Bankruptcy Analysis On Coal Mining Companies

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Abstract. *Financial distress is a condition in which the company is in an unhealthy state, but has not yet gone bankrupt. Therefore, it is important for companies to identify financial distress first as material for evaluation and early warning, especially since the world is currently experiencing an economic crisis due to the Covid-19 virus outbreak. This study aims to detect financial distress in coal mining sector companies using the Altman Z-Score. The population used as research material was the Coal Mining Sector Company for the period 2016 - 2019. The sample technique used in this study was purposive sampling. The research sample was 22 companies in the coal mining sector with a research time of four years resulting in 88 samples. The data analysis technique used is descriptive analysis and logistic regression test using statistical test tools. Based on the testing of five hypotheses, it is concluded as follows: Working Capital to Total Asset (WCTA), Retained Earning to Total Asset (RETA), Earning Before Interest and Tax to Total Asset (EBITTA), Market Value of Equity to Book Value of Liabilities (MVEBL), and Sales to Total Asset (STA) have no effect on financial distress.*

Keywords. *Altman Z – Score; Bankruptcy; Financial Distress*.

Abstrak. Financial distress merupakan suatu kondisi di mana perusahaan dalam keadaan tidak sehat, namun belum mengalami kebangkrutan. Oleh karena itu, penting bagi perusahaan untuk mengidentifikasi financial distress terlebih dahulu sebagai bahan evaluasi dan peringatan dini, apalagi dunia saat ini sedang mengalami krisis ekonomi akibat wabah virus Covid-19. Penelitian ini bertujuan untuk mendeteksi financial distress pada perusahaan sektor pertambangan batubara dengan menggunakan Altman Z-Score. Populasi yang digunakan sebagai bahan penelitian adalah Perusahaan Sektor Pertambangan Batubara periode 2016 - 2019. Teknik sampel yang digunakan dalam penelitian ini adalah purposive sampling. Sampel penelitian adalah 22 perusahaan di bidang pertambangan batubara dengan waktu penelitian empat tahun sehingga menghasilkan 88 sampel. Teknik analisis data yang digunakan adalah analisis deskriptif dan menggunakan alat uji statistic, yaitu uji regresi logistik. Berdasarkan pengujian lima hipotesis, disimpulkan sebagai berikut: Modal Kerja terhadap Total Aktiva (WCTA), Laba Ditahan terhadap Total Aktiva (RETA), Laba Sebelum Bunga dan Pajak terhadap Total Aktiva (EBITTA), Nilai Pasar Equity to Book Value of Liabilities (MVEBL), dan Sales to Total Asset (STA) tidak berpengaruh terhadap financial distress.

Kata kunci. Altman Z – Skor; Kebangkrutan; Kesulitan keuangan.

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INTRODUCTION

The purpose of establishing a company in general is to make a profit, increase sales, maximize share value, and improve the welfare of shareholders. The intense business competition in line with economic development has resulted in a demand for companies to continue to develop innovations, improve their performance, and expand their business in order to survive and compete. The ability of a company to be able to compete is largely determined by the company's performance itself. Companies that are unable to compete to maintain their performance will gradually be displaced from their industrial environment and will go bankrupt. In order for the survival of a company to be maintained, the management must be able to maintain or further spur an increase in its performance. In general, the performance of a company is shown in published financial statements (Fulky, 2018).

Currently the world is experiencing an economic crisis due to the COVID-19 virus outbreak which began in the early years of the greatest impact in China because the largest economic center in the world is in China and the virus also originated in that country. During the first quarter of 2020, nearly half a million companies in China were forced to close permanently due to the corona virus outbreak. Reporting from the South China Morning Post, more than 460,000 companies were declared permanently closed because the economy of the second largest country in the world was battered by the corona.

The first impact that was felt due to the outbreak for the coal mining industry was the decline in Reference Coal Prices throughout 2020. This may be due to limited export and import activities as well as constraints in carrying out company operations, the following is the graph data:

Figure 1.
Development of Indonesian Reference Coal Prices (HBA) in Coal Mining Companies in 2020
Source : (Ningsih, n.d.)

The second impact, as quoted from Mirae Asset Sekuritas' data, is that 13 mining issuers have made the worst performance this year due to the corona virus, this is due to the decline in coal selling prices which have resulted in decreased income and the economic slowdown. The following are among the thirteen issuers:

Table 1.
List of Mining Companies That Have Poor Performance

No.	Company Name	Company Code	Rating
1.	PT Adaro Energy Tbk	ADRO	from 1500 to 745. (Minus - 51 percent)
2.	PT Perusahaan Gas Negara Tbk	PGAS	from 2500 to 695. (Minus - 72 percent)
3.	PT Energi Internasional Tbk	MEDC	from 900 to 328. (Minus - 63 percent)
4.	PT Indika Energy Tbk	INDY	from 1200 to 486. (Minus - 59 percent)
5.	PT Aneka Tambang Tbk	ANTM	from 900 to 374. (Minus - 58 percent)
6.	PT Bukit Asam Tbk	PTBA	from 2800 to 1845. (Minus - 34 percent)
7.	PT Timah Tbk	TINS	from 890 to 380. (Minus - 57 percent)
8.	PT Petrosea Tbk	PTRO	from 1500 to 905. (Minus - 39 percent)
9.	PT Akr Corporindo Tbk	AKRA	from 3900 to 1600. (Minus - 58 percent)
10.	PT Elnusa Tbk	ELSA	from 320 to 133. (Minus - 58 percent)
11.	PT Harum Energy Tbk	HRUM	from 1300 to 1100 (Minus - 15 percent)
12.	PT Indo Tambangraya Megah Tbk	ITMG	from 13300 to 6825. (Minus - 48 percent)
13.	PT United Tractors Tbk	UNTR	from 23000 to 14850. (Minus -35 percent)

Source : (Ariefana, 2020)

The third impact is, according to the Director General of Foreign Trade of the Ministry of Trade (Kemendag), Indrasari Wisnu Wardhana (Wardhana, n.d.), he said that the HPE (Export Reference Price) of

mining products for the May 2020 period has decreased in almost all commodities including copper concentrate, iron concentrate, laterite iron concentrate. , lead concentrate, zinc concentrate, iron sand concentrate, ilmenite concentrate, rutile concentrate, and bauxite due to the corona virus outbreak which has caused economic slowdown in almost all countries and also decreased demand for mining commodity raw materials in export destination countries.

PT Timah Tbk as the largest tin mining company in Indonesia, also experienced the direct impact of the Corona Virus. The selling price of tin at the beginning of this year continued to decline. This was triggered by the temporary suspension of production of electronic goods based on tin, which eventually led to a decline in demand for tin. To prevent bankruptcy, according to the President Director of PT Timah Tbk, Mochtar Riza Pahlevi Tabrani said that while TINS is holding back exports and reducing production to reach 20-30 percent of the monthly target set by the company, this is considered to be a temporary step taken by the company while looking at developments. market demand. He also has not been able to predict when demand will improve amid the current uncertain global situation (Pahlevi, n.d.).

From the various bankruptcy prediction models, the Altman Z-Score analysis model was chosen. The choice of the Altman Z-Score analysis model is caused by the large number of researchers, practitioners and academics in the accounting field using the Z-Score model compared to other models. The aim is to find out which companies are most likely to indicate bankruptcy and how likely it is. Altman's Z-score model is the right and accurate model in discussing studies on the analysis of corporate bankruptcy compared to other methods. Although the Altman model was invented more than four decades ago, this model is considered to be one of the models recognized for its high accuracy. Many researchers, practitioners and managers use the Altman 1968 model in predicting corporate health.

The second reason using the Altman Z - Score method is because the formula is relatively easy to apply and also has a fairly high level of accuracy in predicting the potential bankruptcy of a company and the accuracy is up to 95%. Therefore, prediction of the failure rate or company bankruptcy is an interesting topic to be studied by several researchers as well as many researchers who use the Altman model to predict bankruptcy.

The earlier the signs of bankruptcy are known, the better it will be for management to anticipate the bankruptcy, so that management can immediately make improvements so that the company does not go bankrupt. In addition, for external parties, this bankruptcy prediction can be used as a basis for making financial decisions (Shahara, 2018).

According to (Junaidi & Nurdiono, 2016) going concern is one of the assumptions used in preparing the financial statements of an economic entity. This requires that economic as well as operational and financial entities have the ability to maintain a going concern. Meanwhile, according to PSAK No. 20 Going concern is used as an assumption in financial reporting as long as there is no proven information that shows the opposite. Usually information that is considered significantly contrary to the going concern assumption of a business relates to the inability of a business to meet its obligations at maturity without making the sale of most of its assets to outsiders through the ordinary course of business, restructuring regarding externally imposed improvements to operations and similar activities. another.

According to (Alim, 2017) bankruptcy or bankruptcy is a condition when a company experiences financial problems, especially chronic liquidity problems where it affects the company's inability to carry out its operational

activities properly again. Bankruptcy itself is the final stage of a problematic financial condition due to failed efforts by the company management to follow up on financial problems that occur.

Meanwhile, according to (Ramadhan & Marindah, 2021) financial distress can be a condition of an entity that is technically unable to pay off its debt even though it has a positive net worth, it can simply be said that current assets are not sufficient to pay current liabilities (short term). The factors that cause the company's financial difficulties are the Neoclassical Model, Financial Model, and Corporate Governance Model.

According to the Indonesian Bankruptcy Law Number 37 of 2004 article 1 paragraph (1) bankruptcy is general confiscation of all assets of the bankrupt debtor whose management and settlement is carried out by a curator under the supervision of the Supervisory Judge as regulated by law. Even companies that are not affected will experience difficulties in fulfilling funds for operational activities due to the economic crisis. Therefore, according to (Muhhammad, 2019) there are two solutions if the company has negative cash flow. First, Debt Restructuring. Management can carry out debt restructuring by requesting an extension of time from creditors to pay off their obligations, so that the company has sufficient cash to meet these obligations. Second, Change in Management. If necessary, the company can take steps to replace the company's management with someone who is more competent. That way the trust of stakeholders may be returned. This is done to prevent potential investors from running away due to the potential bankruptcy that is looming over the company.

According to (Kasmir, 2016) Financial reports are reports that show the company's current financial condition or within a certain period. The purpose of financial statements that shows the company's current financial condition is the current condition. The condition in question is the company's financial condition on a certain date (on the income statement). Financial reports are made every period, there are companies that make quarterly, six months, and per year end.

According to the Indonesian Institute of Accountants (IAI) in 2014 there are four qualitative characteristics of financial statements that can be useful for users. The four qualitative characteristics of the information are understandability, relevance, reliability, and comparability.

Gordon L.V Springate, (Nurcahyanti, 2015) has conducted research and produced a bankruptcy analysis model that was made following the Altman model procedure. The Springate model uses 4 financial ratios to analyze the potential financial difficulties in a company. This model has the following formula:

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

Information :
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*
S = *Springate Score*

With the assessment criteria if the value of S <0.862, it shows an indication that the company is facing a serious threat of bankruptcy. If the value is 0.862 <S <1.062, it indicates that the management must be careful in managing the company's assets so that bankruptcy does not occur (vulnerable areas). If the value of S> 1.062, it shows the company is in a healthy financial condition and does not have problems with finances (not bankrupt). With the assessment criteria, if the value of S <0.862, it shows an indication that the company is facing a serious threat of bankruptcy.

Zmijewski (Nurcahyanti, 2015) uses ratio analysis that measures the

performance, leverage and liquidity of a company for his prediction model. Zmijewski used profit analysis applied to 40 companies that were bankrupt and 800 companies that were still surviving at that time. The models that were successfully developed were:

$$X = -4.3 - 4.5X1 + 5.7X2 - 0.004X3$$

Information :
X1 = Earning after taxes / Total assets
X2 = Total liabilities / Total assets
X3 = Current assets / Current liabilities

The assessment criterion of this model is that the greater the X value, the more likely the company will go bankrupt, so in this Zmijewski analysis method, if X is negative, the company has no potential for bankruptcy.

Edward L. Altman's rationale for using discriminant analysis stems from the limitations of ratio analysis, namely that the methodology is basically an aberration, which means that each ratio is tested separately. Altman found five types of financial ratios that can be combined to see the difference between companies that are bankrupt and those that are not. The five types of ratios are: First, Liquidity Ratio is a ratio that measures a company's ability to meet its short-term liabilities by looking at the company's current assets against its current debt (debt in this case is a company's liability). Second, Profitability Ratio is a ratio that looks at the company's ability to generate profits at a certain level of sales, assets and share capital. Third, Leverage Ratio is a ratio that measures market price relative to book value. The point of view of these ratios is based more on the investor's point of view, although the management also has an interest in these ratios. Fourth, Solvency Ratio is a ratio that measures the extent to which the company's ability to meet its long-term obligations. This ratio measures the long-term liquidity of a company and thus focuses on the right side of the balance sheet. Fifth, Activity Ratio is a ratio that measures the effectiveness of the use of assets by looking at the level of asset activity. This ratio looks at several assets and then determines what the level of activity of the assets is at a certain level of activity.

Altman Z-Score Calculation Method

For companies that have gone public where the company has been listed on the stock exchange so that its shares can be traded on the capital market, the Altman Z - Score formula that can be used to predict bankruptcy is as follows:

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

Dimana :
Z = *Overall Indeks*
X_1 = *Working Capital To Total Asset*
X_2 = *Retained Earnings to Total Assets*
X_3 = *Earning Before Interest and Tax Assets to Total Assets*
X_4 = *Market Value of Equity to Book Value of Total Liabilities*
X_5 = *Sales to Total Assets*

***Working Capital to Total Assets* Ratio**

The formula is used as follows:

$$X1 = \frac{Working\ Capital}{Total\ Assets}$$

This ratio is a liquidity ratio calculated by dividing net working capital by total assets. Net working capital is obtained by reducing current assets by short-term liabilities. This ratio shows the company's ability to generate net capital from the total assets it owns. Generally, when a company is experiencing financial difficulties, working capital will decrease faster than total assets causing this ratio to fall.

***Retained Earnings to Total Assets* Ratio**

The formula is used as follows:

$$X2 = \frac{Retained\ Earnings}{Total\ Assets}$$

This ratio is a profitability ratio that shows the company's ability to generate retained earnings from the company's total assets. Retained earnings are profits that are not distributed to shareholders. At some level, this ratio also reflects the age of the company, because the younger the company, the less time it will have to build up cumulative profit.

***Earning Before Interest and Tax Assets to Total Assets* Ratio**

The formula is used as follows:

$$X3 = \frac{EBIT}{Total\ Assets}$$

This ratio is a profitability ratio, which is a ratio that measures a company's ability to earn a profit from the assets used. In this ratio, the calculation using EBIT is obtained and compared with all assets owned by the company. This ratio can also be used as a measure of the productivity of the use of borrowed funds.

***Market Value of Equity to Book Value of Total Liabilities* Ratio**

The formula is used as follows:

$$X4 = \frac{Market\ Value\ of\ Equity}{Total\ Liabilities}$$

Is a solvency ratio or leverage that shows the company's ability to meet its obligations from the stock market value. The market value of shares is obtained by multiplying the number of ordinary shares as measured by the market price per share. Total liabilities are obtained by adding up short-term and long-term liabilities.

***Sales to Total Assets* Ratio**

The formula is used as follows:

$$X5 = \frac{Sales}{Total\ Assets}$$

This ratio is an activity ratio, namely the ratio showing the turnover rate of total assets in one year. This ratio is also used to show the use of all company assets in order to generate net income that can be generated by every rupiah invested in company assets. If the turnover is slow, this indicates that the assets held are too large compared to the ability to sell.

Rasio Z

The following is a table of overall company health index using the Altman Z-Score method:

Tabel. 2 Rasio Z

Value of Z – Score	Interpretation
Z > 2.99	The company is safe from the risk of bankruptcy
1.81<Z< 2.99	The company still has the risk of bankruptcy (Gray Area)
Z < 1.81	The company has a high risk of bankruptcy

Hypotheses and Research Models

The hypothesis in this study is as follows:

H1: It is suspected that Working Capital to Total Asset (WCTA) has a partial effect on the prediction of financial distress in coal mining companies.

H2: It is suspected that Retained Earnings to Total Asset (RETA) has a partial effect on the prediction of financial distress in coal mining companies.

H3: It is suspected that Earnings Before Interest and Tax to Total Asset (EBITTA) has a partial effect on the prediction of financial distress in coal mining companies.

H4: It is suspected that the Market Value of Equity to Book Value of Liabilities (MVEBL) has a partial effect on the prediction of financial distress in coal mining companies.

H5: It is suspected that Working capital to total assets (WCTA), Retained earnings to total assets (RETA), Earnings before

interest and taxes to total assets (EBITTA), Market value of equity to book value of liabilitie (MVEBL), and Sales to total assets (STA) simultaneously affects the prediction of financial distress in coal mining companies

The research model that will be used by the author is as follows:

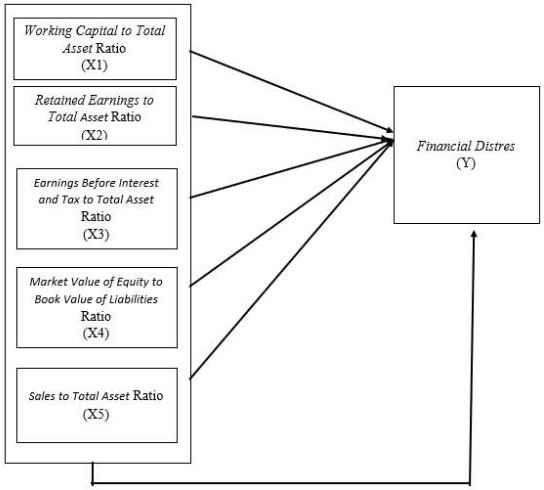

Figure 2. Research Model

RESEARCH METHODOLOGY

Types and Sources of Data

The type of data used in this research is quantitative data. The source of data in this study is secondary data, namely data obtained by researchers indirectly through intermediary media (obtained and recorded by other parties).

Population and Sample

The population in this study were all companies engaged in the coal mining sector listed on the Indonesia Stock Exchange (IDX) for the period 2016 - 2019, there were 25 companies.

In this study, the sampling used was purposive sampling. According to (Sugiyono, 2017) Purposive Sampling is a sampling technique with certain considerations. The criteria for the companies sampled in this study are as follows: Companies must be listed on the Indonesia Stock Exchange (IDX), the company publishes annual financial reports and for four consecutive years (2016, 2017, 2018, and 2019), the financial statements must have a financial year ending on 31 December, have a complete report during listing on the Indonesia Stock Exchange (IDX), and not delisted during the period 2016 - 2019.

Through the number of samples that exist, the appropriate criteria above are as many as 22 companies.

Operational Definition of Variables

Table 3. Operational Definition of Variables

Variabel	Operational Definition	Scale
WCTA Ratio (X_1)	A ratio that detects the liquidity of total assets and working capital position, where working capital is obtained from the difference between current assets and current debt.	Ratio
RETA Ratio (X_2)	The ratio to measure the amount of a company's ability to generate profits, in terms of the ability of the company concerned to earn profits.	Ratio
EBITTA Ratio (X_3)	The ratio that measures the ability of the capital invested in all assets to generate profits for all investors.	Ratio
MVEBL Ratio (X_4)	Is a ratio that measures the company's ability to provide guarantees for its debts through its own capital	Ratio
STA Ratio (X_5)	The activity ratio also detects the ability of company funds that are embedded in the total rotating assets in a certain period	Ratio
Tingkat *Financial Distress* (Y)	Decrease in the company's financial condition before the bankruptcy or liquidation of coal mining companies listed on the IDX in 2016-2019	Nominal

Data Analysis Techniques

To analyze the logistic regression analysis used with the help of the Statistical Package for Social Science (SPSS).

Logistic regression is used to predict the size of the dependent variable on each of the independent variables whose value is known. The steps to perform the analysis in this research are Descriptive Statistics, Binary Logistic Statistical Analysis, Hosmer Test, Omnibus Test, Wald Test, and the Coefficient of Determination.

RESEARCH RESULTS AND DISCUSSION

Descriptive Statistics Test

The results of descriptive statistics are presented in the table as follows:

Table. 4 Results of Descriptive Statistics Test

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
WCTA	88	-,54	,58	,1143	,22936
RETA	88	-1,15	1,06	,1455	,44854
EBITTA	88	-,48	,61	,0997	,15974
MVEBL	88	,10	10,48	2,7683	2,60977
STA	88	,00	1,87	,7341	,49757
FINANCIAL DISTRESS	88	0	1	,56	,500
Valid N (listwise)	88				

Source : Secondary data were processed using statistical test tools

Based on the table above, from the results of the descriptive analysis it is known that the number of observations in the study (N) is 88 data observations and a period of 4 years. First, WCTA (*Working Capital To Total Asset).* From this it is known that the mean value of WCTA is 11.43%, meaning that it is likely to face problems in covering short-term liabilities due to the unavailability of sufficient current assets to cover these liabilities. Second, RETA (*retained earning to total assets*). From these results it is known that the mean RETA value is 14.55%, this means that the company's ability to accumulate retained earnings is very low because the company's revenue is unable to cover operating expenses or expenses. Third, EBITTA (*earning before interest and taxes to total assets*). From these results it is known that the mean EBITTA value is 9.97%, meaning that the company is not yet good at managing its company's assets, because the company's ability to manage profits from the assets used indicates the better the company's financial condition. Forth, MVEBL (*market value of equity to book value of liabilities*). From these results it is known that the mean MVEBL value is 276.83%, meaning that the coal mining sector company is able to manage market value to meet its total debt. Fifth, STA (*sales to total assets*). From these results it is known that the mean STA value is 73.41%, this means that the company is quite capable of using assets to generate sales. Sixth, *Financial Distress.* From the results it can be seen that 56% of coal mining companies experience financial distress.

Binary Logistic Regression Analysis

The logistic regression test results are as follows:

Table 5. Results of Logistic Regression Test

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	X1	-13,500	16199,267	,000	1	,999	,000
	X2	-27,250	11460,590	,000	1	,998	,000
	X3	57,421	59717,519	,000	1	,999	8661466480 7539620000 00000,000
	X4	-18,378	2296,027	,000	1	,994	,000
	X5	-36,250	11851,828	,000	1	,998	,000
	Constant	80,179	10421,027	,000	1	,994	6625710954 7585330000 0000000000 00000,000

a. Variable(s) entered on step 1: X1, X2, X3, X4, X5.

Source: Secondary data processed by statistical test tools

Based on the table above, the logistic regression test results above obtained a logistic regression equation, as follows:

$$Y = 80.179 - 13.500WCTA - 27.250RETA + 57.421EBITTA - 18.378MVEBL - 36.250STA$$

From the above results it can be concluded that to measure bankruptcy in coal mining sector companies, this formula can be used.

Hosmer Test

The following is a table of results from the Hosmer test:

Table. 6 Hosmer and Lemeshow Test

Step	Chi-square	df	Sig.
1	,000	5	1,000

Source: Secondary data processed by statistical test tools

The feasibility of the regression model was assessed by the Hosmer and Lemeshow's test. It shows that the Goodness of fit value is 0,000 with a probability of sig 1,000 where 1,000> 0.05. Thus Ha is accepted, this means that the regression model used in this study is suitable for further analysis, because the model is able to predict the value of the observations or it can be said that the model is acceptable because it matches the observation data.

Omnibus Test Of Model Coefficient

The following is a table of results from the Omnibus test:

Table. 7 Omnibus Tests of Model Coefficients

		Chi-square	Df	Sig.
Step 1	Step	120,855	5	,000
	Block	120,855	5	,000
	Model	120,855	5	,000

Source: Secondary data processed by statistical test tools

The table above shows the results of the Omnibus test (Omnibus Test Of Model Coefficient) with a chi-square value of 120,855 and has a significance of 0,000 less than 0.05, it can be concluded that WCTA (Working Capital To Total Asset), RETA (retained earnings to total assets)), EBITTA (earning before interest and taxes to total assets), MVEBL (market value of equity to book value of liabilities), and STA (Sales To Total Asset) simultaneously affect financial distress and H_1 is accepted.

Wald test (T test)

The following is a table of results from the Wald test:

Table 8. Results of Wald Test

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	X1	-13,500	16199,267	,000	1	,999	,000
	X2	-27,250	11460,590	,000	1	,998	,000
	X3	57,421	59717,519	,000	1	,999	8661466480 7539620000 00000,000
	X4	-18,378	2296,027	,000	1	,994	,000
	X5	-36,250	11851,828	,000	1	,998	,000
	Constant	80,179	10421,027	,000	1	,994	6625710954 7585330000 0000000000 00000,000

a. Variable(s) entered on step 1: X1, X2, X3, X4, X5.

Source: Secondary data processed by statistical test tools

Based on the Wald test results from the table above, it can be seen that the five variables mentioned above do not have a partial effect on financial distress because their significance values are all> 0.05.

Coefficient of Determination *(Nagelkerke R Square)*

The following is a table of results from the determination coefficient test:

Table 9. Determination Coefficient Test Results (*Nagelkerke R Square*)

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	,000[a]	,747	1,000

Estimation terminated at iteration number 20 because maximum iterations has been reached. Final solution cannot be found.

Source: Secondary data processed by statistical test tools

In the table above, it is explained that the value of the coefficient of determination in the logistic regression model is shown by the Nagelkerke R Square value. The Nagelkerke R Square value is 1,000, which means that the variability of the dependent variable that can be explained by the independent variable is 100%.

Effect of *Working Capital To Total Asset* (WCTA), *Retained Earning To Total Assets* (RETA), *Earning Before Interest And Taxes To Total Assets* (EBITTA), *Market Value Of Equity To Book Value Of Liabilities* (MVEBL), *Sales To Total Asset* (STA) Simultaneously Against Financial Distress

This study uses the Altman Z-Score Model to predict bankruptcy in coal mining companies listed on the Indonesia Stock Exchange. Altman Z-Score uses five financial ratios in its calculations, namely working capital to total assets (WCTA) (X1), retained earnings to total assets (RETA) (X2), Earning before interest to total assets (X3), market value of equity to book value of liabilities (X4), and sales to total assets (X5) while for the dependent variable Financial Distress which is proxied by using a dummy has 2 categories where category 1 is for companies that are in bankrupt condition while category 0 is for companies that are in good health.

Based on the Omnibus test results table (Omnibus Test Of Model Coefficient) shows that WCTA (Working Capital To Total Asset), RETA (retained earning to total assets), EBITTA (earning before interest and taxes to total assets), MVEBL (market value of equity) to book value of liabilities), and STA (Sales To Total Asset) have a chi-square value of 120, b855 and have a significance of 0.000 less than 0.05, so it can be said that the independent variables in this study have a simultaneous influence on Financial Distress. in a coal mining company.

Therefore, the smaller the significance value obtained by a group, the greater the influence it has. It can be concluded that WCTA (Working Capital To Total Asset), RETA (retained earnings to total assets), EBITTA (earning before interest and taxes to total assets), MVEBL (market value of equity to book value of liabilities), and STA (Sales To Total Asset) has a simultaneous effect on Financial Distress.

Effectt of *Working Capital To Total Asset* (WCTA) Partially on *Financial Distress*

Based on the table of Wald test results, it shows that WCTA (Working Capital To Total Asset) partially has no effect on financial distress. This indicates that the level of liquidity ratios has no effect on financial distress. However, most companies in Indonesia have a high composition of current liabilities in their working capital, so that the working capital looks large which results in a high WCTA ratio. The current liabilities may be used by the company to cover long-term liabilities such as losses and investment liabilities. Large current liabilities are in line with the large risks. These risks increase the possibility of financial distress so that high working capital does not necessarily reduce the possibility of financial distress.

This result is in line with research from (Sari & Arif, 2020) that WCTA (Working Capital To Total Asset) has no effect on financial distress. This occurs because current debt, which is not effectively utilized, decreases, thus increasing the working capital portion. If this is the case, then management must further increase the turnover of working capital so that the company runs well so that financial distress does not occur. This shows that the financial performance based on the working capital to total assets of the coal mining sector companies sampled is in good condition.

Effect of *Retained Earning To Total Assets* (RETA) Partially on *Financial Distress*

Based on the table Wald test results show that RETA (Retained Earning To Total Asset) partially has no effect on financial distress. This indicates that Retained Earnings do not have a significant effect in predicting Financial Distress. The higher the RETA (Retained Earning To Total Asset) value indicates the more prosperous the company is in managing its profitability, which means that the company has high retained earnings and the

impact is that the company is not indicated to experience financial distress.

This result is in line with research from (Sari & Arif, 2020) which states that RETA (Retained Earning To Total Asset) has no effect on financial distress. This happens because retained earnings increase from the company's total assets so that it does not experience financial distress. The higher the company's retained earnings, the better it is in managing company assets.

Effect of *Earning Before Interest And Taxes To Total Assets* (EBITTA) Partially on *Financial Distress*

Based on the table of Wald test results, it shows that EBITTA (Earning Before Interest And Tax To Total Assets) partially has no effect on financial distress. This happened because of the increase in profit, which made financial conditions better. Because the higher the profit value, it means that the company is very good at managing its company's assets.

The results of this study are not in line with (Afridola & Hikmah, 2019). In this study, it is stated that the indicator of the Altman EBITTA (Earning Before Interest and Tax to Total Asset) ratio has an effect on financial distress, this shows that the higher EBITTA value indicates that the company is good in its productivity to manage its company's assets, the company's ability to manage profits from the assets used. This indicates that the company's financial condition is getting better, whether or not the company's financial condition is very influential on financial distress.

Effect of *Market Value Of Equity To Book Value Of Liabilities* (MVEBL) Partially on *Financial Distress*

Based on the table Wald test results show that MVEBL (Market Value Of Equity To Book Value Of Liabilities) partially has no effect on financial distress. The higher the MVEBL (Market Value Of Equity To Book Value Of Liabilities) value, the better the company will be in the accounting treatment of its assets, if the accounting treatment of assets owned is correct it will affect the asset value presented in the financial report because of the value The assets presented in the financial statements will affect the company's financial condition, whether or not the company's financial condition will greatly affect financial distress.

The results of this study are in line with the results of research (Sari & Arif, 2020) which stated that MVEBL (Market Value Of Equity To Book Value Of Liabilities) has no effect on financial distress. This happens because the company has a high equity market value so that the company is able to manage its capital properly. Because the higher the market value of equity in a company, the better the company is with the assets it owns. This means that coal mining sector companies are able to manage market value to meet their liabilities.

Effect of *Sales To Total Asset* (STA) Partially on *Financial Distress*

Based on the table Wald test results show that STA (Sales To Total Asset) partially has no effect on financial distress. This ratio measures management's ability to use assets to generate sales. STA (Sales to total assets) shows whether the company generates sufficient business volume compared to the investment in its total assets. Then the higher the value of STA (Sales to total assets), the lower the level of company bankruptcy

The results of this study are in line with the results of research (Sari & Arif, 2020) which states that STA (Sales To Total Asset) has no effect on financial distress. This occurs due to increased sales of people's purchasing power. Because the higher the sales, the better the company is in managing its assets.

CONCLUSION

Conclusion

The following are the results obtained from the results of research and discussion of

hypotheses on all variables: First, Working Capital to Total Asset (WCTA), Retainerd Earning to Total Asset (RETA), Earning Before Interest and Tax to Total Asset (EBITTA), Market Value of Equity to Book Value of Liabilities (MVEBL), and Sales to Total Asset (STA) simultaneous effect on financial distress. Second, Working Capital to Total Asset (WCTA), Retainerd Earning to Total Asset (RETA), Earning Before Interest and Tax to Total Asset (EBITTA), Market Value of Equity to Book Value of Liabilities (MVEBL), and Sales to Total Asset (STA) does not affect partially on financial distress.

Recomendation

Based on the research results and matters related to the limitations of the research, there are several things that need to be considered, namely: First, Company. The company should increase the use of debt for investment and operational activities in order to increase the portion of its working capital and also the company should reduce or eliminate debt that is very large or exceeds the capital owned by the company. Second, Investor. For investors, the results of the analysis using the Altman Z-Score model can be used for consideration and determining investment steps and investors should also look at financial statements more carefully as a basis for making the right decisions to invest in a company, especially at the level of profit or profitability. Third, Further researchers. Further researchers should conduct research not only to focus on the variables in the bankruptcy prediction model, to expand the period of time in order to see financial distress more fully, to expand the observation period not only in the coal mining sector so that the generalization of research results becomes broader and can strengthen the results of the conclusions that have been made by previous researchers, and can also compare with other bankruptcy models such as the Springate bankruptcy model, Zmijweski, because seen from this study it can be concluded that the Altman Z-Score method cannot be used as the right tool to predict bankruptcy at a coal mining company.

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