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Predicting Firms' Financial Distress: A Case Study

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ABSTRACT

This study aims to predict the company's financial condition related to financial distress. The analysis was carried out during the COVID-19 pandemic, specifically for coal mining companies listed on the Indonesia Stock Exchange (IDX). The annual financial reports of coal mining companies during the COVID-19 pandemic were collected and analyzed using Altman Z-Score models. The result shows that most of the companies are in the distress category. This shows that the COVID-19 pandemic situation has also hit large companies in Indonesia.

Keywords: Financial distress; financial statements; Altman Z-Score

INTRODUCTION

The recent case of the COVID-19 pandemic has created dramatic and unprecedented challenges for individuals, economies, financial markets, financial institutions, companies and governments (Loch et al., 2018; Long et al., 2020; Malladi et al., 2022; Suhardi et al., 2019; Zhang et al., 2018). The phenomenon of the Covid-19 virus that occurred at the end of 2019 has caused significant changes to the entire order of life, especially in the economic sector. With many positive confirmed cases of Covid-19, the World Health Organization (WHO) recorded that as of October 24, 2020 the number of cases was 41,809,078 globally, while in Indonesia there were about 385,890 cases. This has an impact on the Indonesian economy due to the decline in people's purchasing power as the government has made the large-scale social restriction (PSBB) policy which in the end affected many companies.

According to Bergolo & Cruces (2021) the large number of unemployment as the result of decline in economic activity has caused the financial difficulties experienced by the industry. According to Fisch & Block (2020), company financial distress is a condition experienced by companies that are under pressure to pay off their debts due to one or more factors such as excess debt, increased borrowing costs, the challenge of rolling over of maturing debt due to increasingly tight financial conditions or decrease in income.

Financial distress can occur in all types of companies, even if they are large companies (Ademosu et al., 2021; Fisch & Block, 2020; Ryan et al., 2021; Sharma & Khokle, 2017). Likewise, coal mining companies are not immune from financial distress. Indonesia is a country

rich in natural resources, one of which is abundant mining products, namely coal mining. Indonesia has potential resources and coal reserves spread over most of the islands of Kalimantan and Sumatra, and a small part of the rest is spread over several islands of Java, Sulawesi and Papua. Indonesia is one of the largest coal producers in the world. This makes Indonesia one of the largest producers and exporters of coal which is taken into account by the international community. However, during the Covid-19 pandemic, it suppressed the market and coal prices. This condition has an impact on the realization of the black gold commodity production. According to the Ministry of Energy and Mineral Resources, national coal production fell 11% in the first 11 months of 2020. Therefore, the current Covid-19 pandemic has had a significant impact on our national coal production. Specifically, there are several impacts of the Covid-19 pandemic on coal mining companies such as declining in coal demand and consumption, a decline in coal prices, limited access or mobility of employees and mining company logistics during the pandemic. Therefore, this research is trying to predict the financial condition of coal mining companies listed in the Indonesian Stock Exchange during the covid-19 pandemic in related to their financial distress.

METHOD

This study uses a quantitative approach technique. The population in this study are coal mining companies listed on the Indonesia Stock Exchange. The sampling method in this study was purposive sampling with a total sample of 10 coal mining companies during the Covid-19 pandemic. This study uses secondary data with data collection techniques using documentation techniques in the form of financial reports of coal mining companies listed on the Indonesia Stock Exchange during the Covid-19 pandemic. The data analysis technique using the Altman Z-Score model as follows:

$$Z=6,56X_1+3,26X_2+6,72X_3+1,05X_4$$

Z = Bankruptcy
X_1= Working Capital/Total Assets
X_2= Retained Earnings/Total Assets
X_3 = Earning Before Interest and Taxes/Total Assets
X_4 = Book Value of Equity/Book Value of Debts

RESULTS AND DISCUSSION

As can be seen in Table 1, the results of the analysis of financial distress during the COVID-19 pandemic for new coal mining companies listed on the Indonesia Stock Exchange shows that there are 4 companies in the distress category: BOSS, BUMI, DWGL and CNKO. With the provision that is less than 1.1 coefficient that has been set in the Altman model, then there are three companies that are in the gray area category. They are AIMS, BESS, and SMMT codes with the results obtained in accordance with the provisions of more than 1 .1 and less than 2.60 coefficients that have been defined in the Altman model. The other 3 companies are in the non-distress category or healthy category, coal mining companies with codes PTBA, FIRE, and BYAN with the results obtained in accordance with the provisions of more than 2.60, namely the coefficient that has been set in the Altman Z-model. Score. The four companies that are in a distress position are caused by difficulties in cash flow, losses in operational activities, and the large amount of debt owned by the company, both short-term and long-term debt.

Tabel 1
Analysis of Financial Distress Using the Altman Z-Score Model.

Companies' Code	Year	Altman Z-Score Model				Z-Score	Category
		X_1	X_2	X_3	X_4		
PTBA	2020	0,187	0,074	0,100	2,380	4,639	Non-Distress
AIMS		0,024	-0,13	-0,04	1,596	1,141	Grey area
FIRE		0,211	0,010	0,027	2,317	4,034	Non-Distress
BESS		0,009	0,143	0,083	1,051	2,184	Grey area
BYAN		0,329	0,445	0,213	1,136	6,229	Non-Distress
BOSS		0,135	-0,27	-0,15	0,143	-0,896	Distress
BUMI		0,263	-0,89	-0,09	0,040	-1,800	Distress
DWGL		0,081	-1,80	0,051	-0,06	-5,079	Distress
CNKO		1,221	-3,39	-0,24	-0,50	-5,197	Distress
SMMT		0,075	0,047	-0,02	1,780	2,339	Grey area

Discussion

Based on your summary, it seems like your study focuses on factors leading to financial distress within companies, particularly highlighting issues such as negative retained earnings, smaller equity value than total debt, and negative earnings before interest and taxes. Additionally, the companies BESS and SMMT were used as case studies for these factors. The results suggest recommendations for future research, such as extending the observation period and incorporating additional models of financial distress analysis (Bousquet et al., 2020; Khan et al., 2017; Rosenman, 2019; Wenqi et al., 2022).

The present study has identified a number of key factors causing financial distress within companies. These include cash flow difficulties often due to negative retained earnings and a smaller equity value compared to the total debt. Particularly, companies like BESS and SMMT, which exhibit these features, fall into the so-called "gray area" of financial stability.

Additionally, it was observed that companies can experience losses when earnings before interest and taxes are negative. This was especially evident in the case of SMMT, where this factor potentially placed the company at risk of bankruptcy (Abu Bakar et al., 2017; Festa et al., 2021; Park et al., 2022; Teece, 2009).

However, the study recognizes its limitations. Specifically, the examination period and the sole reliance on one model of financial distress analysis may not provide a comprehensive view of a company's financial health over time. Consequently, it is recommended that future research extends the period of observation and incorporates multiple models of analysis to better understand the complexity and nuances of financial distress (Ibn-mohammed et al., 2021; Slamti, 2020; Zekos, 2003; Zhang et al., 2018).

CONCLUSION

Some companies are experiencing financial distress due to several factors such as cash flow difficulties because it has a negative retained earnings value. Therefore the company needs to increase revenue and increase the profit generated. Also, the value of earnings before interest and taxes obtained is negative so that the company can experience losses. Moreover, the companies have an equity value that is smaller than the total debt, both short-term and long-term debt. However, some companies are in a gray area position due to cash flow difficulties and

have an equity value that is smaller than the total debt. The BESS company has an equity value that is almost the same as the total debt so that the company is in the gray area category. The SMMT company is in the gray area category because the value of earning before interest and taxes obtained is negative, so that it can cause the company to go bankrupt. For further researchers, it is advisable to add a period of observation regarding the financial distress of a company. This study also only uses one model of financial distress analysis. Therefore, future research is expected to be able to add other analytical models and compare the results of the accuracy of the analysis of other models.

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