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## ANALYSIS OF FINANCIAL REPORTS IN FINANCIAL DISTRESS PREDICTION WITH ALTMAN Z-SCORE AND ZMIJEWSKI METHOD ON LQ45 INDEXED COMPANIES ON BEI

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### Abstract

Analysis of the influence of financial distress and financial ratios using the Altman Z-Score and Zmijewski methods. used to conduct a thorough examination of financial performance periodically over a certain period of time. so the purpose of this study is to determine how healthy a company indexed by LQ45 is by analyzing factors that affect financial distress through financial ratios and the formula equations of the Altman Z-Score and Zmijewski methods. The results of this study are that the use of the GorgonL.V or S-SCORE method is a consistent method in predicting financial distress in companies, namely by approaching sales and total assets. By making predictions about financial distress conditions, companies can identify and prove factors that can cause potential bankruptcy. Through increased sales and effective management of total assets, companies have a greater chance of obtaining optimal profits, so they can strengthen their financial position and avoid the risk of financial distress in the future.

**Keywords:** *Financial distress, Z-Score, Zmijewski and Financial Performance*

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### INTRODUCTION

In facing the era of globalization and the rapid development of the digital economy, companies are required to be able to maintain financial stability and compete sustainably. The success of a company is not only measured by the size of the profit earned, but also by the company's ability to maintain its business continuity. One of the main challenges faced by companies is the risk of financial distress, which is a condition in which the company is experiencing financial difficulties that can lead to bankruptcy if not addressed immediately. Financial distress can be triggered by various factors, both internal such as decreased

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revenue, low management efficiency, and high debt burden; and external such as macroeconomic turmoil, regulatory changes, and competitive pressures. Therefore, a predictive tool is needed that is able to detect these conditions early through financial statement analysis.

Not only developing in innovation, but the company must also pay attention to the health of a company, be it the distribution of dividends every year, the high selling value of shares, increasing revenue and relatively small debt. This can make a benchmark for a company to experience an increase in relatively healthy financial performance. However, it does not rule out the possibility that the company will also experience a decline in financial performance. seen from the high operating costs, the weakening of the share value, the decline in dividend payments. so that the company needs to be re-analyzed financial performance. The important role of company management in running the company is a decrease in capital structure, improper asset management, and too high operating costs. so that these factors result in *financial distress*. In this study using 2 methods, namely Altman Z-Score and Zmijewski in analyzing the potential bankruptcy of a company. Where there have been several studies in various sectors of companies listed on the IDX.

The formulation of the problem in this study is whether the Altman Z- Score and Zmijewski methods can predict the occurrence of *financial distress* on financial reports in the LQ45 indexed company sector on the IDX, so that from the formulation of the problem, the goal can be taken, namely proving the Altman Z-Score and Zmijewski methods can predict the occurrence of *financial distress* on *financial* reports in the LQ45 indexed company sector on the IDX.

The research gap from previous research is that there are differences of opinion regarding the accuracy of the results of measuring the bankruptcy of a company using the Altman Z-Score and Zmijewski methods due to sampling data from different company sectors such as the use of the altman z-score method in predicting financial distress in the sector of textile and garment companies listed on the IDX for the period 2009-2012. (Zakkiyah, et al: 2014), measuring financial distress with grover, altman z-score, springate and zmijewski methods on pt solusi bangun indonesia tbk (Nur Kholifah et al: 2020). The existence of this study, the researcher developed previous research, namely proving whether the accuracy of a method in measuring a company does differ by sector or vice versa.

## **METHOD**

This research uses a descriptive quantitative approach. This approach is used to measure and describe the financial distress conditions of companies incorporated in the LQ45 index on the Indonesia Stock Exchange (IDX) during the 2019-2022 period. This study aims to identify potential financial difficulties based on the results of financial ratio analysis using two predictive models, namely Altman Z-Score and Zmijewski.

The model used in this study is comparative because it compares the results of financial condition classification between methods.

### Population and Sample

The population in this study are all companies listed in the LQ45 index on the Indonesia Stock Exchange (IDX) during the period 2019 to 2022.

The sampling technique used is purposive sampling, which is a sample selection technique based on certain criteria set by the researcher. The criteria used are:

1. The company was consistently included in the LQ45 index during 2019-2022.
2. Included in the non-financial sector.
3. Have complete and accessible annual financial statements for the period.
4. Provide relevant financial data for ratio calculations on the Altman Z-Score and Zmijewski methods.

Based on these criteria, 45 companies were obtained as samples in this study.

### Data Collection Technique

The data collection technique used in this research is **documentation**, namely by downloading and collecting annual financial reports of sample companies available on the official website of the Indonesia Stock Exchange ([www.idx.co.id](http://www.idx.co.id)) and the official website of each company.

### Operational Definition

The methods that will be used to analyze the *financial distress* of a company are as follows:

#### 1. Altman Z-Score

The Z-Score (Altman) method is a score determined from a standard count times financial ratios that will indicate the level of possible bankruptcy of the company (Supardi, 2003: 73). Based on the understanding, it can be concluded that the Z-Score (Altman) method is a tool that takes into account and combines several certain financial ratios in the company in a discriminant equation that will produce a certain score that will indicate the level of possible bankruptcy of the company.

In this modified Z-Score Altman eliminates variable X5 (sales to total assets) because this ratio varies greatly in industries with different asset sizes. The following is the Z-Score equation:

$$Z = 1.2X_1 + 1.4X_2 + 3.3X_3 + 0.6X_4 + 1.0X_5$$

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$$Z = 1.2X_1 + 1.4X_2 + 3.3X_3 + 0.6X_4 + 1.0X_5$$

With:

- $X_1$  = Working Capital / Total Assets
- $X_2$  = Retained Earnings / Total Assets
- $X_3$  = EBIT / Total Assets

- $X_4$  = Market Value of Equity / Total Liabilities
- $X_5$  = Sales / Total Assets

Score interpretation:

- $Z > 2.99 \rightarrow$  Healthy
- $1.81 < Z < 2.99 \rightarrow$  Gray area
- $Z < 1.81 \rightarrow$  Distress

## 2. Zmijewski (X-score)

According to *Grice and Dugan in Topo Wijono, et al* (2014), the Zmijewski method is a probit model which is an alternative to regression analysis that uses a cumulative normal probability distribution. Zmijewski's probit analysis uses financial ratios that measure the performance of Return On Assets (ROA), Leverage, and liquidity to predict the company's financial difficulties. The following is the Z-Score equation:

$$Z = -4.3 - 4.5X_1 + 5.7X_2 + 0.004X_3$$

$$Z = -4.3 - 4.5X_1 + 5.7X_2 +$$

$$0.004X_3$$

$$Z = -4.3 - 4.5X_1 + 5.7X_2 + 0.004X_3$$

With:

- $X_1$  = Net Income / Total Assets
- $X_2$  = Total Liabilities / Total Assets
- $X_3$  = Current Assets / Current Liabilities

Score interpretation:

- $Z > 0 \rightarrow$  Distress
- $Z < 0 \rightarrow$  No distress

## Data Analysis Technique

The steps of data analysis in this study are as follows:

1. Collected and prepared financial data from 45 sample companies for 2019-2022.
2. Calculate the required ratios based on the formula of each method.
3. Calculating Altman Z and Zmijewski scores for each company and each year.
4. Classify companies into healthy, gray area, or distress categories based on the criteria of each method.
5. Comparing the classification results between methods and interpreting the findings to conclude the effectiveness of the two predictive models.

## RESULTS AND DISCUSSION

This study aims to analyze the condition of financial distress in companies incorporated in the LQ45 index for the period 2019 to 2022 using two prediction methods, namely the Altman Z-Score and Zmijewski methods. The analysis is based on secondary data from the annual financial statements of each company. The main variables used in the Altman model include working capital, retained earnings, EBIT, equity market value, total assets, and sales. While the Zmijewski model uses ROA, leverage, and current ratio variables.

Table 1  
Analysis of 2019 financial statements

NO.	Kode Perusahaan	Tahun	Jumlah aset lancar	Jumlah liabilitas jangka pendek	Jumlah aset	Jumlah laba (rugi) sebelum pajak penghasilan	Jumlah laba (rugi)	Penjualan dan pendapatan usaha
1	ACES	2019	4.369.550.647.718	783.375.432.849	6.641.808.005.145	1.262.709.647.429	1.023.636.538.399	8.142.717.045.655
2	ADRO	2019	2.109.924	1.232.601	7.217.105	659.103	435.002	3.457.154
3	AKRA	2019	10.777.639.192	8.712.526.231	21.409.046.173	899.083.233	703.077.279	21.702.637.573
4	ANTM	2019	7.665.239.260	5.293.238.393	30.194.907.730	687.034.053	193.852.031	32.718.542.699
5	ASII	2019	129.058	99.962	351.958	34.054	26.621	237.166
6	EMTK	2019	8.606.558.382	2.689.303.079	17.540.637.852	563.135.270	2.343.106.373	11.030.044.792
7	ESSA	2019	190.464.232	82.084.677	895.312.424	11.532.216	589.943	221.911.797
8	HRUM	2019	288.389.905	31.270.572	447.001.954	25.627.895	20.122.589	262.590.669
9	MDKA	2019	204.759.644	254.068.583	951.253.163	108.471.334	69.253.653	402.039.388
10	MEDC	2019	1.694.682.717	705.581.042	5.997.523.421	156.861.514	24.950.936	1.375.721.763
11	BRPT	2019	1.828.133	1.105.635	7.182.435	276.669	137.380	2.402.466
12	BSDE	2019	24.263.878.305.808	6.177.662.471.577	54.540.978.397.964	3.166.472.037.878	3.130.076.103.452	7.084.864.038.574
13	SIDO	2019	1.716.235	408.870	3.529.557	1.073.835	807.689	3.067.434
14	CPIN	2019	12.995.504	5.120.390	29.109.408	4.608.641	3.642.226	42.501.146
15	CTRA	2019	18.195.176	8.368.689	36.196.024	1.555.103	1.283.281	7.608.237
16	ERAA	2019	6.944.525.743	4.615.531.135	9.747.703.198	472.719.996	325.583.191	32.944.902.671
17	EXCL	2019	7.145.648	21.292.684	62.725.242	1.144.117	712.579	25.132.628
18	GGRM	2019	52.081.133	25.258.727	78.647.274	14.487.736	10.880.704	110.523.819
19	HMSP	2019	41.697.015	12.727.676	50.902.806	18.259.423	13.721.513	106.055.176
20	ICBP	2019	16.624.925	6.556.359	38.709.314	7.436.972	5.360.029	42.296.703
21	INCO	2019	588.313	136.552	2.222.688	89.136	57.400	782.012
22	INDF	2019	31.403.445	24.686.862	96.198.559	8.749.397	5.902.729	76.592.955
23	INKP	2019	4.214.777	1.832.973	8.502.050	397.897	274.390	3.223.153
24	INTP	2019	12.829.494	3.907.492	27.707.749	2.274.427	1.835.305	15.939.348
25	ITMG	2019	469.389	233.288	1.209.041	185.908	126.502	1.715.592
26	JPFA	2019	12.873.148	7.741.958	26.650.895	2.584.420	1.883.857	38.872.084
27	JSMR	2019	11.612.566	41.526.417	99.679.570	3.097.603	2.073.888	26.345.260
28	KLBF	2019	11.222.490.978.401	2.577.108.805.851	20.264.726.862.584	3.402.616.824.533	2.537.601.823.645	22.633.476.361.038
29	LPPF	2019	2.748.781	2.597.839	4.832.910	1.763.009	1.366.884	10.276.431
30	MNCN	2019	7.636.544	2.139.487	17.836.430	2.939.118	2.352.529	8.353.365
31	PGAS	2019	2.204.651.127	1.123.361.297	7.373.713.156	279.902.491	112.981.195	3.848.717.684
32	PTBA	2019	11.668.127	4.691.251	26.098.052	5.455.162	4.040.394	21.787.564
33	AMRT	2019	14.782.817	13.167.601	23.992.313	1.453.898	1.138.888	72.944.988
34	PWON	2019	9.642.587.369	3.373.096.633	26.095.153.343	3.270.697.901	3.239.796.227	7.202.001.193
35	SCMA	2019	3.559.331.625	988.970.149	6.716.724.073	1.452.611.689	1.051.164.602	5.523.362.497
36	SMGR	2019	16.658.531	12.240.252	79.807.067	3.195.775	2.371.233	40.368.107
37	SRIL	2019	894.760.661	182.540.923	1.559.251.755	101.548.894	87.652.548	1.181.834.182
38	TBIG	2019	2.376.740	4.513.623	30.871.710	1.303.989	866.121	4.698.742
39	TKIM	2019	879.074	540.366	3.062.331	184.698	166.516	1.047.118
40	TLKM	2019	41.722	58.369	221.208	37.908	27.592	135.567
41	TOWR	2019	2.474.389	4.565.104	27.665.695	3.008.859	2.353.089	6.454.302
42	UNTR	2019	50.826.955	32.585.529	111.713.375	15.476.885	11.134.641	84.430.478
43	UNVR	2019	8.530.334	13.065.308	20.649.371	9.901.772	7.392.837	42.922.563
44	WIKA	2019	42.335.471.858	30.349.456.945	62.110.847.154	2.789.255.688	2.621.015.140	27.212.914.210
45	WSKT	2019	49.037.842.886.120	45.023.495.139.583	122.589.259.350.571	1.328.649.961.839	1.028.898.367.891	31.387.389.629.869

Source: secondary data in 2019

Analysis of financial statements in 2019 shows that there are companies that experience minus net income so that it can affect the health of a company such as EMTK (2,343,106,373) and MEDC (24,950,936). The factor that affects the occurrence of minus net income is the insignificant high total assets with relatively the same total sales, but in predicting *financial distress* can be predicted by various variables so that companies can improve their performance with other variables.



Table 2  
Altman z score and Zmijewski method in 2019

NO.	Kode Perusahaan	(2019) ALTMAN Z SCORE = $1.2X1 + 1.4X2 + 3.3X3 + 0.6X4 + 1.0X5$						Prediksi	(2019) Z = $-4.3 - 4.5X1 + 5.7X2 + 0.004X3$				Prediksi
		WCTA (X <sup>1</sup> )	ROA (X <sup>2</sup> )	EBITDA (X <sup>3</sup> )	Total Liabilities (X <sup>4</sup> )	Total Assets (X <sup>5</sup> )	Score		Net Income (X <sup>1</sup> )	Total Liabilities (X <sup>2</sup> )	Current Asset (X <sup>3</sup> )	Score	
1	ACES	0,540	0,154	0,190	1,226	1,226	6,609	Sehat	0,154	0,118	5,578	-4,344	Sehat
2	ADRO	0,122	0,060	0,091	0,479	0,479	2,111	Grey Area	0,060	0,171	1,712	-3,605	Sehat
3	AKRA	0,096	0,033	0,042	1,014	1,014	2,086	Grey Area	0,033	0,407	1,237	-2,133	Sehat
4	ANTM	0,079	0,006	0,023	1,084	1,084	1,827	Grey Area	0,006	0,175	1,448	-3,335	Sehat
5	ASII	0,083	0,076	0,097	0,674	0,674	2,147	Grey Area	0,076	0,284	1,291	-3,027	Sehat
6	EMTK	0,337	-0,134	0,032	0,629	0,629	2,654	Sehat	-0,134	0,153	3,200	-2,838	Sehat
7	ESSA	0,121	0,001	-0,013	0,248	0,248	0,970	Distress	0,001	0,092	2,320	-3,790	Sehat
8	HRUM	0,575	0,045	0,057	0,587	0,587	4,922	Sehat	0,045	0,070	9,222	-4,141	Sehat
9	MDKA	-0,052	0,073	0,114	0,423	0,423	1,107	Grey Area	0,073	0,267	0,806	-3,108	Sehat
10	MEDC	0,165	-0,004	0,026	0,229	0,229	1,485	Grey Area	-0,004	0,118	2,402	-3,620	Sehat
11	BRPT	0,101	0,019	0,039	0,334	0,334	1,332	Grey Area	0,019	0,154	1,653	-3,515	Sehat
12	BSDE	0,332	0,057	0,058	0,130	0,130	2,889	Sehat	0,057	0,113	3,928	-3,928	Sehat
13	SIDO	0,370	0,229	0,304	0,869	0,869	6,133	Sehat	0,229	0,116	4,198	-4,686	Sehat
14	CPIN	0,271	0,125	0,158	1,460	1,460	4,780	Sehat	0,125	0,176	2,538	-3,871	Sehat
15	CTRA	0,271	0,035	0,043	0,210	0,210	2,406	Grey Area	0,035	0,231	2,174	-3,150	Sehat
16	ERAA	0,239	0,033	0,048	3,380	3,380	5,551	Sehat	0,033	0,473	1,505	-1,757	Sehat
17	EXCL	-0,226	0,011	0,018	0,401	0,401	-0,899	Distress	0,011	0,339	0,336	-2,418	Sehat
18	GGRM	0,341	0,138	0,184	1,405	1,405	5,402	Sehat	0,138	0,321	2,062	-3,100	Sehat
19	HMSP	0,569	0,270	0,359	2,083	2,083	9,210	Sehat	0,270	0,250	3,276	-4,101	Sehat
20	ICBP	0,260	0,138	0,192	1,093	1,093	4,596	Sehat	0,138	0,169	2,536	-3,968	Sehat
21	INCO	0,203	0,026	0,040	0,352	0,352	2,056	Grey Area	0,026	0,061	4,308	-4,083	Sehat
22	JNDF	0,070	0,061	0,091	0,796	0,796	2,105	Grey Area	0,061	0,257	1,272	-3,118	Sehat
23	JNKP	0,280	0,032	0,047	0,379	0,379	2,656	Sehat	0,032	0,216	2,299	-3,226	Sehat
24	INTP	0,322	0,066	0,082	0,575	0,575	3,484	Sehat	0,066	0,141	3,283	-3,807	Sehat
25	ITMG	0,195	0,105	0,154	1,419	1,419	4,145	Sehat	0,105	0,193	2,012	-3,679	Sehat
26	JPFA	0,193	0,071	0,097	1,459	1,459	3,777	Sehat	0,071	0,290	1,663	-2,969	Sehat
27	JSMR	-0,300	0,021	0,031	0,264	0,264	-1,414	Distress	0,021	0,417	0,280	-2,020	Sehat
28	KLBF	0,427	0,125	0,168	1,117	1,117	5,508	Sehat	0,125	0,127	4,355	-4,156	Sehat
29	LPPF	0,031	0,283	0,365	2,126	2,126	5,811	Sehat	0,283	0,538	1,058	-2,513	Sehat
30	MNCN	0,308	0,132	0,165	0,468	0,468	4,051	Sehat	0,132	0,120	3,569	-4,224	Sehat
31	PGAS	0,147	0,015	0,038	0,522	0,522	1,815	Grey Area	0,015	0,152	1,963	-3,508	Sehat
32	PTBA	0,267	0,155	0,209	0,835	0,835	4,540	Sehat	0,155	0,180	2,487	-3,982	Sehat
33	AMRT	0,067	0,047	0,061	3,040	3,040	4,196	Sehat	0,047	0,549	1,123	-1,390	Sehat
34	PWON	0,240	0,124	0,125	0,276	0,276	3,113	Sehat	0,124	0,129	2,859	-4,133	Sehat
35	SCMA	0,383	0,156	0,216	0,822	0,822	5,337	Sehat	0,156	0,147	3,599	-4,179	Sehat
36	SMGR	0,055	0,030	0,040	0,506	0,506	1,260	Grey Area	0,030	0,153	1,361	-3,565	Sehat
37	SRIL	0,457	0,056	0,065	0,758	0,758	4,413	Sehat	0,056	0,117	4,902	-3,905	Sehat
38	TBIG	-0,069	0,028	0,042	0,152	0,152	0,081	Distress	0,028	0,146	0,527	-3,595	Sehat
39	TKIM	0,111	0,054	0,060	0,342	0,342	1,667	Grey Area	0,054	0,176	1,627	-3,545	Sehat
40	TKM	-0,075	0,125	0,171	0,613	0,613	1,708	Grey Area	0,125	0,264	0,715	-3,360	Sehat
41	TOWR	-0,076	0,085	0,109	0,233	0,233	0,757	Distress	0,085	0,165	0,542	-3,744	Sehat
42	UNTR	0,163	0,100	0,139	0,756	0,756	3,121	Sehat	0,100	0,292	1,560	-3,092	Sehat
43	UNVR	-0,220	0,358	0,480	2,079	2,079	5,131	Sehat	0,358	0,633	0,653	-2,307	Sehat
44	WIKA	0,193	0,042	0,045	0,438	0,438	2,165	Grey Area	0,042	0,489	1,395	-1,710	Sehat
45	WSKT	0,033	0,008	0,011	0,256	0,256	0,584	Distress	0,008	0,367	1,089	-2,249	Sehat

Source: by the researcher

It can be seen in the table shows the difference in data processing results sourced from secondary data. In 2019, a number of companies showed weak financial conditions, characterized by a decrease in profitability and an imbalance between assets and liabilities.

**Altman Z-Score** Method Based on the calculation results, companies such as EXCL (-0.899) and JSMR (-1.414) this can be predicted by X1 where WCTA (*Work Capital Total Asset*) also obtained minus results, namely EXCL (-0.226) and JSMR (-0.300) showing a Z score < 1.81, indicating a high risk of bankruptcy. This is due to the low EBIT and high debt burden. . Several other companies are in the "gray area" zone, which requires further monitoring.

The **Zmijewski** Model method indicates that companies such as SRIL, MEDC(-3.905), and WSKT(-2.249) have a value > 0, signaling the risk of bankruptcy. The main contributing factor is the low ROA and current ratio, which reflect the company's inability to meet short-term obligations.

Table 3  
Analysis of 2020 financial statements

NO.	Kode Perusahaan	Tahun	Jumlah aset lancar	Jumlah liabilitas jangka pendek	Jumlah aset	Jumlah laba (rugi) sebelum pajak penghasilan	Jumlah laba (rugi)	Penjualan dan pendapatan usaha
1	ACES	2020	5.034.737.166.320	844.928.054.206	7.247.063.894.294	923.335.768.686	731.310.571.351	7.412.766.872.302
2	ADRO	2020	1.731.619	1.144.923	6.381.566	222.165	158.505	2.534.842
3	AKRA	2020	8.042.418.506	5.102.110.055	18.683.572.815	1.226.718.840	961.997.313	17.715.928.111
4	ANTM	2020	9.150.514.439	7.553.261.301	31.729.512.995	1.641.178.012	1.149.353.693	27.372.461.091
5	ASII	2020	132.308	85.736	338.203	21.741	18.571	175.046
6	EMTK	2020	7.330.342.675	2.864.848.927	17.884.145.634	3.702.417.493	1.717.376.472	11.936.381.982
7	ESSA	2020	103.415.874	94.894.567	792.053.460	39.420.425	33.568.693	175.514.454
8	HRUM	2020	249.455.822	24.761.588	498.702.216	64.171.397	60.292.315	157.819.047
9	MDKA	2020	199.308.697	192.217.456	929.606.638	56.204.449	28.891.683	321.860.885
10	MEDC	2020	2.021.925.790	1.372.820.769	5.900.822.955	98.283.621	177.303.520	1.093.274.485
11	BRPT	2020	2.056.677	1.099.536	7.683.159	244.472	141.383	2.334.170
12	BSDE	2020	28.364.288.311.886	11.965.625.224.530	60.862.926.586.750	502.148.296.818	486.257.814.158	6.180.589.086.059
13	SIDO	2020	2.052.081	560.043	3.849.516	1.199.548	934.016	3.335.411
14	CPIN	2020	13.531.817	5.356.453	31.159.291	4.767.698	3.845.833	42.518.782
15	CTRA	2020	20.645.596	11.609.414	39.255.187	1.659.121	1.370.686	8.070.737
16	ERAA	2020	7.546.995.255	5.142.950.705	11.211.369.042	917.316.742	671.172.137	34.113.454.845
17	EXCL	2020	7.571.123	18.857.026	67.744.797	146.211	371.598	26.009.095
18	GGRM	2020	49.537.929	17.009.992	78.191.409	9.663.133	7.647.729	114.477.311
19	HMSP	2020	41.091.638	16.743.834	49.674.030	11.161.466	8.581.378	92.425.210
20	ICBP	2020	20.716.223	9.176.164	103.588.325	9.958.647	7.418.574	46.641.048
21	INCO	2020	695.972	160.710	2.314.658	104.645	82.819	764.744
22	INDF	2020	38.418.238	27.975.875	163.136.516	12.426.334	8.752.066	81.731.469
23	INKP	2020	4.341.593	1.922.866	8.496.277	383.437	294.041	2.986.033
24	INTP	2020	12.299.306	4.215.956	27.344.672	2.148.328	1.806.337	14.184.322
25	ITMG	2020	419.933	207.300	1.158.629	72.553	37.828	1.185.336
26	JPPA	2020	11.745.138	6.007.679	25.951.760	1.459.563	1.002.376	36.964.948
27	JSMR	2020	10.705.995	14.928.687	104.086.646	696.451	41.629	13.704.021
28	KLBF	2020	13.075.331.880.715	3.176.726.211.674	22.564.300.317.374	3.627.632.574.744	2.799.622.515.814	23.112.654.991.224
29	LPPF	2020	1.610.213	2.856.300	6.319.074	934.404	873.181	4.839.058
30	MNCN	2020	8.315.808	2.159.171	18.923.235	2.339.661	1.871.028	7.956.238
31	PGAS	2020	2.005.785.786	1.183.155.336	7.533.986.395	175.355.545	215.767.814	2.885.536.105
32	PTBA	2020	8.364.356	3.872.457	24.056.755	3.231.685	2.407.927	17.325.192
33	AMRT	2020	13.558.536	15.326.139	25.970.743	1.388.967	1.088.477	75.826.880
34	PWON	2020	8.590.023.831	4.336.698.236	26.458.805.377	1.148.979.421	1.119.113.010	3.977.211.311
35	SCMA	2020	3.609.040.737	1.542.474.950	6.766.903.494	1.488.100.052	1.150.063.239	5.101.113.259
36	SMGR	2020	15.564.604	11.506.163	78.006.244	3.488.650	2.674.343	35.171.668
37	SRIL	2020	1.151.048.437	398.345.886	1.851.988.840	101.700.548	85.325.108	1.282.569.384
38	TBIG	2020	3.227.394	13.777.876	36.521.303	1.665.177	1.066.576	5.327.689
39	TKIM	2020	837.038	605.512	3.073.164	152.979	148.334	866.453
40	TLKM	2020	46.503	69.093	246.943	38.775	29.563	136.462
41	TOWR	2020	3.002.332	7.225.188	34.249.550	3.398.921	2.853.617	7.445.426
42	UNTR	2020	44.195.782	20.943.824	99.800.963	7.011.186	5.632.425	60.346.784
43	UNVR	2020	8.828.360	13.357.536	20.534.632	9.206.869	7.163.536	42.972.474
44	WIKA	2020	47.980.945.725	44.168.467.736	68.109.185.213	310.275.688	322.342.513	16.536.381.639
45	WSKT	2020	32.538.762.593.246	48.237.835.913.277	105.588.960.060.005	9.729.421.929.853	9.495.726.146.546	16.190.456.515.103

Source: secondary data 2020

Analysis of the 2020 financial statements shows that there are companies that experience minus net income so that it can affect the health of a company. The companies that from 2019 to 2020 still experience minus net income are MEDC (177,303,520) and there are several companies that experience minus net income including JSMR (41,629), LPPF (873,181), PGAS (215,767,814) and WSKT (9,495,726,146,546). The factor that affects the minus net income is the high total assets so that the amount of profit before tax decreases. however, in predicting *financial distress* can be predicted by various variables so that companies can improve their performance with other variables.



Table 4  
Altman z score and Zmijewski method in 2020

NO.	Kode Perusahaan	(2020) ALTMAN Z SCORE = 1.2X1 + 1.4X2 + 1.3X3 + 0.6X4 + 1.0X5						Prediksi	(2020) Z = -4.3 - 4.5X1 + 5.7X2 + 0.004X3				Prediksi
		WCTA (X1)	ROA (X2)	EBITTA (X3)	Total Liabilities (X4)	Total Assets (X5)	Score		Net Income (X1)	Total Liabilities (X2)	Current Asset (X3)	Score	
1	ACES	0,578	0,101	0,127	1,023	1,023	6,052	Sehat	0,101	0,117	5,959	-4,113	Sehat
2	ADRO	0,092	0,025	0,035	0,397	0,397	1,335	Grey Area	0,025	0,179	1,512	-3,395	Sehat
3	AKRA	0,157	0,051	0,066	0,948	0,948	2,637	Sehat	0,051	0,273	1,576	-2,981	Sehat
4	ANTM	0,050	0,036	0,052	0,863	0,863	1,702	Grey Area	0,036	0,238	1,211	-3,111	Sehat
5	ASII	0,138	0,055	0,064	0,518	0,518	2,058	Grey Area	0,055	0,254	1,543	-3,108	Sehat
6	EMTK	0,250	0,096	0,207	0,667	0,667	4,043	Sehat	0,096	0,160	2,559	-3,829	Sehat
7	ESSA	0,011	-0,042	-0,050	0,222	0,222	-0,169	Distress	-0,042	0,120	1,090	-3,431	Sehat
8	HRUM	0,451	0,121	0,129	0,316	0,316	4,547	Sehat	0,121	0,050	10,074	-4,601	Sehat
9	MDKA	0,008	0,031	0,060	0,346	0,346	0,921	Distress	0,031	0,207	1,037	-3,265	Sehat
10	MEDC	0,110	-0,030	-0,017	0,185	0,185	0,706	Distress	-0,030	0,233	1,473	-2,845	Sehat
11	BRPT	0,125	0,018	0,032	0,304	0,304	1,410	Grey Area	0,018	0,143	1,870	-3,575	Sehat
12	BSDE	0,269	0,008	0,008	0,102	0,102	1,956	Grey Area	0,008	0,197	2,370	-3,225	Sehat
13	SIDO	0,388	0,243	0,312	0,866	0,866	6,337	Sehat	0,243	0,145	3,664	-4,577	Sehat
14	CPIN	0,262	0,123	0,153	1,365	1,365	4,585	Sehat	0,123	0,172	2,526	-3,886	Sehat
15	CTRA	0,230	0,035	0,042	0,206	0,206	2,124	Grey Area	0,035	0,296	1,778	-2,779	Sehat
16	ERAA	0,214	0,060	0,082	0,304	0,304	5,347	Sehat	0,060	0,459	1,467	-1,961	Sehat
17	EXCL	-0,167	0,005	0,002	0,384	0,384	-0,657	Distress	0,005	0,278	0,402	-2,740	Sehat
18	GGRM	0,416	0,098	0,124	1,464	1,464	5,416	Sehat	0,098	0,218	2,912	-3,512	Sehat
19	HMSP	0,490	0,173	0,225	1,861	1,861	7,242	Sehat	0,173	0,337	2,454	-3,166	Sehat
20	ICBP	0,111	0,072	0,096	0,450	0,450	2,083	Grey Area	0,072	0,089	2,258	-4,126	Sehat
21	INCO	0,231	0,036	0,045	0,330	0,330	2,284	Grey Area	0,036	0,069	4,331	-4,083	Sehat
22	INDF	0,064	0,054	0,076	0,501	0,501	1,633	Grey Area	0,054	0,171	1,373	-3,569	Sehat
23	INKP	0,285	0,035	0,045	0,351	0,351	2,653	Sehat	0,035	0,226	2,258	-3,175	Sehat
24	INTP	0,296	0,066	0,079	0,519	0,519	3,227	Sehat	0,066	0,154	2,917	-3,730	Sehat
25	ITMG	0,184	0,033	0,063	1,023	1,023	2,805	Sehat	0,033	0,179	2,026	-3,435	Sehat
26	JPPA	0,221	0,039	0,056	1,424	1,424	3,450	Sehat	0,039	0,231	1,955	-3,162	Sehat
27	JSMR	-0,041	0,000	0,007	0,132	0,132	-0,084	Distress	0,000	0,143	0,717	-3,484	Sehat
28	KLBF	0,439	0,124	0,161	1,024	1,024	5,438	Sehat	0,124	0,141	4,116	-4,072	Sehat
29	LPPF	-0,197	-0,138	-0,148	0,766	0,766	-1,934	Distress	-0,138	0,452	0,564	-1,104	Sehat
30	MNCN	0,325	0,099	0,124	0,420	0,420	3,729	Sehat	0,099	0,114	3,851	-4,110	Sehat
31	PGAS	0,109	-0,029	-0,023	0,383	0,383	0,869	Distress	-0,029	0,157	1,695	-3,283	Sehat
32	PTBA	0,187	0,100	0,134	0,720	0,720	3,210	Sehat	0,100	0,161	2,160	-3,842	Sehat
33	AMRT	-0,068	0,042	0,053	2,920	2,920	3,115	Sehat	0,042	0,590	0,885	-1,128	Sehat
34	PWON	0,161	0,042	0,043	0,150	0,150	1,642	Grey Area	0,042	0,164	1,981	-3,564	Sehat
35	SCMA	0,305	0,170	0,220	0,754	0,754	4,827	Sehat	0,170	0,228	2,340	-3,775	Sehat
36	SMGR	0,052	0,034	0,045	0,451	0,451	1,227	Grey Area	0,034	0,148	1,353	-3,619	Sehat
37	SRIL	0,406	0,046	0,055	0,693	0,693	3,913	Sehat	0,046	0,215	2,890	-3,293	Sehat
38	TBIG	-0,289	0,029	0,046	0,146	0,146	-1,340	Distress	0,029	0,377	0,234	-2,282	Sehat
39	TKIM	0,075	0,048	0,050	0,282	0,282	1,282	Grey Area	0,048	0,197	1,382	-3,400	Sehat
40	TLKM	-0,091	0,120	0,157	0,553	0,553	1,426	Grey Area	0,120	0,280	0,673	-3,247	Sehat
41	TOWR	-0,123	0,083	0,099	0,217	0,217	0,358	Distress	0,083	0,211	0,416	-3,474	Sehat
42	UNTR	0,233	0,056	0,070	0,605	0,605	2,819	Sehat	0,056	0,210	2,110	-3,366	Sehat
43	UNVR	-0,221	0,349	0,448	2,093	2,093	4,901	Sehat	0,349	0,650	0,661	-2,165	Sehat
44	WIKI	0,056	0,005	0,005	0,243	0,243	0,668	Distress	0,005	0,648	1,086	-0,629	Sehat
45	WSKT	-0,149	-0,090	-0,092	0,153	0,153	-1,727	Distress	-0,090	0,457	0,675	-1,294	Sehat

Source: by the researcher

2020 is a critical year due to the COVID-19 pandemic. Many companies experienced a drastic decrease in revenue, it can be seen in the table showing the difference in data processing results sourced from 2020 secondary data using two methods.

**Altman Z-Score method** There is an increase in the number of companies that fall into the distress category. Companies such as LPPF (-1.934), PGAS (0.869), and WSKT (-1.727) showed low scores. Declining operating profit and asset utilization efficiency are the main causes.

**Zmijewski method** Companies such as WSKT (-1.294), EXCL (-2.740), and MEDC (-2.845) show a Zmijewski score > 0. High leverage and negative net income are the main indicators of bankruptcy risk.



Taable 5  
Analysis of 2021 financial statements

NO.	Kode Perusahaan	Tahun	Jumlah aset lancar	Jumlah liabilitas jangka pendek	Jumlah aset	Jumlah laba (rugi) sebelum pajak penghasilan	Jumlah laba (rugi)	Penjualan dan pendapatan usaha
1	ACES	2021	5.192.108.153.404	722.537.447.543	7.171.138.470.214	844.868.009.667	704.808.586.631	6.543.362.698.900
2	ADRO	2021	2.838.132	1.361.558	7.586.936	1.486.251	1.028.593	3.992.718
3	AKRA	2021	12.022.678.362	9.306.841.393	23.508.585.736	1.436.743.040	1.135.001.756	25.707.068.900
4	ANTM	2021	11.728.143	6.562.383	32.916.154	3.043.509	1.861.740	38.445.595
5	ASII	2021	160.262	103.778	367.311	32.350	25.586	233.485
6	EMTK	2021	12.961.204.931	3.213.609.433	38.168.511.114	6.436.822.691	6.019.825.801	12.840.734.345
7	ESSA	2021	158.000.533	97.776.656	809.293.023	10.094.942	14.354.428	303.437.230
8	HRUM	2021	247.611.806	80.577.513	874.657.582	127.569.867	98.313.145	336.175.517
9	MDKA	2021	411.315.044	297.241.459	1.278.592.659	56.718.350	33.386.800	380.956.549
10	MEDC	2021	1.701.563.649	1.006.176.448	5.683.884.139	269.379.241	62.600.751	1.252.106.573
11	BRPT	2021	3.564.431	1.132.850	9.241.551	481.320	296.007	3.155.656
12	BSDE	2021	28.397.757.188.620	10.967.892.740.436	61.469.712.165.656	1.547.006.489.870	1.538.840.956.173	7.654.802.250.986
13	SIDO	2021	2.244.707	543.370	4.068.970	1.613.231	1.260.898	4.020.980
14	CPIN	2021	15.715.060	7.836.101	35.446.051	4.633.546	3.619.010	51.698.249
15	CTRA	2021	21.916.840	10.963.375	40.668.411	2.396.714	2.087.716	9.729.651
16	ERAA	2021	6.624.347.489	4.279.452.623	11.372.225.256	1.495.064.863	1.117.917.248	43.466.976.696
17	EXCL	2021	7.733.191	20.953.921	72.753.282	1.707.540	1.287.807	26.754.050
18	GGRM	2021	59.312.578	28.369.283	89.964.369	7.286.846	5.605.321	124.881.266
19	HMSP	2021	41.323.105	21.964.259	53.090.428	9.152.166	7.137.097	98.874.784
20	ICBP	2021	33.997.637	18.896.133	118.015.311	9.950.170	7.911.943	56.803.733
21	INCO	2021	836.576	168.430	2.472.828	220.645	165.797	953.174
22	INDF	2021	54.183.399	40.403.404	179.271.840	14.488.653	11.229.695	99.345.618
23	INKP	2021	4.702.128	2.265.121	8.978.445	660.747	526.359	3.516.586
24	INTP	2021	11.336.733	4.646.506	26.136.114	2.234.002	1.788.496	14.771.906
25	ITMG	2021	988.024	364.743	1.666.239	621.089	475.390	2.076.813
26	JPFA	2021	14.161.153	7.064.166	28.589.656	2.793.847	2.130.896	44.878.300
27	JSMR	2021	10.361.876	12.014.583	101.242.884	2.072.453	871.236	15.169.552
28	KLBF	2021	15.712.209.507.638	3.534.656.089.431	25.666.635.156.271	4.143.264.634.774	3.232.007.683.281	26.261.194.512.313
29	LPPF	2021	1.513.483	2.070.044	5.851.229	1.102.899	912.854	5.585.975
30	MNCN	2021	9.524.188	2.334.035	20.874.784	3.279.880	2.629.530	10.012.880
31	PGAS	2021	2.191.174.530	863.911.451	7.510.948.902	467.938.895	364.534.135	3.036.100.956
32	PTBA	2021	18.211.500	7.500.647	36.123.703	10.358.675	8.036.888	29.261.468
33	AMRT	2021	14.211.903	16.376.061	27.370.210	2.395.909	1.963.050	84.904.301
34	PWON	2021	11.453.040.378	3.018.980.942	28.866.081.129	1.564.246.044	1.550.434.339	5.713.272.952
35	SCMA	2021	6.660.356.466	1.697.696.732	9.913.440.970	1.725.634.233	1.337.985.791	5.930.261.093
36	SMGR	2021	16.185.508	14.632.232	81.766.327	3.537.704	2.117.236	96.702.301
37	SRIL	2021	589.321.220	1.571.358.369	1.233.819.635	1.179.074.221	1.074.402.760	847.523.131
38	TBIG	2021	3.021.253	8.432.425	41.870.435	2.220.471	1.601.353	6.179.584
39	TKIM	2021	805.333	677.560	3.161.820	256.738	248.362	1.024.459
40	TLKM	2021	61.277	69.131	277.184	43.678	33.948	143.210
41	TOWR	2021	7.398.138	21.880.264	65.828.670	4.050.968	3.447.875	8.635.346
42	UNTR	2021	60.604.068	30.489.218	112.561.356	14.462.250	10.608.267	79.460.503
43	UNVR	2021	7.642.208	12.445.152	19.068.532	7.496.592	5.758.148	39.545.959
44	WIKA	2021	37.186.634.112	36.969.569.903	69.385.794.346	196.664.427	214.424.794	17.809.717.726
45	WSKT	2021	42.588.609.406.325	27.201.562.416.697	103.601.611.883.340	1.086.240.733.799	1.838.733.441.975	12.224.128.315.553

Source: secondary data in 2021

Analysis of the 2021 financial statements shows that there are companies that experience minus net income so that it can affect the health of a company such as SRIL (1,074,402,760) & WSKT (1,086,240,733,799). The factors that affect the occurrence of minus net income are high total assets and current liabilities so that net income decreases. However, in predicting *financial distress*, it can be predicted with various variables so that companies can improve their performance with other variables.

Table 6  
Altman z score and Zmijewski method in 2021

NO.	Kode Perusahaan	(2021) ALTMAN Z SCORE = $1.2X1 + 1.4X2 + 1.3X3 + 0.6X4 + 1.0X5$						Prediksi	(2021) Z = $-4.3 - 4.5X1 + 5.7X2 + 0.004X3$				Prediksi
		WC/A (X <sup>1</sup> )	ROA (X <sup>2</sup> )	EBIT/A (X <sup>3</sup> )	Total Liabilities (X <sup>4</sup> )	Total Assets (X <sup>5</sup> )	Score		Net Income (X <sup>1</sup> )	Total Liabilities (X <sup>2</sup> )	Current Asset (X <sup>3</sup> )	Score	
1	ACES	0,623	0,098	0,118	0,912	0,912	6,159	Sehat	0,098	0,101	7,186	-4,197	Sehat
2	ADRO	0,195	0,136	0,196	0,526	0,526	3,588	Sehat	0,136	0,179	2,084	-3,895	Sehat
3	AKRA	0,116	0,048	0,061	1,094	1,094	2,474	Grey Area	0,048	0,396	1,292	-2,266	Sehat
4	ANTM	0,157	0,057	0,092	1,168	1,168	3,062	Sehat	0,057	0,199	1,787	-3,425	Sehat
5	ASII	0,154	0,070	0,088	0,636	0,636	2,495	Grey Area	0,070	0,283	1,544	-3,009	Sehat
6	EMTK	0,255	0,158	0,169	0,336	0,336	3,676	Sehat	0,158	0,084	4,033	-4,546	Sehat
7	ESSA	0,074	0,018	0,012	0,375	0,375	1,023	Distress	0,018	0,121	1,616	-3,698	Sehat
8	HRUM	0,191	0,112	0,146	0,384	0,384	3,003	Sehat	0,112	0,092	3,073	-4,293	Sehat
9	MDKA	0,089	0,026	0,044	0,298	0,298	1,281	Grey Area	0,026	0,232	1,384	-3,098	Sehat
10	MEDC	0,122	0,011	0,047	0,220	0,220	1,388	Grey Area	0,011	0,177	1,691	-3,347	Sehat
11	BRPT	0,263	0,032	0,052	0,341	0,341	2,539	Grey Area	0,032	0,123	3,146	-3,758	Sehat
12	BSDE	0,284	0,025	0,025	0,125	0,125	2,242	Grey Area	0,025	0,178	2,589	-3,406	Sehat
13	SIDO	0,418	0,310	0,396	0,988	0,988	7,455	Sehat	0,310	0,134	4,131	-4,950	Sehat
14	CPIN	0,222	0,102	0,131	1,459	1,459	4,201	Sehat	0,102	0,221	2,005	-3,507	Sehat
15	CTRA	0,269	0,051	0,059	0,239	0,239	2,581	Grey Area	0,051	0,270	1,999	-3,002	Sehat
16	ERAA	0,206	0,098	0,131	3,822	3,822	6,570	Sehat	0,098	0,376	1,548	-2,604	Sehat
17	EXCL	-0,182	0,018	0,023	0,368	0,368	-0,591	Distress	0,018	0,288	0,369	-2,739	Sehat
18	GGRM	0,344	0,062	0,081	1,388	1,388	4,461	Sehat	0,062	0,315	2,091	-2,791	Sehat
19	HMSP	0,365	0,134	0,172	1,862	1,862	5,944	Sehat	0,134	0,414	1,881	-2,554	Sehat
20	ICBP	0,128	0,067	0,084	0,481	0,481	2,130	Grey Area	0,067	0,160	1,799	-3,696	Sehat
21	INCO	0,270	0,067	0,089	0,385	0,385	2,995	Sehat	0,067	0,068	4,967	-4,233	Sehat
22	JNDF	0,077	0,063	0,081	0,554	0,554	1,833	Grey Area	0,063	0,225	1,341	-3,303	Sehat
23	INKP	0,271	0,059	0,074	0,392	0,392	2,877	Sehat	0,059	0,252	2,076	-3,134	Sehat
24	INTP	0,256	0,068	0,085	0,565	0,565	3,070	Sehat	0,068	0,178	2,440	-3,604	Sehat
25	ITMG	0,374	0,285	0,373	1,246	1,246	7,198	Sehat	0,285	0,219	2,709	-4,347	Sehat
26	JPFA	0,248	0,075	0,098	1,570	1,570	4,176	Sehat	0,075	0,247	2,005	-3,235	Sehat
27	JSMR	-0,016	0,009	0,020	0,150	0,150	0,216	Distress	0,009	0,119	0,862	-3,666	Sehat
28	KLBF	0,474	0,126	0,161	1,023	1,023	5,682	Sehat	0,126	0,138	4,445	-4,099	Sehat
29	LPFF	-0,095	0,156	0,188	0,955	0,955	2,154	Grey Area	0,156	0,354	0,731	-2,988	Sehat
30	MNCN	0,344	0,126	0,157	0,480	0,480	4,230	Sehat	0,126	0,112	4,081	-4,246	Sehat
31	PGAS	0,177	0,049	0,062	0,404	0,404	2,161	Grey Area	0,049	0,115	2,536	-3,873	Sehat
32	PTBA	0,297	0,222	0,287	0,810	0,810	5,448	Sehat	0,222	0,208	2,428	-4,127	Sehat
33	AMRT	-0,079	0,072	0,088	3,102	3,102	3,561	Sehat	0,072	0,598	0,868	-1,216	Sehat
34	PWON	0,292	0,054	0,054	0,198	0,198	2,664	Sehat	0,054	0,105	3,794	-3,961	Sehat
35	SCMA	0,501	0,135	0,174	0,598	0,598	5,522	Sehat	0,135	0,171	3,923	-3,947	Sehat
36	SMGR	0,019	0,026	0,043	0,449	0,449	0,971	Distress	0,026	0,179	1,106	-3,401	Sehat
37	SRIL	-0,796	-0,871	-0,956	0,687	0,687	-13,761	Distress	-0,871	1,274	0,375	6,876	Distress
38	TBIG	-0,129	0,038	0,053	0,148	0,148	-0,212	Distress	0,038	0,201	0,358	-3,326	Sehat
39	TKIM	0,040	0,079	0,081	0,324	0,324	1,407	Grey Area	0,079	0,214	1,189	-3,437	Sehat
40	TLKM	-0,028	0,122	0,158	0,517	0,517	1,815	Grey Area	0,122	0,249	0,886	-3,433	Sehat
41	TOWR	-0,220	0,052	0,062	0,131	0,131	-0,721	Distress	0,052	0,332	0,338	-2,642	Sehat
42	UNTR	0,268	0,094	0,128	0,706	0,706	3,667	Sehat	0,094	0,271	1,988	-3,188	Sehat
43	UNVR	-0,252	0,302	0,393	2,074	2,074	4,152	Sehat	0,302	0,653	0,614	-1,941	Sehat
44	WIKI	0,003	0,003	0,003	0,257	0,257	0,319	Distress	0,003	0,533	1,006	-1,281	Sehat
45	WSKT	0,149	-0,018	-0,010	0,118	0,118	0,970	Distress	-0,018	0,263	1,566	-2,730	Sehat

Source: by the researcher

In 2021, there are indications of recovery in some companies, although many are still unable to return to financial health.

**Altman Z-Score method** where there are 3 companies that fall into the bankruptcy category, namely EXCL (-0591), SRIL (-13,761), and WSKT (0.970). The shift from distress to gray area shows an improvement, but not yet fully recovered. Profitability is still the main challenge.

**Zmijewski method** SRIL(6.876) shows a very high score, indicating acute bankruptcy risk. EXCL(-2.739) and TOWR(-2.642) also show weaknesses in profitability and liquidity.

Table 7  
Financial statement analysis in 2022

NO.	Kode Perusahaan	Tahun	Jumlah aset lancar	Jumlah liabilitas jangka pendek	Jumlah aset	Jumlah laba (rugi) sebelum pajak penghasilan	Jumlah laba (rugi)	Penjualan dan pendapatan usaha
1	ACES	2022	5.362.930.145.158	669.768.766.924	7.249.254.612.049	820.831.199.512	673.646.864.480	6.762.803.342.146
2	ADRO	2022	5.319.309	2.447.512	10.782.307	4.476.219	2.831.123	8.102.399
3	AKRA	2022	15.841.294.251	11.280.491.593	27.187.608.036	3.085.916.786	2.479.059.157	47.539.986.604
4	ANTM	2022	11.694.779	5.971.662	33.637.271	5.214.771	3.820.964	45.930.356
5	ASII	2022	179.818	119.198	413.297	50.390	40.420	301.379
6	EMTK	2022	16.503.758.500	3.129.319.807	44.469.025.417	6.216.438.790	5.462.058.450	15.524.642.337
7	ESSA	2022	261.075.367	121.797.408	831.295.165	276.061.020	220.790.326	731.490.734
8	HRUM	2022	519.290.111	225.718.203	1.278.805.856	477.547.194	379.772.107	904.437.795
9	MDKA	2022	895.679.542	604.538.725	3.876.665.735	89.940.056	64.844.810	869.878.995
10	MEDC	2022	1.751.396.299	1.379.314.476	6.931.905.826	1.045.601.581	551.410.338	2.312.227.602
11	BRPT	2022	2.878.122	778.629	9.248.254	155.423	32.210	2.961.532
12	BSDE	2022	29.586.676.145.282	11.332.854.264.009	64.999.403.480.787	2.661.691.654.486	2.656.885.590.302	10.235.479.955.727
13	SIDO	2022	2.194.242	541.048	4.081.442	1.419.852	1.104.714	3.865.523
14	CPIN	2022	18.031.436	10.109.335	39.847.545	3.537.180	2.930.357	56.867.544
15	CTRA	2022	23.571.974	10.780.802	41.902.382	2.309.573	2.003.028	9.126.799
16	ERAA	2022	11.217.075.937	9.021.226.534	17.058.217.814	1.497.339.515	1.076.555.292	49.471.483.883
17	EXCL	2022	10.408.358	26.350.500	87.277.780	1.353.030	1.121.188	29.141.994
18	GGRM	2022	55.445.127	29.125.010	88.562.617	3.646.521	2.779.742	124.682.692
19	HMSP	2022	41.362.998	24.545.594	54.786.992	8.273.059	6.323.744	111.211.321
20	ICBP	2022	31.070.365	10.033.935	115.305.536	7.525.385	5.722.194	64.797.516
21	INCO	2022	989.802	175.039	2.658.116	275.819	200.401	1.179.452
22	INDF	2022	54.876.668	30.725.942	180.433.300	12.318.765	9.192.569	110.830.272
23	INKP	2022	5.476.557	2.239.843	9.640.721	1.047.499	857.462	4.002.632
24	INTP	2022	10.312.090	4.822.152	25.706.169	2.289.309	1.842.434	16.328.278
25	ITMG	2022	1.908.545	585.613	2.640.177	1.544.792	1.199.345	3.636.213
26	JPFA	2022	17.001.468	9.412.440	32.690.887	1.954.529	1.490.931	48.972.085
27	JSMR	2022	12.487.212	12.142.988	91.139.182	3.725.795	2.323.708	16.582.849
28	KLBF	2022	16.710.229.570.163	4.431.038.459.634	27.241.313.025.674	4.458.896.905.350	3.450.083.412.291	28.933.502.646.719
29	LPPF	2022	1.445.948	2.355.863	5.750.217	1.636.886	1.383.222	6.454.583
30	MNCN	2022	9.713.156	2.058.461	22.421.559	2.781.845	2.244.174	9.065.210
31	PGAS	2022	2.212.365.073	992.569.576	7.194.859.813	542.704.261	401.342.541	3.568.594.775
32	PTBA	2022	24.432.148	10.701.780	45.359.207	16.202.314	12.779.427	42.648.590
33	AMRT	2022	15.664.200	17.389.232	30.746.266	3.566.789	2.907.478	96.924.686
34	PWON	2022	12253466079	2633500064	30602179916	1840056301	1831130001	5.987.432.707
35	SCMA	2022	7629132798	2082974919	10959097127	1095325911	679875021	7.132.533.909
36	SMGR	2022	18878979	13061027	82960012	3298835	2499083	36.378.597
37	SRIL	2022	273097960	99697450	764552039	-296487480	-395563161	524.565.291
38	TBIG	2022	3565804	8728182	43139968	2405199	1689441	6.524.369
39	TKIM	2022	850762	694306	3545180	470249	463345	1.143.593
40	TLKM	2022	55057	70388	275192	36339	27680	147.306
41	TOWR	2022	3651134	14446084	65625136	4459251	3496535	11.035.650
42	UNTR	2022	78930048	42037402	140478220	29446041	22993673	123.607.460
43	UNVR	2022	7567768	12442223	18318114	6993803	5364761	41.218.881
44	WIKA	2022	39634794697	36135331415	75069604222	176080896	12586435	21.480.791.864
45	WSKT	2022	33.430.242.924.449	21.452.886.385.290	98.232.316.628.846	- 1.240.774.727.573	- 1.672.733.807.060	15.302.872.338.467

Source: secondary data in 2022

Analysis of financial statements in 2022 shows that there are companies that experience minus net income so that it can affect the health of a company such as SRIL (395,563,161) & WSKT (1,672,733,807,060). The factor that affects the occurrence of minus net income is the high total assets so that net income decreases. However, in predicting *financial distress*, it can be predicted with various variables so that companies can improve their performance with other variables.



Table 8  
Altman z score and Zmijewski method in 2022

NO.	Kode Perusahaan	(2022) ALTMAN Z SCORE = $1.2X1 + 1.4X2 + 3.3X3 + 0.6X4 + 1.0X5$					Prediksi	(2022) $Z = -4.3 - 4.5X1 + 5.7X2 + 0.004X3$				Prediksi	
		WCTA (X <sup>1</sup> )	ROA (X <sup>2</sup> )	EBITTA (X <sup>3</sup> )	Total Liabilities (X <sup>4</sup> )	Total Assets (X <sup>5</sup> )		Score	Net income (X1)	Total Liabilities (X2)	Current Asset (X3)		Score
1	ACES	0,647	0,093	0,113	0,933	0,933	6,290	Sehat	0,093	0,092	8,007	-4,224	Sehat
2	ADRO	0,266	0,263	0,415	0,751	0,751	6,182	Sehat	0,263	0,227	2,173	-4,196	Sehat
3	AKRA	0,168	0,091	0,114	1,749	1,749	3,996	Sehat	0,091	0,415	1,404	-2,351	Sehat
4	ANTM	0,170	0,114	0,155	1,365	1,365	3,962	Sehat	0,114	0,178	1,958	-3,807	Sehat
5	ASII	0,147	0,098	0,122	0,729	0,729	2,866	Sehat	0,098	0,288	1,509	-3,102	Sehat
6	EMTK	0,301	0,123	0,140	0,349	0,349	3,679	Sehat	0,123	0,070	5,274	-4,473	Sehat
7	ESSA	0,168	0,266	0,332	0,880	0,880	5,120	Sehat	0,266	0,147	2,144	-4,669	Sehat
8	HRUM	0,230	0,297	0,373	0,707	0,707	5,726	Sehat	0,297	0,177	2,301	-4,639	Sehat
9	MDKA	0,075	0,017	0,023	0,224	0,224	0,939	Distress	0,017	0,156	1,482	-3,492	Sehat
10	MEDC	0,054	0,080	0,151	0,334	0,334	1,975	Grey Area	0,080	0,199	1,270	-3,529	Sehat
11	BRPT	0,227	0,003	0,017	0,320	0,320	1,950	Grey Area	0,003	0,084	3,696	-3,851	Sehat
12	BSDE	0,281	0,041	0,041	0,157	0,157	2,416	Grey Area	0,041	0,174	2,611	-3,501	Sehat
13	SIDO	0,405	0,271	0,348	0,947	0,947	6,872	Sehat	0,271	0,133	4,056	-4,779	Sehat
14	CPIN	0,199	0,074	0,089	1,427	1,427	3,639	Sehat	0,074	0,254	1,784	-3,192	Sehat
15	CTRA	0,305	0,048	0,055	0,218	0,218	2,757	Sehat	0,048	0,257	2,186	-3,057	Sehat
16	ERAA	0,129	0,063	0,088	2,900	2,900	4,685	Sehat	0,063	0,529	1,243	-1,575	Sehat
17	EXCL	-0,183	0,013	0,016	0,334	0,334	-0,702	Distress	0,013	0,302	0,395	-2,638	Sehat
18	GGRM	0,297	0,031	0,041	1,408	1,408	3,807	Sehat	0,031	0,329	1,904	-2,574	Sehat
19	HMSP	0,307	0,115	0,151	2,030	2,030	5,536	Sehat	0,115	0,448	1,685	-2,272	Sehat
20	ICBP	0,182	0,050	0,065	0,562	0,562	2,387	Grey Area	0,050	0,087	3,097	-4,040	Sehat
21	INCO	0,307	0,075	0,104	0,444	0,444	3,420	Sehat	0,075	0,066	5,655	-4,287	Sehat
22	INDF	0,134	0,051	0,068	0,614	0,614	2,148	Grey Area	0,051	0,170	1,786	-3,566	Sehat
23	INKP	0,336	0,089	0,109	0,415	0,415	3,658	Sehat	0,089	0,232	2,445	-3,386	Sehat
24	INTP	0,214	0,072	0,089	0,635	0,635	2,900	Sehat	0,072	0,188	2,138	-3,562	Sehat
25	ITMG	0,501	0,454	0,585	1,377	1,377	10,146	Sehat	0,454	0,222	3,259	-5,093	Sehat
26	JPFA	0,232	0,046	0,060	1,498	1,498	3,646	Sehat	0,046	0,288	1,806	-2,871	Sehat
27	JSMR	0,004	0,025	0,041	0,182	0,182	0,574	Distress	0,025	0,133	1,028	-3,659	Sehat
28	KLBF	0,451	0,127	0,164	1,062	1,062	5,585	Sehat	0,127	0,163	3,771	-3,958	Sehat
29	LPFF	-0,158	0,241	0,285	1,122	1,122	2,838	Sehat	0,241	0,410	0,614	-3,050	Sehat
30	MNCN	0,341	0,100	0,124	0,404	0,404	3,824	Sehat	0,100	0,092	4,719	-4,246	Sehat
31	PGAS	0,170	0,056	0,075	0,496	0,496	2,322	Grey Area	0,056	0,138	2,229	-3,774	Sehat
32	PTBA	0,303	0,282	0,357	0,940	0,940	6,292	Sehat	0,282	0,236	2,283	-4,232	Sehat
33	AMRT	-0,056	0,095	0,116	3,152	3,152	4,030	Sehat	0,095	0,566	0,901	-1,505	Sehat
34	PWON	0,314	0,060	0,060	0,196	0,196	2,867	Sehat	0,060	0,086	4,653	-4,097	Sehat
35	SCMA	0,506	0,062	0,100	0,651	0,651	4,877	Sehat	0,062	0,190	3,663	-3,510	Sehat
36	SMGR	0,070	0,030	0,040	0,439	0,439	1,286	Grey Area	0,030	0,157	1,445	-3,544	Sehat
37	SRIL	0,227	-0,517	-0,388	0,686	0,686	-2,084	Distress	-0,517	0,130	2,739	-1,239	Sehat
38	TBIG	-0,120	0,039	0,056	0,151	0,151	-0,124	Distress	0,039	0,202	0,409	-3,325	Sehat
39	TKIM	0,044	0,131	0,133	0,323	0,323	1,946	Grey Area	0,131	0,196	1,225	-3,777	Sehat
40	TLKM	-0,056	0,101	0,132	0,535	0,535	1,412	Grey Area	0,101	0,256	0,782	-3,298	Sehat
41	TOWR	-0,164	0,053	0,068	0,168	0,168	-0,272	Distress	0,053	0,220	0,253	-3,286	Sehat
42	UNTR	0,263	0,164	0,210	0,880	0,880	4,589	Sehat	0,164	0,299	1,878	-3,338	Sehat
43	UNVR	-0,266	0,293	0,382	2,250	2,250	4,137	Sehat	0,293	0,679	0,608	-1,749	Sehat
44	WIKI	0,047	0,000	0,002	0,286	0,286	0,623	Distress	0,000	0,481	1,097	-1,561	Sehat
45	WSKT	0,122	-0,017	-0,013	0,156	0,156	0,823	Distress	-0,017	0,218	1,558	-2,985	Sehat

Source: by the researcher

The year 2022 saw a positive trend in the financial performance of LQ45 companies. Some companies managed to turn around their financial condition.

**Altman Z-Score method** There was an increase in scores for a number of companies. However, EXCL(-0.702) and SRIL(-2.084) still show low scores, indicating unstable financial conditions.

**Zmijewski method** SRIL(-1.239) and WSKT(-2.985) remain in distress status based on Zmijewski score. Negative ROA and low current ratio are the main causes.

## CONCLUSION

The conclusion of this study shows that the Altman Z-Score and Zmijewski methods are both effectively used to predict potential financial distress in 45 companies incorporated in the LQ45 index on the Indonesia stock exchange with vulnerable years 2019 - 2022. The results of the analysis show that there are differences in classification between the two methods, where Zmijewski tends to be stricter in assessing the condition of the company. Some companies such as EXCL and SRIL are consistently indicated as experiencing financial distress during the observation period.



This finding confirms that the use of more than one method can provide a more accurate picture of the company's financial condition, so that it can assist management in making the right decisions to avoid the risk of bankruptcy.

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