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Analysis of the Springate Method in Predicting Financial Distress in Banking Companies Listed on the Indonesia Stock Exchange for the 2020-2022 Period

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Abstract

This research aims to analyze the Springate method in predicting financial distress in banking companies listed on the Indonesia Stock Exchange for the 2020-2022 period. The research method used in this research is the Springate model using the Springate financial ratio calculation method, data is processed using Microsoft Excel computer tools. The type of data used in this research is quantitative analysis. The population used in this research was 45 companies. This sample was taken from the Indonesian Stock Exchange (BEI) which was determined using a purposive sampling technique, totaling 26 companies. In this research , the data source used is secondary data in the form of banking company annual financial report data for the 2020-2022 period. The results of S-Score analysis research carried out on banking companies listed on the Indonesia Stock Exchange for the 2020-2022 period show that 24 banking companies are in a position experiencing financial distress due to a value of less than 0,862 (S < 0,862), and 2 other companies is in the predicted healthy category because the value is more than 0.862 (S > 0,862). This means that the company is experiencing serious financial difficulties, which could lead to bankruptcy if this situation is not resolved immediately. In the context of financial distress analysis, an S-Score value of less than 0,862 indicates that a company is illiquid and unable to fulfill its financial obligations appropriately.

Keywords: Working Capital, Total Assets, EBIT, EBT, Current Liabilities, Sales and Springate Method.

INTRODUCTION

The economy of a country is closely related to the economic system that exists in that country. Good or bad conditions of the economy can affect the progress and welfare of society. Poor economic conditions are usually caused by financial difficulties, such as the bankruptcy of several companies and the emergence of a financial crisis. Financial crises have occurred in various parts of the world, including Indonesia, and can be caused by various factors such as a weak economic structure, large foreign private debt, and bad credit in the real estate sector. The Covid-19 pandemic has also had an impact on the Indonesian economy, resulting in an economic slowdown and recession, as well as creating risks in the banking sector such as slowing credit distribution, decreasing asset values, and tightening net interest rates.

Hernadianto, Yusmaniarti, and Fraternesi (2020) argue that financial distress begins with a company's inability to fulfill its obligations, especially short-term obligations, including liquidity and solvency obligations. Meanwhile, according to (Barus et al., 2023) financial distress is a condition that occurs where a company experience a decline in its financial condition over several periode. This situation occurs when the company'cash flow conditions in several periods do not match the expected cash flow or the projections are not met. There are two types of indicators that show signs of bankruptcy of a company, namely indicators that can be observed eternally and indicators that can be understood internally. To prevent a company

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from experiencing bankruptcy, management needs to take early precautions through bankruptcy analysis.

A company experiencing financial distress can be seen from the condition of its financial statements. Financial reports published by a company are said to be a source of information regarding the company's financial position, performance and changes in financial position and are useful in supporting appropriate decision making. Financial information in financial reports helps in reviewing the financial health condition of a company. One model used to predict the occurrence of financial distress is the Springate method (Kurnia et al., 2015).

The Springate method is categorized as a model for predicting the survival of a company by combining several common financial ratios that are given different weights to one another. This method includes the development of the Altman method using Multiple Discriminant Analysis (MDA) or commonly called the Multivariate Method. Multiple Discriminant Analysis (MDA) is a statistical technique used to classify observations into one of several groups depending on the characteristics of individual observations. This is used to classify and make predictions where dependent problems appear in qualitative form, for example bankrupt or not bankrupt. The advantage of Multiple Discriminant Analysis (MDA) is that this technique considers all characteristics/ratios that are relevant to the company. Initially, this method used 19 popular financial ratios. However, after re-testing, Springate finally chose 4 ratios that were used to predict financial distress. The four financial ratios used to calculate the Springate method are Working Capital To Total Assets, Earning Before Interest and Taxes to Total Assets, Earning Before Taxes To Current Liabilities, and Sales To Total Assets, (Ananda, 2019). The Springate method for analyzing financial distress predictions was chosen because this model has an accuracy rate of 92.5% (Springate: 1978). Some of the problems in this research are: (1) What are the results of the calculation of working capital to total assets in predicting financial distress. (2) What are the results of the calculation of Earning Before Interest and taxes to total Assets in predicting financial distress. (3) What are the results of the calculation of Earnings Before and Taxes to Current Liabilities in predicting financial distress. (4) What are the results of the Sales to total Assets calculation in predicting financial distress. And (5) What are the results of the Springate Method calculations in predicting financial distress.

LITERATURE REVIEW

1. Signally Theory

Signally Theory was put forward in 1973 by Michael Spence, meaning that the information owner conveys indications or signals in the form of information that reflects the state of the company that is useful for investors (Masdiantini & Warasniasih, 2020). This theory can be used as a tool to convey information that financial reports can be used to provide positive and negative signals for users of financial reports.

2. Financial Reports

Financial reports are information that describes the financial position of a company, apart from that, this information can also be used to describe the financial performance of a company. Financial reports are useful for decision making if through these financial reports you can predict what will happen in the future (Ayu Suryaningrum et al., 2023). Informative financial

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reports must have the characteristics of financial reports, namely easy to understand, relevant, material, reliable and comparable (Rahma & Nurdiana, 2023).

3. Purpose of financial statements

The purpose of financial reports according to the Statement of Financial Accounting Standards (PSAK) No. 1 is to provide useful information relating to the financial position, performance and changes in the financial position of a company which is useful for many users in making decisions (Hery, 2023).

4. Analysis of financial statements

Financial statement analysis is the application of tools and techniques analysis for general purpose financial reports, and data related to generating estimates and conclusions that are useful in business analysis. Financial statement analysis includes application analytical methods and techniques for financial reports and other data, for see from the report very certain measurements and relationships useful in decision making (Ayu Suryaningrum et al., 2023). The purpose of financial report analysis is to determine the level business profitability, to determine the level of operational efficiency company, to find out the company's solvency level, to find out the proportion of debt to company equity, to find out financial position and development of the company, shareholders can to know whether their investment is safe or not and to find out the level of financial health of the company.

5. Financial Distress

Financial distress is a condition where a company cannot fulfill its obligations to creditors. Opportunities that cause financial distress are when company costs are high, assets are in liquid condition and income is very sensitive due to economic recession. This requires company management to provide loans to external parties, and if the company is unable to fulfill its obligations due to working capital difficulties, this will give rise to the possibility of financial distress. So it can be interpreted that financial distress is a situation where a company experiences financial difficulties which are characterized by the company's cash flow being insufficient to finance the company's obligations, both long and short term (Purwantini, et al., 2023).

6. Financial distress analysis using the Springate method

According to (Loppy et al., 2020) this model was developed by Springate (1978) using Multiple Discriminate Analysis. The MDA method requires more than one financial ratio related to company bankruptcy to form a better model. The sample used by Springate was 40 companies, namely 20 companies experiencing financial difficulties and 20 companies in good health. Springate previously had 19 ratios, but after being tested using the Altman Z – Score method, only 4 ratios were compared to be used in analyzing the bankruptcy of a company (Prakoso et al., 2022). The four ratios are working capital to total assets, the ratio of profit before interest and tax to total assets, the ratio of profit before tax to total current liabilities, and the ratio of total sales to total assets. In the equation known as the Springate model, the four financial ratios are combined with the Springate formula known as Springate Sscore, (Fitri et al., 2023). The Springate formula is:

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$$S=1.03X1+3.07X2+0.66X3+0.4X4$$

Information:
X1 = Working Capital/Total Assets
X2 = Earnings Before Interest And Taxes/Total Assets
X3 = Earnings Before Taxes/Current Liabilities
X4 = Sales/Total Assets

The classification of healthy and bankrupt companies is based on the S-Score value of the Springate method, namely:

1. A value of less than 0.862 (S < 0.862) means the company is categorized as unhealthy.
2. The value exceeds or is equal to 0.862 (S > 0.862), then the company is included in the classification of a financially healthy company.

RESEARCH METHODS

This type of research uses a quantitative approach with quantitative descriptive analysis. It is said to be a quantitative description because in this case it will help researchers find out whether the Springate method variables can be used to detect financial distress in banking companies listed on the Indonesia Stock Exchange. The data source used in this research is a secondary data source obtained from the financial report publication site from the Indonesia Stock Exchange (www.idx.co.id). This research was conducted in the stock exchange gallery at Muhammadiyah Makassar University Jl. Sultan Alauddin No. 259, Mt. Sari, Rappocini District, Makassar City, South Sulawesi from October to December 2023. The population in this study was 45 companies and the sample size was 26 companies using purposive sampling techniques.

RESULTS AND DISCUSSION

1. Working Capital to Total Assets

Tabel 1. Hasil Perhitungan X_1 pada Perusahaan Perbankan yang terdaftar di Bursa Efek Indonesia (BEI)

No	Kode Perusahaan	Skor Tahun			Rata-Rata
		2020	2021	2022	
1	BBCA	0.166	0.158	0.161	0.162
2	BBRI	0.180	0.219	0.207	0.202
3	BBNI	0.193	0.158	0.164	0.172
4	BMRI	0.199	0.232	0.226	0.219
5	BBTN	0.108	0.107	0.111	0.109
6	BJTM	0.107	0.100	0.120	0.109
7	BTPS	0.836	0.847	0.851	0.845
8	BJBR	0.107	0.113	0.110	0.110
9	BABP	0.028	0.079	0.094	0.067
10	BNGA	0.082	0.082	0.079	0.081
11	BACA	-0.281	-0.271	-0.285	-0.279
12	BDMN	0.131	0.229	0.198	0.186
13	BGTG	0.186	0.227	0.328	0.247
14	BNLI	0.185	0.160	0.158	0.168

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15	BNBA	0.094	0.158	0.275	0.176
16	BNII	0.146	0.143	0.159	0.149
17	BTPN	0.414	0.419	0.456	0.430
18	PNBN	0.176	0.187	0.182	0.182
19	MEGA	0.087	0.086	0.082	0.085
20	NISP	0.150	0.148	0.143	0.147
21	DNAR	0.348	0.354	0.319	0.341
22	NOBU	0.085	0.054	0.055	0.065
23	MAYA	-0.078	-0.011	0.060	-0.010
24	BMAS	0.061	0.036	0.156	0.084
25	BBSI	0.579	0.762	0.863	0.735
26	BBMD	0.248	0.236	0.250	0.244

Explanation:

a. Based on calculations on the working capital to total assets ratio, the X1 ratio is the result of the calculation of working capital divided by total assets.

b. In 2020, the company that has a higher X1 value, namely BTPS, is 0.836. On the other hand, the company that has a lower X1 value, namely the BACA company, is -0.281.

c. In 2021, the company that has a higher X1 value is the BTPS company with an X1 value of 0.847. On the other hand, a company that has a lower X1 value, namely BACA, is -0.271.

d. In 2022, the company that has a higher X1 value is the BBSI company with an X1 value of 0.863. On the other hand, the company that has a lower X1 value, namely the BACA company, is -0.285.

Companies that have a higher score indicate that they have a better ability to use current assets. On the other hand, companies that have a lower value indicate that they have a poor ability to use current assets.

2. Earning Before Interest and taxes to Total Assets

Tabel 2. Hasil Perhitungan X_2 pada Perusahaan Perbankan yang terdaftar di Bursa Efek Indonesia (BEI)

No	Kode Perusahaan	Skor Tahun			Rata-Rata
		2020	2021	2022	
1	BBCA	0.031	0.032	0.038	0.034
2	BBRI	0.018	0.025	0.034	0.026
3	BBNI	0.006	0.013	0.022	0.014
4	BMRI	0.016	0.022	0.028	0.022
5	BBTN	0.006	0.008	0.009	0.008
6	BJTM	0.018	0.018	0.019	0.018
7	BTPS	0.068	0.101	0.108	0.092
8	BJBR	0.016	0.016	0.016	0.016
9	BABP	0.002	0.002	0.009	0.004
10	BNGA	0.010	0.016	0.021	0.016
11	BACA	0.004	0.003	0.003	0.003
12	BDMN	0.011	0.013	0.023	0.016
13	BGTG	0.001	0.002	0.007	0.004
14	BNLI	0.008	0.007	0.010	0.008

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15	BNBA	0.007	0.007	0.006	0.007
16	BNII	0.011	0.013	0.013	0.012
17	BTPN	0.014	0.021	0.022	0.019
18	PNBN	0.018	0.012	0.019	0.016
19	MEGA	0.033	0.037	0.035	0.035
20	NISP	0.013	0.015	0.018	0.015
21	DNAR	0.003	0.003	0.002	0.003
22	NOBU	0.005	0.004	0.006	0.005
23	MAYA	0.001	0.001	0.000	0.001
24	BMAS	0.009	0.007	0.010	0.009
25	BBSI	0.031	0.034	0.030	0.032
26	BBMD	0.029	0.042	0.040	0.037

Explanation:

a. Based on calculations on the Earning Before Interest and taxes to total assets ratio, the X2 ratio is the result of the calculation of Earning Before Interest and taxes divided by total assets.

b. In 2020, the company that has a higher X2 value is the BBSI company with an X2 value of 0.086. On the other hand, companies that have a lower X2 value, namely the BGTG company of 0.001, and MAYA of 0.001.

c. In 2021, the company that has a higher X2 value is the BTPS company with an X2 value of 0.101. On the other hand, companies that have a lower X2 value, namely company MAYA, are 0.001.

d. In 2022, the company that has a higher X2 value is the BTPS company with an X2 value of 0.108. On the other hand, companies that have a lower X2 value, namely company MAYA, are 0.000.

The value of this ratio reflects that the company's ability to generate operating profits from the assets used is greater so that the company's probability of experiencing financial distress is lower, and vice versa.

3. Earning Before taxes to Current Liabilities

Tabel 3. Hasil Perhitungan X_3 pada Perusahaan Perbankan yang terdaftar di Bursa Efek Indonesia (BEI)

No	Kode Perusahaan	Skor Tahun			Rata-Rata
		2020	2021	2022	
1	BBCA	0.039	0.039	0.048	0.042
2	BBRI	0.023	0.032	0.047	0.034
3	BBNI	0.008	0.017	0.028	0.017
4	BMRI	0.022	0.031	0.039	0.031
5	BBTN	0.007	0.010	0.012	0.010
6	BJTM	0.021	0.022	0.023	0.022
7	BTPS	0.551	0.869	0.983	0.801
8	BJBR	0.018	0.019	0.019	0.019
9	BABP	0.002	0.002	0.011	0.005
10	BNGA	0.012	0.020	0.025	0.019
11	BACA	0.004	0.003	0.002	0.003

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12	BDMN	0.013	0.015	0.029	0.019
13	BGTG	0.001	0.002	0.010	0.004
14	BNLI	0.011	0.008	0.013	0.011
15	BNBA	0.009	0.009	0.010	0.009
16	BNII	0.013	0.016	0.016	0.015
17	BTPN	0.026	0.037	0.042	0.035
18	PNBN	0.025	0.017	0.026	0.023
19	MEGA	0.040	0.044	0.042	0.042
20	NISP	0.017	0.018	0.022	0.019
21	DNAR	0.005	0.006	0.003	0.005
22	NOBU	0.006	0.005	0.007	0.006
23	MAYA	0.001	0.001	0.000	0.001
24	BMAS	0.010	0.008	0.013	0.010
25	BBSI	0.107	0.214	0.400	0.240
26	BBMD	0.042	0.058	0.057	0.052

Explanation:

a. The X3 ratio is the result of a calculation of profit before tax divided by total current liabilities.
b. In 2020, the company that has a higher X3 value is the BTPS company with an X3 value of 0.551. On the other hand, companies that have a lower X3 value are BGTG companies of 0.001, and MAYA of 0.001.
c. In 2021, the company that has a higher X3 value is the BTPS company with an X3 value of 0.869. Meanwhile, the company that has a lower X3 value is the MAYA company of 0.001.
d. In 2022, the company that has a higher X3 value is the BTPS company with an X3 value of 0.983. On the other hand, the company that has a lower X3 value is the MAYA company of 0.000.

The ratio of profit before tax (EBT) to current liabilities shows how much the company's income before tax is compared to the obligations that must be liquidated in the near future.

4. Sales to total Assets

Tabel 4. Hasil Perhitungan X_4 pada Perusahaan Perbankan yang terdaftar di Bursa Efek Indonesia (BEI)

No	Kode Perusahaan	Skor Tahun			Rata-Rata
		2020	2021	2022	
1	BBCA	0.061	0.053	0.055	0.056
2	BBRI	0.077	0.086	0.081	0.081
3	BBNI	0.063	0.052	0.053	0.056
4	BMRI	0.061	0.057	0.056	0.058
5	BBTN	0.064	0.063	0.058	0.061
6	BJTM	0.070	0.064	0.065	0.067
7	BTPS	0.246	0.252	0.254	0.251
8	BJBR	0.090	0.083	0.075	0.083
9	BABP	0.083	0.070	0.068	0.074
10	BNGA	0.074	0.061	0.062	0.066

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11	BACA	0.057	0.038	0.030	0.042
12	BDMN	0.100	0.092	0.088	0.093
13	BGTG	0.066	0.037	0.048	0.050
14	BNLI	0.060	0.051	0.050	0.054
15	BNBA	0.083	0.060	0.064	0.069
16	BNII	0.074	0.064	0.065	0.067
17	BTPN	0.090	0.077	0.076	0.081
18	PNBN	0.074	0.070	0.065	0.070
19	MEGA	0.072	0.061	0.064	0.066
20	NISP	0.059	0.052	0.051	0.054
21	DNAR	0.070	0.068	0.069	0.069
22	NOBU	0.058	0.046	0.053	0.052
23	MAYA	0.056	0.053	0.057	0.055
24	BMAS	0.062	0.063	0.064	0.063
25	BBSI	0.065	0.050	0.049	0.055
26	BBMD	0.079	0.076	0.078	0.078

Explanation:

a. The X4 ratio is the calculation result of sales (income) divided by total assets.
b. In 2020, the company that has a higher X4 value is the BTPS company with an X4 value of 0.246. On the other hand, the company that has a lower X4 value, namely the MAYA company, is 0.056.
c. In 2021, the company that has a higher X4 value is the BTPS company with an X4 value of 0.252. On the other hand, companies that have a lower X4 value are companies with BGTG of 0.037.
d. In 2022, the company that has a higher X4 value is the BTPS company with an X4 value of 0.254. On the other hand, the company that has a lower X4 value, namely the READ company, is 0.030.

This ratio measures how efficiently these assets have been used to generate income. The higher the total sales in relation to total assets, the more efficient the use of the company's overall assets in generating sales volume, and vice versa.

4. Metode Springate

Tabel 5. Hasil Analisis Perhitungan Nilai *S-Score* pada Perusahaan Perbankan yang terdaftar di Bursa Efek Indonesia (BEI) pada tahun 2020-2022

No	Kode Perusahaan	Skor Tahun			Rata-Rata	Status Prediksi
		2020	2021	2022		
1	BBCA	0.316	0.308	0.336	0.320	TS
2	BBRI	0.327	0.359	0.381	0.356	TS
3	BBNI	0.248	0.235	0.276	0.253	TS
4	BMRI	0.293	0.350	0.367	0.337	TS
5	BBTN	0.162	0.169	0.175	0.169	TS
6	BJTM	0.199	0.191	0.216	0.202	TS
7	BTPS	0.532	0.857	0.958	0.782	TS
8	BJBR	0.207	0.211	0.205	0.208	TS
9	BABP	0.070	0.117	0.159	0.115	TS

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10	BNGA	0.141	0.164	0.180	0.162	TS
11	BACA	-0.252	-0.253	-0.271	-0.259	TS
12	BDMN	0.204	0.314	0.322	0.280	TS
13	BGTG	0.207	0.249	0.380	0.279	TS
14	BNLI	0.236	0.205	0.216	0.219	TS
15	BNBA	0.139	0.203	0.325	0.222	TS
16	BNII	0.222	0.223	0.240	0.228	TS
17	BTPN	0.523	0.551	0.595	0.556	TS
18	PNBN	0.283	0.269	0.289	0.280	TS
19	MEGA	0.246	0.256	0.245	0.249	TS
20	NISP	0.230	0.232	0.238	0.233	TS
21	DNAR	0.399	0.405	0.364	0.389	TS
22	NOBU	0.130	0.090	0.101	0.107	TS
23	MAYA	-0.054	0.014	0.085	0.015	TS
24	BMAS	0.122	0.089	0.226	0.146	TS
25	BBSI	0.788	1.050	1.265	1.034	S
26	BBMD	0.404	0.441	0.449	0.431	TS

Keterangan: S = Sehat
TS = Tidak Sehat

Explanation:

a. Analysis of S-Score Calculation in 2020

Based on the calculations above, in 2020 all banking companies are categorized as unhealthy because the S value is <0.862.

b. Analysis of S-Score Calculation in 2021

Based on the calculations above, in 2021 there are 2 companies that are categorized as being in a healthy condition because the S value is > 0.862 and 24 other companies are categorized as being in an unhealthy condition because the S value is < 0.862.

c. Analysis of S-Score Calculation in 2022

Based on the calculations above, in 2022 there will be 3 companies categorized as being in a healthy condition because the S value is > 0.862, while there are 23 other companies categorized as being in an unhealthy condition because the S value is < 0.862.

ANALYSIS AND INTERPRETATION (DISCUSSION)

1. Working Capital To Total Assets Against Financial Distress

Working Capital is a measurement that shows a company's current assets as a proportion of its liabilities. The higher this ratio, the better the company's performance in managing working capital and generating greater assets. The relationship between working capital and total assets is that working capital is a financial ratio that shows the amount of money available to be used in company operations, while total assets are the number of assets owned by the company. Working capital functions as an indicator of a company's financial performance in managing its assets. This ratio helps determine whether a company has enough cash to pay its debts and finance its operations.

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In this context, working capital to total assets is related to signal theory because effective working capital can provide positive signals to investors about a good company. Conversely, ineffective working capital can provide a negative signal about the company's prospects.

These results are in line with research conducted (Lumbanraja, T. 2023) which shows that the results of the working capital/total assets ratio are positive even though the company's X1 value always fluctuates. However, this is not in line with research conducted by (Ananto, R. P. 2020) and (Basri et al., 2023) which shows that this ratio has a negative value on financial distress.

2. Earning Before Interest and taxes to total Assets against Financial Distress

EBIT also known as gross income is the total amount of income received by a person or business entity without deducting deductible expenses related to employment. The relationship between EBIT and total assets is significant in the context of financial analysis. EBIT is a measure of a company's ability to generate income from its assets, and is often used to assess the efficiency of asset utilization.

EBIT to Total Assets is related to signal theory in the context of company financial analysis. Signal theory explains that the EBIT/TA ratio can provide a signal about the company's financial performance to investors and external parties. If a company has a high EBIT/TA ratio, this can provide a positive signal about the company's ability to generate profits before interest and taxes. In other words, this ratio shows how effective the company is in generating operating income from the assets it owns, so it can provide information about the company's ability to generate profits and predict the possibility of bankruptcy.

The results of previous research conducted (Rahma, H., & Nurdiana, D. 2023) show that the ET/Total Asset ratio is positive even though the value of X3 owned by the company experiences ups and downs.

3. Earning Before Taxes to Current Liabilities against Financial Distress

EBT is the profit value before deductions. Current Liabilities are short-term debts that must be paid within one year or within the company's normal operating time. The relationship between EBT and Current Liabilities is a ratio used to measure a company's ability to pay off its short-term debt, so a higher EBT value will help the company to pay off its short-term debt.

In the context of signal theory, this variable is used to provide information to investors about the company's ability to generate sufficient profits to cover its short-term obligations. This ratio provides an indication of how effectively a company is using profits to reduce short liabilities, which is an indicator of a company's financial health. If the value of this ratio is lower, then the company has a lower ability to generate sufficient profits to cover short-term liabilities, which can be a sign of bankruptcy.

The results of this research are in line with the results of research conducted by (Lumbanraja, T. 2023) and (Karlingsih, 2021) which show that the average EBT/Current Liabilities ratio results are positive. However, this is not in line with research conducted (Rahma, H., & Nurdiana, D. 2023) which shows that the average EBT/Current Liabilities ratio results are negative.

4. Sales to total Assets against Financial Distress

Sales are sales of products or services carried out by the company, while total assets refer to the total value of the assets owned by the company.

In the context of signal theory, the relationship between Sales and total assets can be seen as part of Signal theory which focuses on how companies use information to make business

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decisions. In this case, companies that have greater total assets can use this information to increase sales by developing better products and services. On the other hand, companies that have smaller total assets may have limitations in developing products and services, so their sales may be limited.

The results of this research are in line with research conducted (Rahma, H., & Nurdiana, D. 2023) which shows that the average sales/total assets ratio is positive.

5. Springate method for Financial Distress

The Springate method is a financial distress prediction model developed by Springate. This model uses financial ratios as predictor variables to predict the possibility of financial distress in a company. The variables used in the Springate model include working capital to total assets, earnings before interest and taxes to total assets, earnings before taxes to total assets, and sales to total assets.

In signal theory, the springate method can be considered as a signal indicator that provides information about the possibility of financial distress. These signals can be used by investors and stakeholders to make better decisions about investment and risk management. Thus, the Springate method can help prevent financial distress by predicting the possibility of a financial crisis and providing a signal to companies to take preventive action.

The results of this research are in line with research conducted (Priambodo and Pustikaningsih, 2018) which shows that the Springate method was found to have an accuracy rate of 70% in predicting financial distress in companies listed on the IDX. The results of other research conducted (Supriati et. Al, 2019) also show that the Springate method has a relatively high level of accuracy.

CONCLUSION

Based on the results of the research and discussion previously described, it can be concluded that the results of the calculation process using the Springate method can be seen as follows:

1. In the calculation of working capital to total assets, 26 banking companies in Indonesia for the 2020-2022 period show that 24 companies have a positive average value and 2 other companies have a negative average value. This means that 75% of banking companies have a more effective and efficient level of fund utilization in managing their assets, while the other 25% have a level of utilization that is less effective and efficient.
2. In the calculation of Earning Before Interest and taxes to total assets, all banking companies in Indonesia for the 2020-2022 period, namely 26 companies, have a positive average value. This shows that Indonesian banking companies generally had stable performance and generated significant profits during this period, although the X2 value produced by these companies showed a continuous decline.
3. In calculating Earnings Before and taxes to Current Liabilities, all banking companies in Indonesia for the 2020-2022 period, namely 26 companies, have a positive average value. This means that in general these companies have profits before tax and interest that are greater than operational costs and the taxes they pay. In other words, they have the ability to pay their short-term obligations.
4. In the Sales to total Assets calculation, all banking companies in Indonesia for the 2020-2022 period, namely 26 companies, have a positive average value. This means that these

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companies have a higher level of sales than the total assets they own. This means that they have the ability to generate greater income compared to the assets they own, which can be a good performance indicator in the banking business.

5. In the Springate method calculations, 26 banking companies in Indonesia for the 2020-2022 period showed that 24 banking companies were in the predicted unhealthy category because the S value was < 0.862, and 2 other companies were in the healthy category prediction because the S value was > 0.862.

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