

Bankruptcy Analysis Of Financial Statements Of Telecommunications Sub Sector Companies Listed On The Indonesia Stock Exchange For The 2016-2019 Period

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Abstract

The purpose of this study is to analyze bankruptcy in the financial statements of companies in the telecommunication sub-sector listed on the Indonesia Stock Exchange for the 2016-2019 period using the Altman Z-Score method. The research method used is a quantitative method using secondary data. Sources of data used in this study came from the company's financial statements PT Telekomunikasi Tbk, PT XL Axiata Tbk, and PT Indosat Tbk. Based on the Altman Z-Score method using 5 types of ratios, namely working capital/total assets, retained earnings/total assets, earnings before interest and taxes/total assets, market value of equity/book value of debt, and sales/total assets. With the formula $Z\text{-Score} = 1.2X1 + 1.4X2 + 3.3X3 + 0.6X4 + 0.1X5$. With the assessment criteria $Z\text{-Score} > 2.99$ categorized as a healthy company, $1.81 < Z\text{-Score} < 2.99$ categorized as a company that is in the gray area so that the possibility of being saved and the possibility of bankruptcy is equally dependent on the company's management policy decisions as decision makers. $Z\text{-Score} < 1.81$ is categorized as an unhealthy or bankrupt company. The results showed that PT Telekomunikasi Indonesia Tbk in 2016-2019 was in a healthy condition. PT XL Axiata Tbk and PT Indosat Tbk in 2016-2019 were in a bankrupt or unhealthy condition.

1. PRELIMINARY

Every company must have the same goal, namely to generate as much profit or profit as possible for the company's long term in order to survive in the competitive business world. In this competition, every company must improve its performance to achieve optimal goals. In this era of globalization, which is followed by technological developments, it has an impact on human life because many people are dependent on technology, especially in the telecommunications sector. Telecommunications are used by most of the Indonesian people to communicate with each other in social life and in business activities.

Telecommunications is an important sector that supports economic growth in Indonesia. With the development of technology and the economy, the competition between companies is getting tougher. The telecommunications sector is one of the companies experiencing rapid development, it makes the telecommunications sector

companies must be able to survive, compete, and market their products and services in order to attract customers' interest in order to continue to generate profits or profits for the company's sustainability.

The existence of several companies in the telecommunications sector triggers competition to attract customers in marketing their products and services. If a company is not able to compete, then the company will experience liquidity problems and a decrease in profits, allowing the company to experience financial distress (*financial distress*). Bankruptcy is a condition when a company experiences insufficient funds to run its business. According to the bankruptcy law no. 4 of 1998, the company is declared bankrupt based on a competent court decision or based on its own application if it has 2 or more creditors and the company is unable to pay at least one of its debts that have matured.

Bankruptcy is uncertainty about the ability of a company to continue its operations

if its financial condition declines (Lesmana, 2003: 174). Bankruptcy will not happen suddenly but through the signs, the risk of bankruptcy for the company can actually be seen and measured through the company's financial statements by analyzing the financial statements issued each period by the company. In measuring the potential for bankruptcy, there are several methods, one of which is the *Altman Z-score method* (1968). The *Altman Z-score method* uses the *Multiple Discriminate Analysis method* developed by Edward I Altman by predicting whether a company will go bankrupt, be in a gray area, or be in a safe position for the next few years. There are five types of financial ratios used in the *Altman Z-score model*, namely the ratio of working capital to total assets, the ratio of retained earnings to total assets, the ratio of earnings before interest and taxes to total assets, the ratio of capital market value to book value of debt, and the ratio of sales to total assets.

Based on this description, the author decided to conduct a research entitled "Bankruptcy Analysis on the Financial Statements of Telecommunication Sub-Sector Companies Listed on the Indonesia Stock Exchange for the 2016-2019 Period". In analyzing the company's bankruptcy, the author will use the *Altman Z-score method*.

2. LITERATURE REVIEW

2.1 Bankruptcy

Corporate financial failure is the inability of a company to pay its financial obligations when they fall due which causes bankruptcy. A company is declared bankrupt if the company fails to carry out business operations to achieve its goals. Bankruptcy is usually defined as the company's failure to run the company's operations to generate profits.

The definition of Bankruptcy according to several experts, namely:

- 1) Toto (2011: 332) that bankruptcy according to Toto is bankruptcy is a condition where the company is no longer able to pay off its obligations.

- 2) Lesmana (2003: 174), namely bankruptcy according to Lesmana is uncertainty about the ability of a company to continue its operational activities if its financial condition has decreased.
- 3) Prihadi (2008: 177), namely bankruptcy according to Prihadi is a condition where the company is no longer able to pay off its obligations.
- 4) Darsono (2005: 165) namely bankruptcy according to Darsono is the failure of the company which runs the company's operations to generate profits.
- 5) Hadi (2008), namely bankruptcy according to Hadi is often called company liquidation or company closure or insolvency.

2.2 Financial statements

Definition of Financial Statements according to several experts, namely:

- 1) Mahmud M. Hanafi and Abdul Halim, that according to them the financial report is a report that is expected to be able to provide company information.
- 2) The Indonesian Institute of Accountants, namely the *financial statement* is a series that shows the financial position and financial performance of an entity.
- 3) Kasmir (2013: 7), namely the *financial statement* is a report that describes the company's financial condition at this time or the next period.
- 4) Munawir Sjadzali, that financial statements are an accounting process that can be used as a tool to communicate financial data.
- 5) M. Sadeli, namely financial statements are a result of the accounting process and historical information in which there is a process of identification, measurement, and also reports of economic information as a medium of consideration in making the right decisions.

2.3 Telecommunication

Telecommunications is a technique of sending or delivering information over long distances, from one place to another. The

information can be in the form of text, sound, images, or other objects. Telecommunications has played an important role in social relations.

3. RESEARCH METHODS

3.1 Analysis Techniques

Data analysis technique is a way of processing data into information, so that the characteristics or properties of the data can be easily understood and useful for answering problems related to research activities, both related to data descriptions and to make inductions, or draw conclusions about population characteristics. (parameters) based on the data obtained from the sample. According to *Hanafi (2009: 116)*, to determine the level of corporate bankruptcy, the data analysis technique used is the bankruptcy analysis (*Z-Score*) from Altman as follows:

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

Information :

Z : Bankruptcy rate

X_1 : Working capital to total assets

X_2 : Retained earnings to total assets

X_3 : Earnings before interest and taxes on total assets

X_4 : Market value of equity to total book value of debt

X_5 : Sales to total assets

With the assessment criteria (S. Munawir, 2002: 311) as follows:

- $Z - Score > 2.99$ is categorized as a very healthy company so that it does not experience financial difficulties.
- $1.81 < Z - Score < 2.99$ is in the gray area so it is categorized as a company that has financial difficulties, but the possibility of being saved and the possibility of bankruptcy is equally dependent on the company's management policy decisions as decision makers.
- $Z - Score < 1.81$ is categorized as a company that has very large financial difficulties and is at high risk so that the possibility of bankruptcy is very large.

4. RESULTS AND DISCUSSION

4.2 Research result

a. X_1 (Working Capital to Total Assets)

This ratio aims to measure the amount of liquid assets when compared to the total assets owned to predict bankruptcy. This ratio represents the liquidity ratios which are included in the current ratio. Where the current ratio states the relative relationship between current assets and current liabilities.

$$X_1 = \frac{\text{Modal Kerja}}{\text{Total Aset}}$$

The following is the result of the calculation of working capital to total assets can be seen in the table below:

Table 4.1
Results of Calculation of Working Capital for Total Assets

No	Company name	Year	Working capital	Total Assets	X_1
1	PT Telekomunikasi Indonesia Tbk	2016	7.939	179,611	0.044
		2017	2.185	198,484	0.011
		2018	(2,993)	206.196	(0.014)
		2019	(16,647)	221,208	(0.075)
2	PT XL Axiata Tbk	2016	(7,670)	54,896	(0.139)
		2017	(8,046)	56.321	(0.142)
		2018	(8,674)	57,614	(0.150)
		2019	(14,147)	62.725	(0.225)
3	PT Indosat Tbk	2016	(11,013)	50,838	(0.216)
		2017	(6,721)	50,661	(0.132)
		2018	(13,133)	53.139	(0.247)
		2019	(9,684)	62.813	(0.154)

Source: processed data

Table 4.2
X₁ (Working Capital to Total Assets)

No	Company name	Code	2016	2017	2018	2019
1	PT Telekomunikasi Indonesia Tbk	TLKM	0.044	0.011	(0.014)	(0.075)
2	PT XL Axiata Tbk	EXCL	(0.139)	(0.142)	(0.150)	(0.225)
3	PT Indosat Tbk	ISAT	(0.216)	(0.132)	(0.247)	(0.154)

Source: processed data

From 2016-2019 the value of the ratio of working capital to total assets (X_1) of PT Telekomunikasi Indonesia Tbk always fluctuated. In 2016 of all assets owned there was a net working capital of 4.4%, in 2017 all assets owned had a net working capital of 1.1%, in 2018 all assets owned had a net working capital of -1.4 %, and in 2019 all assets owned had net working capital of -7.5%.

From 2016-2019 the value of the ratio of working capital to total assets (X_1) of PT XL Axiata Tbk has always decreased in deficit. In 2016 of all assets owned there was a net working capital of -13.9%, in 2017 all assets owned had a net working capital of -14.2%, in 2018 all assets owned had a net working capital of -15 %, and in 2019 all assets owned had net working capital of -22.5%.

From 2016-2019, the value of the ratio of working capital to total assets (X_1) of PT Indosat Tbk fluctuated. In 2016 of all assets

owned there was a net working capital of -21.6%, in 2017 all assets owned had a net working capital of -13.2%, in 2018 all assets owned had a net working capital of -24 .7%, and in 2019 all assets owned there was a net working capital of -15.4%.

b. X_2 (Retained Earning to Total Assets)

This ratio is useful for measuring whether the cumulative profit is able to offset the amount of assets. This ratio 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.

$$X_2 = \frac{\text{Laba Ditahan}}{\text{Total Aset}}$$

The following is the result of the calculation of retained earnings to total assets can be seen in the table below:

Table 4.3
Result of Calculation of Retained Earnings for Total Assets

No	Company name	Year	Retained earning	Total Assets	X_2
1	PT Telekomunikasi Indonesia Tbk	2016	61.278	179,611	0.341
		2017	69,559	198,484	0.350
		2018	75,658	206.196	0.366
		2019	76,152	221,208	0.344
2	PT XL Axiata Tbk	2016	8.000	54,896	0.145
		2017	8,404	56.321	0.149
		2018	5.124	57,614	0.088
		2019	5.625	62.725	0.089
3	PT Indosat Tbk	2016	10,701	50,838	0.210
		2017	11.450	50,661	0.226
		2018	8.362	53.139	0.157
		2019	10.009	62.813	0.159

Source: processed data

Table 4.4
X₂ (Retained Earning to Total Assets)

No	Company name	Code	2016	2017	2018	2019
1	PT Telekomunikasi Indonesia Tbk	TLKM	0.341	0.350	0.366	0.344
2	PT XL Axiata Tbk	EXCL	0.145	0.149	0.088	0.089
3	PT Indosat Tbk	ISAT	0.210	0.226	0.157	0.159

Source: processed data

From 2016-2019 the ratio of retained earnings to total assets (X_2) of PT Telekomunikasi Indonesia Tbk always fluctuates. In 2016 all assets owned can be financed from retained earnings by 34.1%, in 2017 all assets owned can be financed from retained earnings by 35%, in 2018 all assets owned can be financed from retained earnings by 36.6%, and in 2019 all assets owned can only be financed from retained earnings of 34.4%.

From 2016-2019 the ratio of retained earnings to total assets (X_2) of PT XL Axiat Tbk also always fluctuates. In 2016 all assets owned can be financed from retained earnings of 14.5%, in 2017 all assets owned can be financed from retained earnings of 14.9%, in 2018 all assets owned can be financed from retained earnings of 8, 8%, and in 2019 all assets owned can only be financed from retained earnings of 8.9%.

From 2016-2019 the ratio of retained earnings to total assets (X_2) of PT Indosat Tbk

always fluctuates. In 2016 all assets owned can be financed from retained earnings by 21%, in 2017 all assets owned can be financed from retained earnings by 22.6%, in 2018 all assets owned can be financed from retained earnings by 15.7%, and in 2019 all assets owned can only be financed from retained earnings of 15.9%.

c. X_3 (Earning Before Interest and Taxes to Total Assets)

This ratio is useful for measuring the profitability of a business regardless of how much debt the company owes. This ratio represents the profitability ratio. The weakening of this factor is the best indicator of bankruptcy.

$$X_3 = \frac{\text{EBIT}}{\text{Total Asset}}$$

The following are the results of the calculation of EBIT to total assets, which can be seen in the table below:

Table 4.5
Result of Calculation of Operating Profit (EBIT) for Total Assets

No	Company name	Year	Operating Profit (EBIT)	Total Assets	X_3
1	PT Telekomunikasi Indonesia Tbk	2016	39,195	179,611	0.218
		2017	43,933	198,484	0.221
		2018	38,845	206,196	0.188
		2019	42,394	221,208	0.191
2	PT XL Axiata Tbk	2016	12	54,896	0.0002
		2017	1,370	56,321	0.024
		2018	(3,109)	57,614	(0.053)
		2019	2,603	62,725	0.041
3	PT Indosat Tbk	2016	3,940	50,838	0.077
		2017	4,032	50,661	0.079
		2018	(464)	53,139	(0.008)
		2019	4,228	62,813	0.067

Source: processed data

Table 4.6

X₃ (Earning Before Interest and Taxes to Total Assets)

No	Company name	Code	2016	2017	2018	2019
1	PT Telekomunikasi Indonesia Tbk	TLKM	0.218	0.221	0.188	0.191
2	PT XL Axiata Tbk	EXCL	0.0002	0.024	(0.053)	0.041
3	PT Indosat Tbk	ISAT	0.077	0.079	(0.008)	0.067

Source: processed data

From 2016-2019 the ratio of EBIT to total assets (X₃) of PT Telekomunikasi Indonesia Tbk also fluctuated. In 2016 of all assets invested can generate operating profit of 21.8%, in 2017 all assets invested can generate operating profit of 22.1%, in 2018 all assets invested can generate operating profit of only 18.8%, and in 2019 all invested assets could generate an operating profit of 19.1%.

From 2016-2019 the ratio of EBIT to total assets (X₃) of PT XL Axiata Tbk also fluctuated. In 2016 of all assets invested can generate operating profit of 0.02%, in 2017 all assets invested can generate operating profit of 2.4%, in 2018 all assets invested can generate operating profit of only - 5.3%, and in 2019 all invested assets could generate an operating profit of 4.1%.

From 2016-2019 the ratio of EBIT to total assets (X₃) of PT Indosat Tbk also fluctuated. In 2016 of all assets invested can generate operating profit of 7.7%, in 2017 all

assets invested can generate operating profit of 7.9%, in 2018 all assets invested can generate operating profit of only - 0.8%, and in 2019 all invested assets can generate operating profit of 6.7%.

d. X₄ (Market Value of Equity to Book Value of Total Liabilities)

This ratio shows the company's ability to meet obligations from the market value of its own capital (common stock). The market value of equity itself is obtained by multiplying the number of ordinary shares outstanding by the market price per share of common stock. The book value of debt is obtained by adding up current liabilities with long-term liabilities.

$$X_4 = \frac{\text{Nilai Pasar Ekuitas}}{\text{Nilai Buku Hutang}}$$

The following is the result of the calculation of the market value of equity against the book value of debt can be seen in the table below:

Table 4.7

Result of Calculation of Market Value of Equity (Market Capitalization) for Book Value of Debt

No	Company name	Year	Market Value of Equity (Market Capitalization)	Book Value of Debt	X ₄
1	PT Telekomunikasi Indonesia Tbk	2016	401.184	74.067	5,416
		2017	447,552	86,354	5.182
		2018	371.483	88,893	4,178
		2019	393,277	103,958	3,783
2	PT XL Axiata Tbk	2016	24,689	33,687	0.732
		2017	31,636	34,691	0.911
		2018	21,162	39,271	0.539
		2019	33,667	43,603	0.772
3	PT Indosat Tbk	2016	35,049	36,661	0.956
		2017	26.083	35,845	0.727
		2018	9.156	41.003	0.223
		2019	15,813	49.105	0.322

Source: processed data

Table 4.8

X₄ (Market Value of Equity to Book Value of Total Liabilities)

No	Company name	Code	2016	2017	2018	2019
1	PT Telekomunikasi Indonesia Tbk	TLKM	5,416	5.182	4,178	3,783
2	PT XL Axiata Tbk	EXCL	0.732	0.911	0.539	0.772
3	PT Indosat Tbk	ISAT	0.956	0.727	0.223	0.322

Source: processed data

From 2016-2019 the ratio of the market value of equity to the book value of debt (X₄) of PT Telekomunikasi Indonesia Tbk also fluctuated. In 2016 the funding structure is for every 1 debt versus 5,416 equity, in 2017 for every 1 debt compared to 5,182 equity, in 2018 every 1 debt is only compared to 4,178 equity, and in 2019 every 1 debt is compared to 3,783 equity.

From 2016-2019 the ratio of the market value of equity to the book value of debt (X₄) of PT XL Axiata Tbk also fluctuated. In 2016 the funding structure is for every 1 debt compared to 0.732 equity, in 2017 for every 1 debt compared to 0.911 equity, in 2018 every 1 debt is only 0.539 equity, and in 2019 every 1 debt is compared to 0.772 equity.

From 2016-2019 the ratio of the market value of equity to the book value of debt (X₄) of PT Indosat Tbk also fluctuated. In 2016 the

funding structure is for every 1 debt compared to 0.956 equity, in 2017 for every 1 debt compared to 0.727 equity, in 2018 every 1 debt is only 0.223 equity, and in 2019 every 1 debt is compared to 0.322 equity.

e. X₅ (Sales to Total Assets)

This ratio shows whether the company generates sufficient volume of business compared to the investment in its total assets. This ratio reflects the efficiency of management in using the company's overall assets to generate sales and earn profits. In other words, this ratio measures the size of management's ability to face competitive conditions.

$$X_5 = \frac{\text{Penjualan}}{\text{Total Aset}}$$

The following is the result of the calculation of sales to total assets can be seen in the table below:

Table 4.9

Sales Calculation Results for Total Assets

No	Company name	Year	Sale	Total Assets	X ₅
1	PT Telekomunikasi Indonesia Tbk	2016	116,333	179,611	0.647
		2017	128,256	198,484	0.646
		2018	130,784	206.196	0.634
		2019	135.567	221,208	0.612
2	PT XL Axiata Tbk	2016	21.412	54,896	0.390
		2017	22,901	56.321	0.406
		2018	23.001	57,614	0.399
		2019	25,150	62.725	0.400
3	PT Indosat Tbk	2016	29,184	50,838	0.574
		2017	29,926	50,661	0.590
		2018	23.139	53.139	0.435
		2019	26.117	62.813	0.415

Source: processed data

Table 4.10
X₅ (Sales to Total Assets)

No	Company name	Code	2016	2017	2018	2019
1	PT Telekomunikasi Indonesia Tbk	TLKM	0.647	0.646	0.634	0.612
2	PT XL Axiata Tbk	EXCL	0.390	0.406	0.399	0.400
3	PT Indosat Tbk	ISAT	0.574	0.590	0.435	0.415

Source: processed data

From 2016-2019 the ratio of sales to total assets (X₅) of PT Telekomunikasi Indonesia Tbk has decreased. In 2016 every 1 asset invested can generate a net income of 0.647, in 2017 every 1 asset invested can generate a net income of 0.646, in 2018 every 1 asset invested can generate a net income of only 0.634, and in 2019 every 1 asset invested can only generate net income of 0.612.

From 2016-2019 the ratio of sales to total assets (X₅) of PT XL Axiata Tbk also always fluctuates. In 2016 every 1 asset invested can generate a net income of 0.390, in 2017 every 1 asset invested can generate a net income of 0.406, in 2018 every 1 asset invested can generate a net income of only 0.399, and in 2019 every 1 asset invested can only generate a net income of 0.400.

From 2016-2019 the ratio of sales to total assets (X₅) of PT Indosat Tbk also fluctuated. In 2016 every 1 asset invested can generate a net income of 0.574, in 2017 every 1 asset invested can generate a net income of 0.590, in 2018 every 1 asset invested can generate a net income of only 0.435, and in 2019 every 1 asset invested can only generate net income of 0.415.

f. Process and Results of Altman Z- Score Analysis Method

The results of the calculation and analysis of the Altman Z - Score method for telecommunication sector companies listed on the Indonesia Stock Exchange in 2016-2019 can be seen in the table below:

Formula: $Z - Score = 1.2 X_1 + 1.4 X_2 + 3.3 X_3 + 0.6 X_4 + 1.0 X_5$

Table 4.11
Financial Ratios (X₁, X₂, X₃, X₄, X₅) in 2016

No	Code	X ₁	X ₂	X ₃	X ₄	X ₅
1	TLKM	0.044	0.341	0.218	5,416	0.647
2	EXCL	(0.139)	0.145	0.0002	0.732	0.390
3	ISAT	(0.216)	0.210	0.077	0.956	0.574

Source: processed data

Table 4.12
Result of Calculation and Analysis of Altman Z- Score Method in 2016

No	Code	1.2X ₁	1.4X ₂	3.3X ₃	0.6X ₄	1.0X ₅	Z- Score
1	TLKM	1.2 x 0.044	1.4 x 0.341	3.3 x 0.218	0.6 x 5.416	1.0 x 0.647	5,1462
2	EXCL	1.2 x (0.139)	1.4 x 0.145	3.3 x 0.0002	0.6 x 0.732	1.0 x 0.390	0.86606
3	ISAT	1.2 x (0.216)	1.4 x 0.210	3.3 x 0.077	0.6 x 0.956	1.0 x 0.574	1.4365

Source: processed data

The 2016 Z - Score at PT Telekomunikasi Indonesia Tbk is 5.1462, which means the company is in a healthy and safe criteria from bankruptcy. The 2016 Z - Score at PT XL Axiata Tbk is 0.86606, which means the company is in

the bankruptcy criteria. The 2016 Z - Score at PT Indosat Tbk is 1.4365, which means the company is in the bankruptcy criteria.

Table 4.13
Financial Ratios (X_1, X_2, X_3, X_4, X_5) in 2017

No	Code	X_1	X_2	X_3	X_4	X_5
1	TLKM	0.011	0.350	0.221	5.182	0.646
2	EXCL	(0.142)	0.149	0.024	0.911	0.406
3	ISAT	(0.132)	0.226	0.079	0.727	0.590

Source: processed data

Table 4.14
Result of Calculation and Analysis of Altman Z- Score Method in 2017

No	Code	$1.2X_1$	$1.4X_2$	$3.3X_3$	$0.6X_4$	$1.0X_5$	Z- Score
1	TLKM	1.2×0.011	1.4×0.350	3.3×0.221	0.6×5.182	1.0×0.646	4.9877
2	EXCL	$1.2 \times (0.142)$	1.4×0.149	3.3×0.024	0.6×0.911	1.0×0.406	1.07
3	ISAT	$1.2 \times (0.132)$	1.4×0.226	3.3×0.079	0.6×0.727	1.0×0.590	1.4449

Source: processed data

The 2017 Z - Score at PT Telekomunikasi Indonesia Tbk is 4.9877, which means the company is in a healthy and safe criteria from bankruptcy. The Z - Score in 2017 at PT XL Axiata Tbk is 1.07, which means the company is

in the bankruptcy criteria. The 2017 Z - Score at PT Indosat Tbk is 1.4449, which means the company is in the bankruptcy criteria.

Table 4.15
Financial Ratios (X_1, X_2, X_3, X_4, X_5) in 2018

No	Code	X_1	X_2	X_3	X_4	X_5
1	TLKM	(0.014)	0.366	0.188	4.178	0.634
2	EXCL	(0.150)	0.088	(0.053)	0.539	0.399
3	ISAT	(0.247)	0.157	(0.008)	0.223	0.435

Source: processed data

Table 4.16
Result of Calculation and Analysis of Altman Z- Score Method in 2018

No	Code	$1.2X_1$	$1.4X_2$	$3.3X_3$	$0.6X_4$	$1.0X_5$	Z- Score
1	TLKM	$1.2 \times (0.014)$	1.4×0.366	3.3×0.188	0.6×4.178	1.0×0.634	4.2568
2	EXCL	$1.2 \times (0.150)$	1.4×0.088	$3.3 \times (0.053)$	0.6×0.539	1.0×0.399	0.4907
3	ISAT	$1.2 \times (0.247)$	1.4×0.157	$3.3 \times (0.008)$	0.6×0.223	1.0×0.435	1.4658

Source: processed data

The Z - Score in 2018 at PT Telekomunikasi Indonesia Tbk is 4.2568, which means the company is in a healthy and safe

criteria from bankruptcy. The Z - Score in 2018 at PT XL Axiata Tbk is 0.4907, which means the company is in the bankruptcy criteria. The Z -

Score in 2018 at PT Indosat Tbk is 1.4658, criteria.
which means the company is in the bankruptcy

Table 4.17
Financial Ratios (X_1, X_2, X_3, X_4, X_5) in 2019

No	Code	X_1	X_2	X_3	X_4	X_5
1	TLKM	(0.075)	0.344	0.191	3,783	0.612
2	EXCL	(0.225)	0.089	0.041	0.772	0.400
3	ISAT	(0.154)	0.159	0.067	0.322	0.415

Source: processed data

Table 4.18
Result of Calculation and Analysis of Altman Z- Score Method in 2019

No	Code	$1.2X_1$	$1.4X_2$	$3.3X_3$	$0.6X_4$	$1.0X_5$	Z- Score
1	TLKM	$1.2 \times (0.075)$	1.4×0.344	3.3×0.191	0.6×3.783	1.0×0.612	3.9037
2	EXCL	$1.2 \times (0.225)$	1.4×0.089	3.3×0.041	0.6×0.772	1.0×0.400	0.8531
3	ISAT	$1.2 \times (0.154)$	1.4×0.159	3.3×0.067	0.6×0.322	1.0×0.415	0.8671

Source: processed data

The 2019 Z - Score at PT Telekomunikasi Indonesia Tbk is 3.9037, which means the company is in a healthy and safe criteria from bankruptcy.

The 2019 Z - Score at PT XL Axiata Tbk is 0.8531, which means the company is in the bankruptcy criteria.

The 2019 Z - Score at PT Indosat Tbk is 0.8671, which means the company is in the bankruptcy criteria.

Table 4.19
Calculation Results and Predictions of Altman Z- Score . Method

No	Code	2016	2017	2018	2019	Criteria
1	TLKM	5,1462	4.9877	4.2568	3.9037	Healthy
2	EXCL	0.86606	1.07	0.4907	0.8531	Bankrupt
3	ISAT	1.4365	1.4449	0.4658	0.8671	Bankrupt

Source: processed data

The calculation results and predictions of the Altman Z - Score method at PT Telekomunikasi in 2016-2017 are in a healthy condition every year even though the Z- Score value has decreased. At PT XL Axiata Tbk in 2016-2017, it was in a state of bankruptcy with the Z- Score value always fluctuating every year. And PT Indosat Tbk in 2016-2017 is also in a state of bankruptcy with a Z - Score value which also fluctuates every year.

4.2 Analysis and Interpretation (Discussion)

- The Z - Score value of PT Telekomunikasi Indonesia Tbk in 2016-2019 has decreased every year, namely in 2016 by 5.1462, in 2017 by 4.9877, in 2018 by 4.2568, and in 2019 by 3.9037. So that the overall Z - Score shows a Z value > 2.99 with the criteria as a healthy company and not experiencing financial difficulties. This shows that PT Telekomunikasi Indonesia Tbk has no potential for bankruptcy. Although it does not have the potential to

experience bankruptcy, PT Telekomunikasi Indonesia still has to improve or improve the company's performance so that it does not go bankrupt.

- b. The Z - Score of PT XL Axiata Tbk in 2016-2019 always fluctuates every year, namely in 2016 of 0.86606, 2017 of 1.07, 2018 of 0.4907, and in 2019 of 0.8531. So that the overall Z - Score of PT XL Axiata Tbk shows a Z value < 1.81 with the criteria as a company that has very large financial difficulties and is at high risk so that the possibility of bankruptcy is very large.
- c. The Z - Score of PT Indosat Tbk in 2016-2019 always fluctuates every year, namely in 2016 of 1.4365, 2017 of 1.4449, 2018 of 0.4658, and in 2019 of 0.8671. So that the overall Z - Score of PT Indosat Tbk shows a Z value of < 1.81 with the criteria as a company that has very large financial difficulties and is at high risk so that the possibility of bankruptcy is very large.

The results of this study are in accordance with the previous research table in the empirical review section, namely the first previous research written by Putri Risnanti, Eny Kustiyah, and Rochmi Widayanti (2019) with the title "Analysis of Corporate Bankruptcy Threatened by *Delisting* on the Indonesia Stock Exchange". And second is a previous study written by I Komang Try Satriawan Korry, Made Pratiwi Dewi, and Ni Luh Anik Puspa Ningsih (2019) entitled "Bankruptcy Prediction Analysis Based on the Altman Z - Score Method (Case Study on State-Owned Banks Listed on the IDX)", because the method used in the research is the same, namely the Altman Z - Score method in analyzing bankruptcy predictions and also the results of research between healthy, *gray area* or bankrupt, although the object of the company used in each previous research is different.

While previous research that is not in accordance with the results of this study is the first previous research written by Wawan Darmawan and Andika Jaros Tubaka (2021)

entitled "Analysis of Bankruptcy Prediction of PT. Krakatau Steel (Persero) using the Altman Z- Score Model ". And the two previous studies by Putu Riesty Masdianti and Ni Made Sandy Warasnasih (2020) entitled "Financial Reports and Prediction of Corporate Bankruptcy", because the previous research compared which bankruptcy analysis method had the most accurate level in predicting the bankruptcy of a company.

5. CLOSING

5.1 S conclusion

Based on the results of research conducted bankruptcy prediction using the Altman Z- Score method on 3 companies sub-sector telecommunications

- 1) PT Telekomunikasi Indonesia Tbk in 2016-2019 was in a healthy condition with the criteria for the value of $Z > 2.99$.
- 2) PT XL Axiata Tbk in 2016-2019 was in a state of bankruptcy with a criterion value of $Z < 1.81$.
- 3) PT Indosat Tbk in 2016-2019 was in a state of bankruptcy with a criterion value of $Z < 1.81$.

5.2 Suggestion

Based on the conclusion of the data analysis that has been done, some suggestions can be made as follows:

- 1) For companies that are predicted to be healthy and safe, continue to improve corporate policy decision making and improve financial performance as well as utilize their assets as effectively as possible to obtain maximum profit. And for a company that is in a state of bankruptcy, it does not mean that the company has been declared bankrupt, if the company can improve the company's financial condition and financial performance in the future, namely by increasing revenues, increasing profits and reducing debt with cost efficiency then the company may still be able to keep holding on.

- 2) This research is expected to be used as an additional reference for further research in the same field that will come to be developed and improved, for example by using different methods and different samples of companies.

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