financial health. The following is a model of the formula for predicting bankruptcy according to economists:

1. **ALTMAN (1977)**
   Altman took the same number of samples between the two categories (paired sample). The method that was born is called the Altman Z-Score. Until now this method is still widely used in predicting financial distress in companies. The model generated by Altman (Altman et.al., 1977) is formulated as follows:

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$$Zi = 1{,}2\ X_1 + 1{,}4\ X_2 + 3{,}3\ X_3 + 0{,}6\ X_4 + X_5$$

where:
X1 = (*current assets – current liability*) :*total assets*
X2 = (*retained earnings* :*total assets*)
X3 = (EBIT : *total assets*)
X4 = *Market value of equity* :*book value of liability*
X5= *Sales income*/*Total assets*

Companies that score Z above 2.6 are classified as healthy companies, while companies that have Z scores below 1.1 are classified as potentially bankrupt companies. Z scores between 1.1 to 2.6 are classified as vulnerable companies and gray areas.

2. **SPRINGATE (1978)**

The Springate model was developed in 1978 by Gorgon L.V. Springate. In its manufacture, Springate continued the same method as Altman (1968) namely Multiple Discriminant Analysis (MDA) but the samples were different. While Altman uses a sample of companies in America, Springate uses a sample of companies in Canada. After going through the same test as Altman (1968) from the initial ratio of 19 ratios, Springate chose 4 ratios that are believed to be able to distinguish between companies that are in distress and those that are not. The model produced by Springate (1978) is formulated as follows:

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

where:
A = *Working capital : total assets*
B = *Net profit before interest And taxes*: *total assets*
C = *Net profit before taxes*: *current liabilities*
D = *Sales*/*total assets*

Springate stated that the cutoff value that applies to this model is 0.862 with the assessment criteria if:

- The value of S-score < 0.862 indicates that the company is predicted to experience financial distress.
- The value of 0.862 < S-score < 1.062 indicates that the management must be careful in managing the company's assets so that financial distress does not occur (prone areas).
- The S-score >1.062 indicates the company is in a healthy financial condition and has no financial problems.

3. **OHLSON (1980)**

Ohlson in 1980 found seven financial ratios that were able to identify bankrupt companies using logistic regression, where the level of accuracy was close to

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the results of Altman's research. Ohlson (1980) in his research developed a logit model (multiple logistic regression) to build a bankruptcy probability model in predicting bankruptcy. Ohlson argues that this method can cover the shortcomings of the MDA method used by Altman. The resulting model Ohlson (1980) is formulated as follows:

$$O = (-1{,}32) - 0{,}407X_1 + 6{,}03X_2 - 1{,}43X_3 + 0{,}0757X_4 - 2{,}37X_5 - 1{,}83X_6 + 0{,}285X_7 - 1{,}72X_8 - 0{,}521X_9$$

where:
X1 = *log* (*total assets*:*GNP Price Level Index*)
X2 = *Total liabilities*:*total assets*
X3 = *Working capital*/ *total assets*
X4 = *Current liabilities*/ *current assets*
X5 = 1 jika total liabilities > total assets ; 0 jika sebaliknya
X6 = *Net income*/ *total assets*
X7 = *Cash flow from operations*/ *total liabilities*
X8 = 1 jika Net income negatif ; 0 otherwise
X9 = (NIt – NIt-1) : (NIt + NIt-1) where NIt is net income for the current period

Ohlson stated that this model has an optimal cut off point of 0.38. This cut off value was chosen because with this value, the number of errors can be minimized. Companies that have an O-score of more than 0.38 are predicted to go bankrupt. On the other hand, if the O-score is less than 0.38, the company is predicted not to go bankrupt.

1. ZMIJEWSKI (1984)

Zmijewski (1984) criticized that the matched-pair sampling technique tends to create bias in the results of his predecessor's research, so he used random sampling in his research.
Zmijewski (1984) requires that the proportion of the sample and population must be determined at the beginning, so that the magnitude of the frequency of financial distress is obtained by dividing the number of samples experiencing financial distress by the total number of samples. The model produced by Zmijewski (1984) is formulated as follows:

$$X = -4.3 - 4.5\ X_1 + 5.7\ X_2 + 0.004\ X_3$$

where:
X1 = ROA (*Net income*: *total assets*)
X2 = *Leverage* (*Total debt*/*total assets*)
X3 = *Liquidity* (*Current assets*/*current liabilities*)

Nilai cutoff yang berlaku dalam model ini adalah 0.Zmijewski (1984) menyatakan bahwa perusahaan dianggap mengalamifinancial distress jika nilai

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X-nya lebih besar dari atau sama dengan 0. Sebaliknya, perusahaan yang memiliki nilai X lebih kecil dari 0 diprediksi tidak akan mengalami financial distress.

5. GROVER (2001)

The Grover model is a model created by designing and reassessing the Altman model (Z-Score). Jeffrey S. Grover (2001) used a sample according to Altman's 1968 model, adding thirteen new financial ratios. The model produced by Grover (2001) is formulated as follows:

$$\text{G-Score} = 1{,}650X_1 + 3{,}404X_2 - 0{,}016ROA + 0{,}057$$

where:
X1 = *Working capital*: *total assets*
X2 = *Earnings before interest and taxes*: *total assets*
ROA = *Net income*: *total assets*

Grover's model classifies companies with a score of G -0.02 as predicted to experience bankruptcy. Meanwhile, G 0.01 is predicted as a healthy company or not potentially going bankrupt.

Growth Opportunities

Growth opportunity is defined by Brigham & Houston (2006) as an opportunity for a company to grow in the future. Prihantoro (2003) revealed that the higher the growth rate of a company, the greater the level of funding needed to finance expansion. Companies with high growth rates will try to increase their fixed assets so that they need more funds in the future, but still have to be able to maintain their profit levels. As a result, retained earnings will increase and the company will tend to owe more to maintain its debt ratio. The greater the need for funds in the future, the more likely the company will retain profits and not pay them as dividends. Therefore, the company's growth potential becomes an important factor that determines dividend policy. Fast companies tend to use more debt than companies that have slower growth (Brighan and Houston, 2011: 189). The use of debt is used to meet larger company activities as the company grows. Company growth is the impact on the flow of company funds from operational changes caused by growth or increase in business volume. The company's growth is also the company's ability to increase the size and can show the company's financial performance (Widia, 2014)

Brigham & Houston (2006) menjelaskan bahwa Growth Opportunity perusahaan Go Public dapat dilihat dari Price Earnings Ratio (PER), yang diukur melalui rasio harga penutupan per lembar saham dibagi dengan Earnings Per Share (EPS). Growth opportunity juga dapat diukur dengan menggunakan persentase penjualan dan perubahan aktiva. Sementara bagi perusahaan yang belum Go Public, Sudarmika dan Sudarman (2015) menyatakan bahwa Growth Opportunities dapat pula diukur dengan rasio antara selisih total aset pada tahun berjalan (t) dan total aset tahun sebelumnya (t-1) dibagi dengan total aset tahun sebelumnya (t-1). Sedangkan Menurut Mai (2006) dan Mas'ud (2009) pengukuran

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Growth Opportunity dapat dilakukan melalui perubahan total penjualan perusahaan dari tahun sebelumnya.

Financial Performance

To be able to know that a company has good quality, there are two most dominant assessments that can be used as a reference, namely an assessment by looking at the financial performance and non-financial performance. Financial performance refers to the company's financial statements from information on the balance sheet, income statement, statement of changes in equity and cash flow statement.

According to the Indonesian Institute of Accountants, financial performance is defined as the company's ability to process and control its resources. In general, financial performance can be measured by 4 types of ratios, namely liquidity ratios, activity ratios, financial leverage ratios and profitability ratios.

RESULTS AND DISCUSSION

Bankruptcy Prediction

Bankruptcy prediction using the Altman Model is not used in this study because the Altman model also takes into account the Market value of equity, in which PT Barata Indonesia is not a Go Public company, so it does not have a Market value of equity. Bankruptcy Prediction with Springate Method (S-score). The S-score formula is:

S = 1.03 A + 3.07 B + 0.66 C + 0.4 D

where:
A = Working capital : total assets
B = Net profit before interest And taxes: total assets
C = Net profit before taxes: current liabilities
D = Sales/total assets

The cutoff value that applies to this model is 0.862 with the assessment criteria if:
S-score < 0.862 indicates that the company is predicted to experience financial distress.
The value of 0.862 < S-score < 1.062 indicates that the management must be careful in managing the company's assets so that financial distress does not occur (prone areas).
An S-score >1.062 indicates that the company is in a healthy financial condition and has no financial problems.

So that the prediction of the bankruptcy of PT. Barata Indonesia using the S-score method are:

- Fiscal Year 2020

$$S\text{-}score = 1.03A + 3.07B + 0.66C + 0.4D$$

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= {1,03 *x* ([2.327,4 - 3.303,6]: 3.689,3)} + {3,07 *x*(-291,8 : 3.689,3)} + {0,66 *x*(-291,8 : 3.303,6)} + {0,4 *x* (1.371,3 : 3.689,3)}
= {1,03 *x*-0,26} + {3,07 *x*-0,079} + {0,66 *x*-0,088} + {0,4 *x* 0,371}
= -0,2678 + -0,2425 + -0,0580 + 0,1484
= -0,4199

- Realization of Fiscal Year 2021

S-score = 1.03 *A* + 3.07 *B* + 0.66 *C* + 0.4 *D*
= {1,03 *x* ([2.649,0 - 3.503,2]: 3.931,7)} + {3,07 *x*(-146,7 : 3.931,7)} + {0,66 *x*(-146,7 : 3.503,2)} + {0,4 *x* (514,2 : 3.931,7)}
= {1,03 *x*-0,217} + {3,07 *x*-0,037} + {0,66 *x*-0,041} + {0,4 *x* 0,130}
= -0,2235 + -0,1136 + -0,027 + 0,05
= -0,3141

S-score PT. Barata Indonesia in the 2020 and 2021 (current) fiscal years are all lower than the cut off value of 0.862, so it can be concluded that PT. Barata Indonesia is predicted to experience financial distress. However, if viewed on a timeline, the S-score in the 2021 (current) fiscal year has increased compared to the 2020 fiscal year, so it can be seen that the efforts to save PT. Barata Indonesia that has been carried out has produced a positive impact.

Bankruptcy Prediction with Zmijewski Method (X-score)
The S-score formula is:

X = 4.3 4.5 X1 + 5.7 X2 + 0.004 X3

where:
X1 = ROA (Net income: total assets)
X2 = Leverage (Total debt/total assets)
X3 = Liquidity (Current assets/current liabilities)

A company is considered to be in financial distress if its X-score is greater than or equal to 0. On the other hand, a company that has an X value of less than 0 is predicted to experience financial distress.
So that the prediction of the bankruptcy of PT. Barata Indonesia using the X-score method are:

- Fiscal Year 2020

X-score = −4.3 − 4.5 X_1 + 5.7 X_2 + 0.004 X_3
= −4.3 − { (4.5 *x*(-306,9 : 3.689,3))+ (5.7*x*(3.870,4 :3.689,3)) + 0.004 *x* (2.327,4 : 3.303,6))
= −4.3 − { (4.5 *x*(0,083))+ (5.7*x*(1,049)) + 0.004 *x* (0,7045))
= −4.3 − { (0,3743+ 5.9+0,0028)
= -4,3 - 5,554

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= -9,854

 Realization of Fiscal Year 2021

X-score = $-4.3 - 4.5\ X_1 + 5.7\ X_2 + 0.004\ X_3$
= −4.3 − { (4.5 *x*(-155,3 : 3.931,7))+ (5.7*x*(4.058,0 :3.931,7)) + 0.004 *x* (2.649,0 : 3.503,2))
= −4.3 − { (4.5 *x*(0,0394))+ (5.7*x*(1,032)) + 0.004 *x* (0,7050))
= −4.3 − { (0.178+ 5.88+0,0028)
= -4,3 - 5,650
= -9,95

X-score PT. Barata Indonesia in the 2020 and 2021 (current) fiscal years are all lower than the cut off value of "0", so it can be concluded that PT. Barata Indonesia is predicted not to experience financial distress. However, if viewed on a timeline, the S-score in the 2021 (current) fiscal year experienced an increase in financial performance compared to the 2020 fiscal year.

Bankruptcy Prediction using the Grover Method (G-score)
The S-score formula is:

G-Score = 1.650X1 + 3.404X2 0.016ROA + 0.057

where:
X1 = Working capital: total assets
X2 = Earnings before interest and taxes: total assets
ROA = Net income: total assets

Grover's model classifies companies with a score of G -0.02 as predicted to experience bankruptcy. Meanwhile, G 0.01 is predicted as a healthy company or not potentially going bankrupt. So that the prediction of the bankruptcy of PT. Barata Indonesia using the G-score method are:

 Fiscal Year 2020

G-Score = $1{,}650X_1 + 3{,}404X_2 - 0{,}016ROA + 0{,}057$
= {1,650*x*([2.327,4-3.303,6] : 3.689,3)} + {3,404*x*(-291,8 : 3.689,3) − 0,016*x* (-306,9 : 3.689,3) + 0,057
= 1,650*x* -0,264 + 3,404*x*(-0,063) − 0,016*x* (-0,083) + 0,057
= (-)0,436 + (-)0,214 − (-)0,0013 + 0,057
= -0,5948

 Realization of Fiscal Year 2021

G-Score = $1{,}650X_1 + 3{,}404X_2 - 0{,}016ROA + 0{,}057$
= {1,650*x*([2.649,0 - 3.503,2] : 3.931,7)} + {3,404*x*(-146,7 : 3.931,7) − 0,016*x* (-155,3 : 3.931,7) + 0,057
= 1,650*x* -0,217 + 3,404*x*(-0,037) − 0,016*x* (-0,039) + 0,057
= (-)0,358 + (-)0,1259 − (-)0,0006 + 0,057

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= -0,4276

G-score PT. Barata Indonesia in the 2020 and 2021 (current) fiscal years are all lower than the cut off value of -0.02, so it can be concluded that PT. Barata Indonesia is predicted to experience financial distress. However, when viewed on a timeline, the S-score in the 2021 (current) fiscal year has increased compared to the 2020 fiscal year, so it can be seen that the efforts to save PT. Barata Indonesia that has been carried out has produced a positive impact.

GROWTH OPPORTUNITIES

Measurement of company growth opportunities is carried out through two models, namely:

Total Asset Ratio

The Total Asset Ratio formula is:

$$GO = \frac{Total\ Asset_t - Total\ Asset_{t-1}}{Total\ Asset_{t-1}}$$

The company is considered to have increased assets if the value of the ratio of total assets is greater than zero. On the other hand, companies that have a ratio of total assets less than 0 experience a reduction in assets which is usually done to pay their obligations.

So that the ratio of the total assets of PT. Barata Indonesia are:

- Fiscal Year 2020

  GO = (3.689,3- 4.089,8) :4.089,8
  = -0,0979
  = -9,79%

- Fiscal Year 2021

  GO = (4,833.4- 3,689.3) :3,689,3
  = 0.310
  = 31%

Sales Ratio

The Sales Ratio Formula is:

$$GO = \frac{Total\ Penjualan_t - Total\ Penjualan_{t-1}}{Total\ Penjualan_{t-1}}$$

The company is considered to have experienced a good increase in sales if the value of the sales ratio is in a positive position. On the other hand, the company is declared to experience a decrease in sales compared to the previous year if the sales ratio is negative.

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So that obtained Sales Ratio of PT. Barata Indonesia are:

- Fiscal Year 2020

  GO = (1,371.3- 2.080.8) :2.080,8
  = -0.3409
  = -34.09%

- Fiscal Year 2021

  GO = (1,901.4- 1,371,3) :1.371,3
  = 0.3865
  = 38.65%

FINANCIAL PERFORMANCE

Financial performance measurement is carried out using 3 ratios, namely: ROA, Cash Turnover Ratio and Debt to EBITDA Ratio

Return on Assets (ROA)

The Ratio on Assets formula is:

$$ROA = \frac{Net\ Income}{Total\ Aset} 100\%$$

The company is considered to have a good asset return ratio if the ROA value is positive. Conversely, a company that has an ROA value less than 0 means that the company is unable to return the use of its assets.

So that the ROA value of PT. Barata Indonesia are:

- Fiscal Year 2020

  ROA = -306.9 :3.689.3 . 100%
  = -0.0831. 100%
  = -8.31%

- Fiscal Year 2021

  ROA = 1,901.4 :4,833.4
  = 0.3934 . 100%
  = 39.34%

Cash Turnover Ratio

The formula for the Cash Turnover Ratio is:

$$GO = \frac{Penjualan\ Bersih}{Aset\ Lancar\ -\ Hutang\ Lancar}$$

The company is considered to be running well if the value of the Cash Turnover Ratio shows a positive number. On the other hand, a company that has a Cash Turnover Ratio value less than 0 is declared to have a very slow cash turnover. Meanwhile, the increase in the value of the Cash Turnover Ratio from the following year shows that the company's condition is getting better, and vice versa

So that the value of the Cash Turnover Ratio of PT. Barata Indonesia are:

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 Fiscal Year 2020
CTR = 1371,3 : (2,327.4- 3,303.6)
= -1.4047
 Fiscal Year 2021
CTR = 1,901.4 :(3,591.9 - 3,918.7)
= -5.818

Debt to EBITDA Ratio
The formula for Debt to EBITDA Ratio is:

$$GO = \frac{Total\ Kewajiban}{\text{EBITDA}}$$

If the value of this ratio is lower than the previous year, then the risk of default is decreasing, and vice versa if the value is higher than the previous year, then the condition of the company has greater debt obligations than its profitability.
So the value of the Debt to EBITDA Ratio of PT. Barata Indonesia are:
 Fiscal Year 2020
CTR = 3,870.4 : -132.8
= -29.1445
 Fiscal Year 2021
CTR = 4.121.7 :220.8
= 18.6671

CONCLUSION

Based on the calculation of bankruptcy prediction according to the Springate and Grover method, it is concluded that PT. Barata Indonesia is predicted to go bankrupt until 2022. However, the calculation of bankruptcy prediction according to the Zmijewski method states otherwise. While the results of the calculation of growth opportunities, both from the point of view of total assets and sales, it appears that the condition of PT. Barata Indonesia is getting better, where PT. Barata Indonesia managed to maintain its assets and increase sales.

Measurement of financial performance of PT. Barata Indonesia, from the ROA point of view, it was found that the profit earned has increased considerably, because in 2020 the ROA value will get a minus number while in 2021 it will get a double-digit positive number. From the point of view of cash flow, the condition of PT. Barata Indonesia experienced a decrease in the speed of cash flow turnover, perhaps due to the prudence of the management of PT. Barata Indonesia in managing their obligations. However, from the perspective of the Debt to EBITDA Ratio, it can be seen that in 2021, PT. Barata Indonesia has a huge obligation that must be resolved immediately. This may sound bad but from a different perspective it can be interpreted that there are possibilities of various

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EPC projects that have been continued and thus require a large amount of working capital.

It can be concluded that although in a fairly critical financial distress condition (based on the measurement of 3 bankruptcy prediction models), PT. Barata Indonesia still has the opportunity to rise and grow again, of course with more careful financial performance management.

2. Research Limitations

There is still little research on this topic, because it occurred during the COVID-19 pandemic. However, this research was only conducted in BUMN, the influence of bankruptcy pressure does not only occur in BUMN but also occurs in private companies. For future research, it is recommended to also include private companies.

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