

# FINANCIAL DISTRESS IN THE MINING INDUSTRY IN SOUTHEAST ASIA: Revealing Potential Occurrence Through Financial Ratios

**Dinda Azzahra**

*azzahradinda26@gmail.com*

**Yunus Harjito**

*yunus.harjito@gmail.com*

**Agus Endrianto Suseno**

*agusendriantos@gmail.com*

**Universitas Setia Budi**

## **ABSTRACT**

*This study aims to reveal the potential for financial distress in the mining industry in Southeast Asia through financial ratios, namely profitability ratios, liquidity ratios, leverage ratios, and operating capacity ratios. Determination of financial distress is done by using the highest value accuracy between S-Score and Z-Score. The population used is mining companies listed on the Stock Exchange in Southeast Asia for the 2017-2019 period. The sample was obtained by purposive sampling method with a total of 140 samples consisting of 84 companies. The data analysis technique used in this study uses panel data regression analysis with software eviews 9. The results show that the liquidity ratio and leverage ratio have a negative effect on the potential for financial distress, while the operating capacity ratio has a positive effect on the potential for financial distress. However, the profitability ratios that are thought to affect the potential for financial distress are not proven.*

**Keywords: Financial Distress, Profitability, Liquidity, Leverage, and Operating Capacity.**

## **1. INTRODUCTION**

The company's ability to show the company's financial condition can be determined based on the company's performance. Companies that have improved performance can survive and can even compete with other companies because the company's financial condition is in a healthy state. However, the opposite happens if the company's performance continues to decline, the company will potentially experience bankruptcy or often referred to as financial distress. Platt and Platt (2002) explain that financial distress is a critical or unhealthy condition in a company's financial condition. The initial symptom in the company is that there is financial difficulty which is one indicator of a company heading for bankruptcy (financial distress).

One of the causes of financial distress is the existence of various errors in the company, inappropriate manager decisions, weaknesses related to company management, and lack of supervision over the use of company funds (Brigham and Daves, 2016). The potential for financial distress can be minimized by making predictions and analysis through financial reports and financial ratios (Harahap, 2018). Companies can use the analysis of these financial statements for planning and implementing strategies to survive and thrive in competition between companies.

The potential for financial distress is very large in mining companies. This is due to very fast price fluctuations that occur in the company. Such is the phenomenon that occurred in oil prices which showed a decline in prices to the level of US\$ 50 (May, 2017). The main trigger for this phenomenon was the energy revolution in the United

States which caused a boom in oil supply. In addition, the drop in oil prices was also caused by the Organization of the Petroleum Exporting Countries (OPEC) maintaining its production level at the end of November 2016 in order to suppress new industry players who maintain market share and without limiting oil production at all.

The trade war between the United States and China has also become one of the triggers for the turmoil in mining companies. Each country issued a policy against the imposition of import duties on several commodities (including energy commodities: crude oil and coal). On June 19, 2018, the price of light sweet oil fell 0.99% to US\$65.20/barrel, the price of Brent oil also fell 1.02% to US\$74.57/barrel, and coal prices also fell 0.18% to US\$110.62/metric ton (Prakoswa, 2018).

This study wants to reveal the potential for financial distress as seen from the analysis of financial ratios in mining companies listed on the Stock Exchange in Southeast Asia by using financial distress proxies that have been through an accuracy test to determine the most appropriate proxy used to measure the potential for financial distress.

## **2. LITERATURE REVIEW**

Financial distress is a condition where the company's finances are experiencing difficulties. Another definition also explains that financial distress is a condition in which the company experiences financial difficulties due to various errors in the company, inappropriate manager decisions, weaknesses related to the company's management, and lack of supervision over the use of company funds so that the funds used are not appropriate with the required funds (Brigham and Daves, 2016).

The prediction models used to analyze the potential for financial distress are the Modified Altman Z-Score model and the Springate S-Score model. Altman (1995) found four types of financial ratios that can be combined to see the difference between companies that have the potential to experience financial distress and those that do not have the potential to experience financial distress. The four financial ratios include working capital to total assets, retained earnings to total assets, earnings before interest and taxes, and market value of equity to book value of total debt.

The Springate model was discovered by Gordon L.V Springate (1978) whose function is used to evaluate the probability of a company from going bankrupt. This model is the development of the Altman method using multiple discriminant analysis (MDA). Initially, this method used 19 financial ratios, but after re-testing, Springate finally chose 4 ratios that were used in determining the criteria for companies that were included in the category of companies that did not have the potential to experience financial distress or companies that had the potential to experience financial distress (Wulandari, 2012). The four ratios are the ratio of working capital to total assets, the ratio of profit before interest and taxes to total assets, the ratio of profit before tax to total current liabilities, and the ratio of total sales to total assets.

Analysis using ratios can indeed show better results and is easier to understand. Financial ratio analysis can be used to evaluate the company's financial condition and performance. According to Hery (2016), financial ratios are a ratio calculation using financial statements as a measuring tool used to assess the financial condition and performance of the company. In this study, the financial ratios used are profitability ratios, liquidity ratios, leverage ratios, and operating capacity ratios.

Fahmi (2014) explains that the profitability ratio is a ratio that measures the overall management effectiveness, which is indicated by how much profit is earned through sales and investment. This study uses a proxy for return on assets (ROA) to measure profitability. A low ROA ratio indicates the company is unable to use its assets to generate profits from sales and investments made by the company and indicates the

company has the potential to face greater financial distress. Previous research has shown that profitability has an effect on financial distress (Arini, 2010; Hidayat and Meiranto 2014), but the results of this study contradict the research conducted by Ardian (2017). Based on the description above, the following hypothesis can be formulated:

*H<sub>1</sub>: Profitability ratios have a negative effect on the potential for financial distress.*

The company's ability to settle its short-term obligations can be measured by the liquidity ratio as proxied by the current ratio. The current ratio is a ratio that shows the company's ability to meet its short-term financial obligations by using its current assets (Hapsari, 2012). The company is in a liquid state if the company has payment instruments or current assets that are greater than its current liabilities and is able to meet its financial obligations on time. If the company does not add short-term debt and excess current assets, which is indicated by cash and cash equivalents from retained earnings, the company will not experience problems with liquidity.

With a high level of liquidity, the company has a tendency to avoid potential financial distress in the future (Azwar, 2015). This is supported by research conducted by Hapsari (2012), but not supported by research by Baimwera and Muriuki (2014). Based on the description above, the following hypothesis can be formulated:

*H<sub>2</sub>: The liquidity ratio has a negative effect on the potential for financial distress.*

The leverage ratio is used to measure how large the company's assets are funded by debt. Kasmir (2016), explains that the leverage ratio is a ratio used to measure the extent to which the company's debt finances the assets owned by the company. High leverage transactions are the reason companies have the potential to experience financial distress (Waznah et al., 2015). If the company uses more external funds in its funding, especially through the use of debt, it will increase the company's leverage level. If the level of debt or the company's leverage is higher, this will have an impact on the company's financial condition in the future and the performance capability of the company that is unable to pay off its debts, the company will potentially experience financial distress. This means that the higher the company's leverage, the higher the company's potential for financial distress. This is supported by research conducted by Hanifah and Purwanto (2013), Marfungatun (2017), but is not supported by the research of Putri and Merkusiwati (2014). Based on the description above, the following hypothesis can be formulated:

*H<sub>3</sub>: The leverage ratio has a positive effect on the potential for financial distress.*

The process of analyzing the quality of reported earnings can be done with the operating capacity ratio or also often referred to as the activity ratio. The operating capacity ratio or activity ratio is used to assess whether a company is effective in generating sales with assets in order to create the accuracy of a company's operational performance (Atika et al., 2012). Companies that use their assets effectively in their ability to make sales are expected to provide greater profits for the company. This shows that the possibility of potential financial distress will be smaller due to the better financial performance obtained by the company. Kusanti (2015) and Alifiah et al. (2013) explained that operating capacity has an effect on financial distress. However, it is different from the research conducted by Sari (2015) which states otherwise. Based on the description above, the following hypothesis can be formulated:

*H<sub>4</sub>: The operating capacity ratio has a negative effect on the potential for financial distress.*

From the description of the hypothesis described above, the research model can be made as follows:

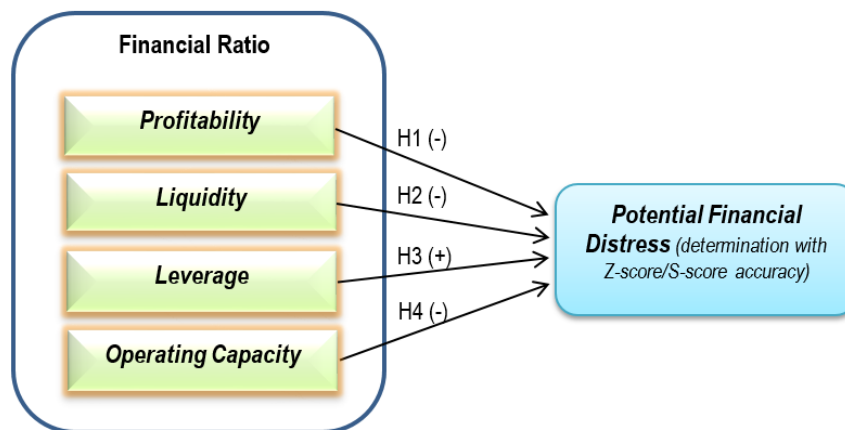


Figure 1. Research Model

### 3. RESEARCH METHOD

#### 3.1 Population, Sample and Data Collection Techniques

This research is a quantitative research using purposive sampling technique. The population in this study are mining companies listed on the Stock Exchange in Southeast Asia. The sample used in this study were companies in the mining sector listed on the Indonesia, Malaysia, Singapore, Vietnam and Philippines Stock Exchanges with the following criteria determined:

- Mining companies listed on the Stock Exchange in Southeast Asia.
- Publish financial reports on the Stock Exchange or the website of each company.
- The required data related to the variables in this study are available in full.

#### 3.2 Operational Definition and Measurement of Variables

The dependent variable used in this study is financial distress and there are four independent variables used in this study, namely profitability, liquidity, leverage, and operating capacity. In detail, the description and measurement of the variables used can be explained as follows:

Table 1. Operational Definition and Measurement of Variables

Variable	Definition	Measurement
Financial Disteress	is a condition in which the company experiences financial difficulties due to various errors in the company, inappropriate manager decisions, weaknesses related to company management, and lack of supervision over the use of company funds so that the funds used are not in accordance with the funds needed (Brigham and Daves, 2016).	Measured using two (2) models, namely: 1. Altman Model (Z-Score) with the formula: $Z = 6,56 X1 + 3,26 X2 + 6,72 X3 + 1,05 X4$ X1 = Working Capital to Total Assets X2 = Retained Earning to Total assets X3 = Earning Before Interest and Taxes to Total Assets X3 = Earning Before Interest and Taxes to Total Assets If $Z > 2,60$ = no potential to experience financial distress If $Z < 1,1$ = experiencing financial distress If $1,1 < Z < 2,60$ = prone to financial distress (grey area). 2. Springate Model (S-Score) with the formula: $S = 1,03A + 3,07B + 0,66C + 0,4D$ A = Working Capital/Total Asset B = Net Profit Before Interest and Taxes/Total Asset C = Net Profit Before Taxes/Current Liabilities D = Sales / Total Asset If $S < 0,862$ then the company is classified as "failed" (Springate, 1978).
Profitability (ROA)	is a ratio that measures the overall management effectiveness, which is	<b><i>Earning Before Interest and Tak</i></b> <b><i>Total Asset</i></b>

Variable	Definition	Measurement
	indicated by how much profit is earned through sales and investment.	
Liquidity (CR)	is a ratio that shows the company's ability to meet its short-term financial obligations by using its current assets.	$\frac{\text{Current Assets}}{\text{Current Liabilities}}$
Leverage (DR)	is the ratio used to measure the extent to which the company's debt finances the assets owned by the company.	$\frac{\text{Total Debt}}{\text{Total Asset}}$
Operating Capacity (TATR)	is the ratio used to assess whether a company is effective in generating sales with assets in order to create the accuracy of a company's operational performance.	$\frac{\text{Sales}}{\text{Total Asset}}$

## 4. RESULTS AND DISCUSSION

### 4.1 Research Results

#### Results of Analysis Level of Accuracy Model

Analysis of the accuracy of the model is carried out to find out what model will be used in this study. The first step in the accuracy test is to calculate the financial ratios of each predictive model to calculate the score of each model based on its cut-off value. Based on the Z-Score model, the company is classified as potentially experiencing financial distress if the cut-off value  $Z < 1.1$ , the company is classified as potentially prone to experiencing financial distress or is in the gray area if the cut-off value is  $1.1 < Z < 2.60$ , and the company is classified as not having the potential to experience financial distress or in good health if the cut-off value of  $Z > 2.60$ . The prediction results of the Z-Score model are listed in table 1 below:

**Table 2. Prediction Results of Z-Score Model**

	Z-Score Model								
	Potential financial distress			Grey Area			Healthy		
	2017	2018	2019	2017	2018	2019	2017	2018	2019
<b>Indonesia</b>	18	16	19	11	11	12	13	15	11
<b>Singapore</b>	2	2	2	0	2	2	7	5	5
<b>Philippines</b>	1	1	1	1	1	4	6	6	3
<b>Vietname</b>	7	8	8	2	1	1	3	3	3
<b>Malaysia</b>	4	5	3	1	2	4	8	6	6

Based on the S-Score model, the company is classified as potentially experiencing financial distress if the cut-off value of  $S < 0.862$  and the company is classified as not having the potential to experience financial distress or in good health if the cut-off Z value is  $> 0.862$ . The prediction results of the S-Score model are listed in the following table:

**Table 3. Prediction Results of S-Score Model**

Country	S-Score Model					
	Potential financial distress			Healthy		
	2017	2018	2019	2017	2018	2019
<b>Indonesia</b>	25	23	24	17	19	18
<b>Singapore</b>	3	3	4	6	6	5
<b>Philippines</b>	4	6	5	4	2	3
<b>Vietname</b>	8	6	6	4	6	6
<b>Malaysia</b>	8	8	9	5	5	4

The next step is to calculate the accuracy of the prediction model between the Z-Score model and the S-Score model. The level of accuracy is calculated by the formula for the number of companies that have the potential to experience financial distress divided by

the number of samples and presented in percent. The results of the calculation of the level of accuracy between the Z-Score and S-Score models are listed below:

**Table 4. Level of Accuracy Z-Score and S-Score Models**

Country	Z-Score			Average	S-Score			Average
	2017	2018	2019		2017	2018	2019	
<b>Indonesia</b>	43%	38%	45%	42%	60%	55%	57%	57%
<b>Singapore</b>	22%	22%	22%	22%	33%	33%	44%	37%
<b>Philippines</b>	13%	13%	13%	13%	50%	75%	63%	63%
<b>Vietname</b>	58%	67%	67%	64%	67%	50%	50%	56%
<b>Malaysia</b>	31%	38%	23%	31%	62%	62%	69%	64%
<b>Average Accuracy Level</b>				<b>34%</b>				<b>55%</b>

The table above shows that the average accuracy rate of the Z-Score model from 5 countries is 34% and the average accuracy rate of the S-Score model from 5 countries is 55%. Based on the results obtained, in this study the researcher will use the S-Score model as a predictive model for potential financial distress because the S-Score model has a higher level of accuracy than the Z-Score model.

### The Result of Different Test

This study also examines the difference test as additional information whether there are differences seen from the point of view of each variable contained in this study for each mining company registered in the countries in Southeast Asia that are sampled in this study. The first step is to test the normality of the data in this study. The next step is to choose a test method for the difference test.

**Table 5. Mann-Whitney U Test**

Country	Asymp. Sig. (2-tailed)				
	S-Score	ROA	CR	DR	TATR
<b>Indonesia – Singapore</b>	0,292	0,770	0,001	0,467	0,816
<b>Indonesia – Philippines</b>	0,237	0,067	0,056	0,000	0,000
<b>Indonesia – Vietname</b>	0,226	0,153	0,001	0,012	0,000
<b>Indonesia – Malaysia</b>	0,085	0,222	0,050	0,980	0,606
<b>Singapore – Philippines</b>	0,131	0,365	0,850	0,023	0,000
<b>Singapore – Vietname</b>	0,978	0,341	0,000	0,041	0,001
<b>Singapore – Malaysia</b>	0,125	0,593	0,000	0,486	0,886
<b>Philippines – Vietname</b>	0,028	0,028	0,008	0,000	0,000
<b>Philippines – Malaysia</b>	0,037	0,408	0,007	0,000	0,000
<b>Vietname – Malaysia</b>	0,114	0,046	0,525	0,018	0,016

#### 1) Different Test of S-Score

Based on the results of the Mann-Whitney U Test for the S-Score variable, it can be seen that there is a difference for the S-Score variable for each mining company listed on the stock exchange in Southeast Asia because the significance value is less than 0.05. The countries that have differences for the S-Score variable include the Philippines and Vietnam, and the Philippines and Malaysia.

In addition, it can also be seen that there is no difference for the S-Score variable for each mining company listed on the stock exchange in Southeast Asia because the significance value is greater than 0.05. The countries that do not have differences for the S-Score variable include Indonesia with Singapore, Indonesia with the Philippines, Indonesia with Vietnam, Indonesia with Malaysia, Singapore with the Philippines, Singapore with Vietnam, Singapore with Malaysia, and Vietnam with Malaysia.

#### 2) Return On Assets (ROA)

Based on the results of the Mann-Whitney U Test for the ROA variable, it can be seen that there are differences for the ROA variable in each mining company listed on the stock exchange in Southeast Asia because the significance value is less than 0.05.

The countries that have differences for the ROA variable include the Philippines and Vietnam, and Vietnam and Malaysia.

In addition, it can also be seen that there is no difference for the ROA variable for each mining company listed on the stock exchange in Southeast Asia because the significance value is greater than 0.05. The countries that do not have differences in ROA variables include Indonesia and Singapore, Indonesia and the Philippines, Indonesia and Vietnam, Indonesia and Malaysia, Singapore and the Philippines, Singapore and Vietnam, Singapore and Malaysia, and the Philippines with Malaysia.

### 3) Current Ratio (CR)

Based on the results of the Mann-Whitney U Test for the CR variable, it can be seen that there are differences for the CR variable in each mining company listed on the stock exchange in Southeast Asia because the significance value is less than 0.05. The countries that have differences for the CR variable include Indonesia and Singapore, Indonesia with Vietnam, Indonesia with Malaysia, Singapore with Vietnam, Singapore with Malaysia, Philippines with Vietnam, and the Philippines with Malaysia.

In addition, it can be seen that there is no difference for the CR variable for each mining company listed on the stock exchange in Southeast Asia because the significance value is greater than 0.05. The countries that do not have differences for the CR variable are, among others, Indonesia and the Philippines, Singapore and the Philippines, and Vietnam and Malaysia.

### 4) Debt Ratio (DR)

Based on the results of the Independent Sample t-Test difference test for the DR variable, it can be seen that there are differences for the DR variable in each mining company listed on the stock exchange in Southeast Asia because the significance value is less than 0.05. The countries that have differences for the DR variable include Indonesia and the Philippines, Indonesia and Vietnam, Singapore with the Philippines, Singapore with Vietnam, Singapore with Malaysia, Philippines with Vietnam, Philippines with Malaysia and Vietnam with Malaysia.

In addition, it can be seen that there is no difference for the DR variable for each mining company listed on the stock exchange in Southeast Asia because the significance value is greater than 0.05. The countries that do not have differences for the DR variable are, among others, Indonesia and Singapore, Indonesia and Malaysia, and Singapore and Malaysia.

### 5) Total Assets Turnover Ratio (TATR)

Based on the results of the Mann-Whitney U Test for the TATR variable, it can be seen that there are differences for the TATR variable in each mining company listed on the stock exchange in Southeast Asia because the significance value is less than 0.05. The countries that have differences in the TATR variable are, among others, Indonesia and the Philippines, Indonesia and Vietnam, Singapore and the Philippines, Singapore and Vietnam, the Philippines and Vietnam, the Philippines and Malaysia, and Vietnam and Malaysia.

In addition, it can also be seen that there is no difference for the TATR variable for each mining company listed on the stock exchange in Southeast Asia because the significance value is greater than 0.05. The countries that do not have differences for the TATR variable are, among others, Indonesia and Singapore, Indonesia and Malaysia, and Singapore and Malaysia.

## **Hypothesis Test Results (t test)**

The following are the results of the partial test (t test) based on the fixed effect model:

**Tabel 6. Hypothesis Test Results (t test)**

<b>Variable</b>	<b>Coefficient</b>	<b>t-Statistic</b>	<b>Prob.</b>
C	2,713072	5,433751	0,0000
Return On Assets	2,630503	1,628631	0,1047
Current Ratio	-0,262261	-16,25692	0,0000
Debt Ratio	-3,628184	-4,532173	0,0000
Total Assets Turnover Ratio	0,488394	2,10779	0,0361
R-squared			0,550206
Adjusted R-squared			0,542922
F-statistic			75,53512
Prob(F-statistic)			0,0000

Based on the table above, it is known that the significance probability of the profitability ratio has a t statistic of 1.628631 with a significance value of 0.1047. This shows that the significance value is greater than 0.05, which means that the profitability ratio has no effect on the potential for financial distress, so hypothesis 1 which states that the profitability ratio has a negative effect on the potential for financial distress is rejected. With the rejection of the hypothesis in this study, it can be concluded that the profitability ratio does not affect the potential for financial distress in mining companies listed on the Stock Exchange in Southeast Asia for the 2017-2019 period.

The liquidity ratio has a t statistic of -16.25692 with a significance value of 0.0000. This shows that the significance value is less than 0.05, which means that the liquidity ratio has an effect on the potential for financial distress, so hypothesis 2 is accepted. With the acceptance of the hypothesis in this study, it can be concluded that the liquidity ratio affects the potential for financial distress in mining companies listed on the Stock Exchange in Southeast Asia for the 2017-2019 period.

The leverage ratio has a t statistic of -4.532173 with a significance value of 0.0000. This shows that the significance value is less than 0.05 which means that the leverage ratio has a negative effect on the potential for financial distress, so hypothesis 3 which states that the leverage ratio has a positive effect on the potential for financial distress is rejected. With the rejection of the hypothesis in this study, it can be concluded that the leverage ratio has a significant positive effect on the potential for financial distress in mining companies listed on the Stock Exchange in Southeast Asia for the 2017-2019 period.

The ratio of operating capacity has a t statistic of 2.10779 with a significance value of 0.0361. This shows that the significance value is less than 0.05, which means that the operating capacity ratio has a positive effect on the potential for financial distress, so hypothesis 4 which states that the operating capacity ratio has a negative effect on the potential for financial distress is rejected. With the rejection of the hypothesis in this study, it can be concluded that the operating capacity ratio has a significant negative effect on the potential for financial distress in mining companies listed on the Stock Exchange in Southeast Asia for the 2017-2019 period.

## **4.2 Discussion**

### **4.2.1 Effect of Profitability Ratios on Potential Financial Distress**

The test results show that the profitability ratio variable as proxied by return on assets (ROA) has a coefficient value of 2.630503 with a significance value of 0.1047. The probability sign value of the profitability ratio is greater than 0.05 ( $>0.05$ ), then the profitability ratio has no effect on the potential for financial distress. Thus, the formulated hypothesis (H1) is rejected. The results of this study are supported by research by Rahmania and Hermanto (2014), Kumalaningrum (2015), Sari (2015), Ardian et al.



(2017), and Kusuma and Sumani (2017) which state that the profitability ratio has no effect on the potential for financial distress.

In this study, profitability is proxied by return on assets (ROA). ROA is a ratio used to measure the company's ability to generate profits based on certain asset levels. The profitability ratio is the net end result of various decisions, where this ratio is used as a measuring tool for the company's ability to profit from each sale generated. The regression results show that the profitability ratio has no effect on the potential for financial distress. This shows that high or low profitability ratios do not affect the potential for financial distress. Companies that have a high profitability ratio value can show that the company's performance is well managed. In addition, the company has made efficiencies against financial risks by showing the level of profit it has earned. The level of profit earned by the company also shows the company's ability to finance its operational activities.

#### **4.2.2 Effect of Liquidity Ratio on Potential Financial Distress**

The test results show that the liquidity ratio variable as proxied by the current ratio (CR) has a coefficient value of -0.262261 with a significance value of 0.0000. The probability sign value of the liquidity ratio is less than 0.05 ( $> 0.05$ ), so liquidity has a significant negative effect on the potential for financial distress. Thus, the hypothesis that has been formulated (H2) is accepted. The results of this study are supported by research by Atika et al (2012), Widhiari and Merkusiwati (2015), Cinantya and Merkusiwati (2015), Dewi and Endiana (2019), and Rusli (2019) which state that the liquidity ratio has a significant negative effect on the potential financial distress.

In this study, the liquidity ratio is proxied by the current ratio (CR). Current ratio is a ratio used to measure the company's ability to meet short-term obligations or debts that are due soon. The regression results show that the liquidity ratio has a significant negative effect on the potential for financial distress. The company manages current debt with its current assets well so that the potential for the company to experience financial distress is getting lower.

According to Riyanto (1995), the liquidity ratio provisions that are considered good are standard 200% (2:1), meaning that for every 1 current debt owned by the company, 2 current assets are available to cover it. This provision will further ensure that the company will be able to pay off its current debts that are due in a timely manner and by having the ability to fund the company's operations in meeting short-term debt with its current debt, the company will be able to manage current debt with its assets properly so that the company will avoid potential financial distress. The results of the descriptive statistical test show that the average value of the liquidity ratio of mining companies listed on the Indonesia stock exchange, Singapore stock exchange, Philippines stock exchange, Vietnam stock exchange and Malaysian stock exchange from 2017 to 2019 is 3,764, 4,393, respectively. 9,493, 1,316 and 1,275 so that they are above 1, which means that current assets are able to cover the company's current liabilities.

#### **4.2.3 Effect of Leverage Ratio on Potential Financial Distress**

The test results show that the leverage ratio variable which is proxied by the debt ratio (DR) has a coefficient value of -3.628184 with a significance value of 0.0000. The probability sign value of the leverage ratio is less than 0.05 ( $> 0.05$ ), so the leverage ratio has a significant negative effect on the potential for financial distress. The results of hypothesis testing indicate that the leverage ratio has a negative and significant effect, so the third hypothesis (H3) which states that the leverage ratio has a significant positive effect on the potential for financial distress is rejected. Thus, the formulated hypothesis (H3) is rejected. The results of this study are supported by the research of Alifiah et al.

(2013), Eliu (2014), Masdupi et al. (2018), Septiani and Dana (2019) which state that the leverage ratio has a negative effect on the potential for financial distress.

In this study the leverage ratio is proxied by the debt ratio (DR). Debt ratio is a ratio that has the ability to measure how much the company's assets are financed by debt or how much the company's debt affects asset financing. A negative leverage ratio coefficient value indicates that the greater the leverage ratio owned by the company, the less likely the company will experience financial distress. This happens because the debt owned by the company is used by the company's management to invest in its assets. Effective use of assets will improve the performance of the company, so that the company earns a profit. Profits from the effective use of assets indicate that the company has sufficient funds to pay the company's current obligations. If the company has sufficient funds to pay its obligations, both with profits and available assets, the company will avoid potential financial distress.

#### **4.2.4 Effect of Operating Capacity Ratio on Potential Financial Distress**

The test results show that the operating capacity ratio variable which is proxied by the total assets turnover ratio (TATR) has a coefficient value of 0.488394 with a significance value of 0.0361. The sign probability value of the operating capacity ratio is less than 0.05 ( $> 0.05$ ), then the operating capacity ratio has a significant effect on the potential for financial distress. The results of hypothesis testing indicate that the operating capacity ratio has a positive and significant effect, so the fourth hypothesis (H4) which states that the operating capacity ratio has a significant negative effect on the potential for financial distress is rejected. Thus, the hypothesis that has been formulated (H4) is rejected. The results of this study are supported by the research of Kusumawardana (2013), and Fahmiwati and Luhgiatno (2017) which state that the operating capacity ratio has a significant positive effect on the potential for financial distress.

In this study, the ratio of operating capacity is proxied by the total assets turnover ratio (TATR). Total assets turnover ratio (TATR) is a ratio that measures a company's ability to manage its assets effectively to generate sales. This operating capacity ratio involves a comparison between the level of sales and investment in various types of assets. Management of inventory type assets that are too fast and not matched by high sales capacity will result in excess inventory (overstock). The longer the inventory process is sold, it will increase the company's burden and the profit earned by the company will also be lower. That way the company will use its capital to continue its operational activities. This will result in an increased risk of loss to the company. The greater the risk of loss borne by the company, the greater the company will experience potential financial distress.

## **5. CONCLUSION**

This study aims to examine the effect of the variables of profitability, liquidity, leverage, and operating capacity on financial distress in mining companies listed on the Southeast Asian Stock Exchange. The results showed that profitability had no effect on the potential for financial distress. Liquidity and leverage variables have a negative effect on the potential for financial distress. While 1 other variable, namely operating capacity has a positive effect on the potential for financial distress.

### **5.1 Managerial Implications**

The implications of this research include two things, namely theoretical implications and practical implications. The theoretical implications of this study are expected to contribute to the literature and the development of knowledge in the field of financial accounting, especially financial statement analysis on the prediction of potential financial

distress. Meanwhile, the practical implications of this research are expected to contribute to the research findings to the decisions that will be taken by stakeholders.

## 5.2 Keterbatasan dan Saran

This study has limitations including the Adjusted R square value of 0.542922 or 54.29%. This shows that there are other potential variables (45.71%) that have not been used in this study to predict the potential for financial distress. Further research is suggested to dig deeper related to other variables that can affect the potential for financial distress.

In addition, this study takes a sample of companies in the mining sector in general, so that different tests have not been carried out to distinguish one mining sub-sector from another. Further researchers are advised to examine in more detail the mining sub-sector, so that it can be seen the differentiating factors to analyze the potential for financial distress.

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