Evaluation of Financial Distress Prediction in the Telecommunications Industry Using the Ohlson and Taffler Model

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ABSTRACT

Purpose: The company's large debt caused the company's operating income at PT Bakrie Telecom Tbk in 2020 - 2022 to decline because the company was unable to pay off its obligations and always had a negative net profit over several years, so the company had the potential to experience financial distress. The aim of this research is to determine and analyze the potential for financial distress at the company PT Bakrie Telecom Tbk using the Ohlson and Taffler model.

Design/methodology/approach: This research uses quantitative methods with library research techniques, namely collecting data related to the problem to be researched to obtain secondary data. The analysis tool uses the Ohlson and Taffler model.

Findings: The research results show that the Ohlson model predicts that PT Bakrie Telecom Tbk will experience bankruptcy with an O-Score value > 0.38 for the period 2020 to 2022. The Taffler model predicts PT Bakrie Telecom Tbk will be unhealthy with a T-Score value < 0.2 for the period 2020 to 2022 Based on the research results, it can be concluded that the Ohlson and Taffler model predicts that the company PT Bakrie Telecom will experience financial distress for the period 2020 - 2022.

Paper type: Research paper

Keyword: Financial Distress, Model Ohlson, Model Taffler.

I. INTRODUCTION

The dynamic pace of development of the world economy has given rise to intense business competition, requiring companies to continue to innovate, improve performance and expand their businesses in order to survive and compete. The main goal of the company is to maximize profits and prosperity of the company, where profits are a benchmark for management success. However, intense competition in the industry often prevents companies from making a profit.

Currently, a rapidly growing industry is the telecommunications industry, which focuses on providing long-distance communication services such as voice, data, and video using technologies such as telephone, internet, and cellular networks. Technological advances, especially smartphones, have increased demand for data access and telecommunications services, intensifying competition in this industry. Therefore, companies need to improve and develop management through evaluating strategies and policies. The company's inability to survive and compete will cause financial distress or even bankruptcy.

financial distressis a company's financial condition that occurs before it experiences bankruptcy due to experiencing problems, crises, or being unhealthy.(Maulidia & Asyik, 2020). Bankruptcy occurs when a company does not have sufficient funds for its operations, often characterized by difficulty making a profit or experiencing

losses. PT Bakrie Telecom Tbk is one of the companies experiencing financial distress, with declining performance during 2020-2022 due to debt being greater than operating income.

The company's net loss in 2020 was IDR 108,137 million, an increase of 1585.4% compared to the previous year. After that, net losses decreased by 12% in 2021 amounting to IDR 94,976 million compared to 2020, but again increased by 24% in 2022 amounting to IDR 117,926 million compared to 2021. Total debt of PT Bakrie Telecom Tbk in in 2020 it amounted to IDR 11,306,819 trillion, a decrease of 32% compared to 2019, then the total debt in 2021 amounted to IDR 5,735,886 trillion, a decrease of 49% from 2020, and in 2022 the debt value of PT Bakrie Telecom was IDR 5,865,827 trillion rising again by 2% from 2022.PT Bakrie Telecom Tbk shares have also been suspended for 24 months based on Exchange announcement No. : Peng00008/BEI.PP1/05-2021 so that the company has met the criteria for delisting shares on the IDX.

The data in the financial report shows that PT Bakrie Telecom Tbk is unable to pay off its obligations and always earns negative net profits, increasing the risk of financial distress or bankruptcy. Financial reports are the result of recording all financial transactions." This means that with the results of recording all financial report transactions, the company can see the potential for financial distress or even bankruptcy that will occur at PT Bakrie Telecom Tbk. Prihadi (2020:8) in(Syaharman, 2021:284).

The potential for bankruptcy can be predicted by analyzing financial ratios using the Ohlson (1980) and Taffler (1983) models. The two models have their own differences, including the Ohlson model which focuses more on profitability, leverage and company size variables which provide knowledge about the health of the company, and is designed to predict the probability of bankruptcy by combining accounting information and company size, while the Taffler model focuses more on Liquidity ratios, profitability and accumulated profits are maintained as financial indicators of companies in the short and medium term, designed to assess financial risks and predict financial failures.

The Ohlson model is a logit model, a further development of the linear probability model used to predict the level of company health(Sujimantoro & Muthmainnah, 2017). Results of research carried out(Octaviandri et al., 2017)shows that the Ohlson model is able to predict that 3 companies in the agricultural sector listed on the Indonesia Stock Exchange in the 2011-2015 period have the potential to experience bankruptcy.

The Taffler model is a model that has a prediction accuracy rate of 95.7% for companies that go bankrupt and 100% for companies that do not go bankrupt (Prakoso et al., 2022). Results of research carried out(Iswahyudi, 2022)shows that the taffler model predicts that two state-owned companies (GIAA and KRAS) will experience financial difficulties because the two companies cannot fulfill their third party obligations.

There are differences between this research and previous research, namely in the different methods used, different companies, and different years of the research period. This research uses the Ohslon and Taffler method to predict whether financial distress will occur or not at the company PT Bakrie Telecom Tbk for the 2020-2022 period. Based on the background description, the researcher is interested in conducting research with the title "Financial Distress Prediction Using the Ohlson and Taffler Model at PT Bakrie Telecom Tbk."

A. Research Objectives
1. To determine and analyze the potential for financial distress in the company PT Bakrie Telecom Tbk using the Ohlson model in 2020 - 2022.
2. To determine and analyze the potential for financial distress in the company PT Bakrie Telecom Tbk using the Taffler model in 2020 - 2022.

B. Theoretical Foundation
1. Financial Report Analysis
Financial report analysis is a process that has been considered in order to help evaluate the financial position and results of company activities in the present and past, with the main aim of determining estimates and predictions regarding the company's condition and performance in the future.(Kariyoto, 2017).

2. Financial Distress
Maulidia & Fun (2020)revealed that financial distress is a company's financial condition that occurs before it experiences bankruptcy due to experiencing problems, crises, or being unhealthy.

3. Ohlson's model
Sujimantoro & Muthmainnah, (2017)said that the Ohlson model is a logit model, a further development of the linear probability model used in predicting the level of company health. The equations used are according to(Ohlson, 1980):

O-Score = $-1.32 - 0.407X_1 + 6.03X_2 - 1.43X_3 + 0.0757X_4 - 2.37X_5 - 1.83X_6 + 0.285X_7 - 1.72X_8 - 0.521X_9$

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Information :
O = Financial distress index
X_1 = Ln (Total Assets)
X_2 = Total Debt to Total Assets
X_3 = Working Capital to Total Assets
X_4 = Current Debt to Current Assets
X_5 = 1 If Total Debt > Total Assets; 0 If Total Debt < Total Assets
X_6 = Net Profit to Total Assets
X_7 = Operating Cash Flow to Total Debt
X_8 = 1 If Net Profit is Negative in the Last 2 Years; 0 If Net Profit is Positive
X_9 = net profit of touses-net profit-1 on net profit tahun + net profit touses-1

Table 2. Benchmarks for the O-Score Formula

O-Score Value	Criteria
O-Score > 0.38	Bankrupt
O-Score < 0.38	Not Bankrupt

Source :(Yuliana.I, 2018)

4. Taffler Model

The Taffler model is a model that has a prediction accuracy rate of 95.7% for companies that go bankrupt and 100% for companies that do not go bankrupt.(Prakoso et al., 2022). The taffler model equation according to(Iswahyudi, 2022):

$$\text{T-Score} = 3.2 + 12.18X_1 + 2.50X_2 - 10.68X_3 + 0.0289X_4$$

Information :
T = Financial distress index
X_1 = Profit Before Tax: Current Liabilities
X_2 = Current Assets : Total Liabilities
X_3 = Current Liabilities: Total Assets
X_4 = Net Profit After Tax: Total Assets

Table 3. T-Score Formula Benchmarks

T-Score Value	Criteria
T-Score > 0.3	Healthy
T-Score < 0.2	Not healthy

Source: (M. Iswahyudi 2022:132)

II. METHODS

This research uses quantitative methods which are measured with two (2) analytical tools, namely the Ohlson model and the Taffler model.

A. Data Collection

This research uses library data collection techniques (library research), namely collecting data related to the problem to be researched to obtain secondary data. The secondary data needed in this research is the financial report data of PT Bakrie Telecom Tbk for the 2020-2022 period and is sourced from the Indonesia Stock Exchange (www.idx.co.id).

III. RESULTS AND DISCUSSION

A. Numerical Results

This research uses the Ohlson and Taffler model to measure the level of financial distress that occurs at PT Bakrie Telecom Tbk. The results of the analysis using the ohlson and taffler model of PT Bakrie Telecom Tbk for the 2020 - 2022 period are as follows:

Table 4. O-ResultsScorePT Bakrie Telecom Tbk Period 2020 to 2022

Year											
					Ohlson						
	constant	$0.407.X_1$	$6.03.X_2$	$1.43.X_3$	$0.0757.X_4$	$2.37.X_5$	$1.83.X_6$	$0.285.X_7$	$1.72.X_8$	$0.521.X_9$	O-Score
2020	-1.32	8,917	21,056.58	-384.78	31.26	2.37	-60.57	-0.000009	0	0.750	21,521.34
2021	-1.32	9,670	1672.24	-62.05	3,562	2.37	-8,363	0.000379	1.72	-0.031	1,731.16
2022	-1.32	9,862	1067.37	-40.68	6,349	2.37	-6,478	-0.000125	1.72	0.057	1,105.67

Source: Data processed by researchers, 2024.

Table 5. PT Bakrie Telecom Tbk T-Score Results for the 2020 to 2022 Period

Year		$12.8.X_1$	$2.50.X_2$	$10.68.X_3$	$0.0289.X_4$	T-Score
2020	3.2	-1,574	0.005	2881.57	-0.96	-2,880.9
2021	3.2	-1,280	0.053	484.44	-0.13	-482.60
2022	3.2	-1,574	0.030	307.58	-0.10	-306.03

Source: Data processed by researchers, 2024.

Tables 4 and 5 above show that PT Bakrie Telecom Tbk is experiencing financial distress or even has the potential to experience bankruptcy based on the results of the analysis using the Ohlson and Taffler models. Where the o-score value from 2020 - 2022 is more than 0.38 and the t-score value for 2020-2022 is less than 0.2, this is caused by the company being unable to cover its short-term and long-term debt.

B. Discussion

Based on the results of data analysis, the financial conditions previously carried out can be obtained, so the following discussion can be carried out.

1. Ohlson's model

Table 6 Ohlson Model PT Bakrie Telecom Tbk Period 2020 to 2022

Period	O-Score Results	Conclusion
2020	21,521.34	*Potential bankruptcy* *(Financial Distress)*

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		Potential bankruptcy
2021	*1,731.16*	*(Financial Distress)*
		Potential Bankruptcy
2022	*1,105.67*	*(Financial Distress)*

Source: Data processed by researchers, 2024

The results of this research state that PT Bakrie Telecom Tbk for the 2020 - 2022 period using the Ohlson model analysis tool is in the bankruptcy category. With the final value for the 2020 period amounting to 21,521.34, it experienced a decrease of 92% in 2021 where the final value was 1,731.16, then the final value in 2021 decreased by 36% to 1,105.67 for the 2022 period. This means that there is a high probability that the company will experience financial distress. and has the potential for bankruptcy even though the final score obtained decreases every year because the O-Score value is > 0.38. This can be supported by research by Fadhila Wanda Hidayanti (2017) stating that if the O-Score value is > 0.38 then the company has the potential to experience bankruptcy, so in this research the first hypothesis is accepted.

2. Taffler Model

Table 7. PT Bakrie Telecom Tbk Taffler Model for the 2020 to 2022 Period

Period	*T-Score Results*	*Conclusion*
2020	*-2,880.9*	*Unhealthy Company* *(Financial Distress)*
2021	*-482.60*	*Unhealthy Company* *(Financial Distress)*
2022	*-306.03*	*Unhealthy Company* *(Financial Distress)*

Source: Data processed by researchers, 2024

The results of this research state that PT Bakrie Telecom Tbk for the 2020 - 2022 period using the Taffler model analysis tool is in the unhealthy category. The final value of the analysis for 2020 was -2,879.5, which represents a decrease of 83% in 2021, where the final value was -481.41. Furthermore, the final score for 2021 is -481.41, down 37% to -304.67 in 2022. This means that there is a high probability that the company will experience financial distress and potentially go bankrupt, because the T-Score value is <0.2.

This can be supported by research by Ninuk Riesmiyantiningtias, (2023) which states that if the T-Score value is <0.2 then the company has the potential to experience bankruptcy, so in this research the second hypothesis is accepted.

IV. CONCLUSION

Based on the results of the analysis and discussion that has been carried out, the following conclusions can be drawn:
1. PT Bakrie Telecom Tbk in 2020 - 2022 has the potential to experience financial distress with poor financial conditions with an o-score > 0.38 and large debts do not always have an impact on bankruptcy based on the results of analysis using the Ohlson model.

2. PT Bakrie Telecom Tbk in 2020 - 2022 has the potential to experience financial distress with poor financial conditions with a t-score < 0.2 and large debts do not always have an impact on bankruptcy based on the results of analysis using the Taffler model.

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