

Altman Z-Score Accuracy in Predicting the Potential Bankruptcy of Issuers in the Sector Restaurant, Hotel and Tourism During the Covid-19 Pandemic

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Abstract

The purpose of this study was to determine the accuracy of the Altman Z-Score in predicting the potential for bankruptcy of public sector companies, hotels and tourism. This study used a quantitative descriptive research design because the data used are quantitative data and the bankruptcy variable described using the Altman Z-Score method. The data used are secondary data derived from the financial statements of issuers in the tourism, restaurant and hotel sectors including data on working capital to total assets, retained earnings to total assets, earnings before interest and taxes to total assets, and total equity to total debt. . The results showed that 19% of companies that experienced losses in 2021, the remaining 81% of companies experienced losses. The results of the classification comparison based on the Z-Score value and the auditor's opinion show that 43% was accurate, while the remaining 57% was inaccurate.

Introduction

The restaurant, hotel and tourism sector is a promising sector due to the rapid development of land, sea and air transportation facilities, making it easier for residents to travel from one region to another, not only domestically but also to all corners of the world. However, at the end of 2019, a new disease was discovered in Wuhan City, China, known as corona virus 2019 (2019-nCoV) or Covid-19. This disease is caused by the Severe Acute Respiratory Syndrome Corona virus-2 (SARS-CoV-2). The spread of the Covid-19 virus is very fast from one region to another. Within a few months in Indonesia, the first Covid-19 case was found in March 2020. To be able to contain the very rapid spread of the Covid-19 virus, the Indonesian government then imposed a social distancing policy or known as Large-Scale Social Restrictions (PSBB). The PSBB policy issued by the government to break the chain of the spread of the Covid-19 virus certainly has an impact on the economy, especially the tourism, restaurant and hotel sectors.

During the Covid-19 pandemic. Indonesia's economic growth as measured by Gross Domestic Product (GDP) decreased from 4.9 percent to 2.97 (BPS, 2020). This means that there has been a fairly large contraction, which is 2 percent. At that time, many predicted that the economy would experience a recession. This estimate was proven after the growth rate was minus 5.32% in the second quarter and minus 3.49% in the third quarter (BPS, 2020). Even Bali and Nusa Tenggara experienced the deepest growth contraction of 6.80 percent in the third quarter (Elena, 2020). The Financial and Development Supervisory Agency (BPKP) revealed that the government had allocated a budget of more than Rp 800 trillion from the APBN, APBD, and village funds for handling the corona virus (covid-19) pandemic in 2020.

Based on the consecutive contraction of economic growth, it is assumed that many companies will not be able to maintain their business activities. This means that the potential for companies to go bankrupt is even greater during the Covid-19 pandemic. According to

Brigham (2001), bankruptcy as a failure that occurs in a company can be interpreted as follows:

1. Economic Failure (Economic Distressed)
Economic distress is a condition where the company loses the company's income so that it is unable to cover its costs. This means that the company's profit rate is smaller than the cost of capital. In other words, the present value of the company's cash flows is less than the liabilities. Economic failure occurs when the actual cash flows of the company are far below the expected cash flows. Economic failure can also be interpreted as negative operating profitability.
2. Financial Failure (Financial Distressed)
Financial distress is a company condition where the company has cash or working capital difficulties. Asset liability management can be used to guard against financial failure. Financial failure can also be interpreted as insolvency which means that the company is unable to pay its obligations (debts).

There are various methods that can be used to analyze potential bankruptcy as well as the Altman Z-Score method. The Z-Score method was first applied to research in 1968 using a sample of manufacturing companies that went public. The Z-Score bankruptcy model was revised in 1984. Then in 1995 the model was revised again. The advantage of the Altman Z-Score method is that it can combine various calculation scales such as profitability, liquidity, activity and solvency. However, the results of the Altman Z-Score method accuracy vary in various studies. Therefore, it is necessary to conduct research related to the accuracy of the Altman Z-Score in predicting the potential for bankruptcy of public companies in the tourism, restaurant and hotel sectors. This sector is considered to have the most serious impact compared to other sectors. Moreover, with the implementation of PSBB during the Covid-19 pandemic, it is very likely that companies in the tourism, restaurant and hotel sectors will go bankrupt.

Methods

This study used quantitative descriptive research design because the data used are quantitative and the bankruptcy variable is described using the Altman Z-Score method. The results of the bankruptcy description were then analyzed in order to obtain information about the accuracy of the Altman Z-Score method. The subjects of this research are issuers in the tourism, restaurant and hotel sectors.

The data used in this study is data derived from the financial statements of issuers in the tourism, restaurant and hotel sectors. The data used in the financial statements are data on working capital to total assets, retained earnings to total assets, earnings before interest and taxes to total assets, and total equity to total debt. From all the data, the Altman Z-Score is calculated using the following formula.

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

Where:

X₁ = Working Capital to Total Assets

X₂ = Retained Earnings to Total Assets

X₃ = Earnings Before Interest and Tax on Total Assets

X₄ = Total Equity divided by Total Debt

The following is the cut off value for the index:

- (1) $Z < 1,1$: Bankrupt
- (2) $1,1 \leq Z \leq 2,6$: Gray area
- (3) $Z > 2,6$: Healthy or not bankrupt

Results and Discussions

The total number of public companies engaged in the tourism, hotel and restaurant sectors that were recorded in this study were 21 issuers. During the Covid-19 pandemic, four companies had positive Earnings Before Interest and Tax (EBIT). This means that only 19% of companies still posted profits during the pandemic, the remaining 17 companies or as many as 81% experienced losses. Companies that managed to record profits were issuers with stock codes BAYU, ICON, KPIG, and PZZA.

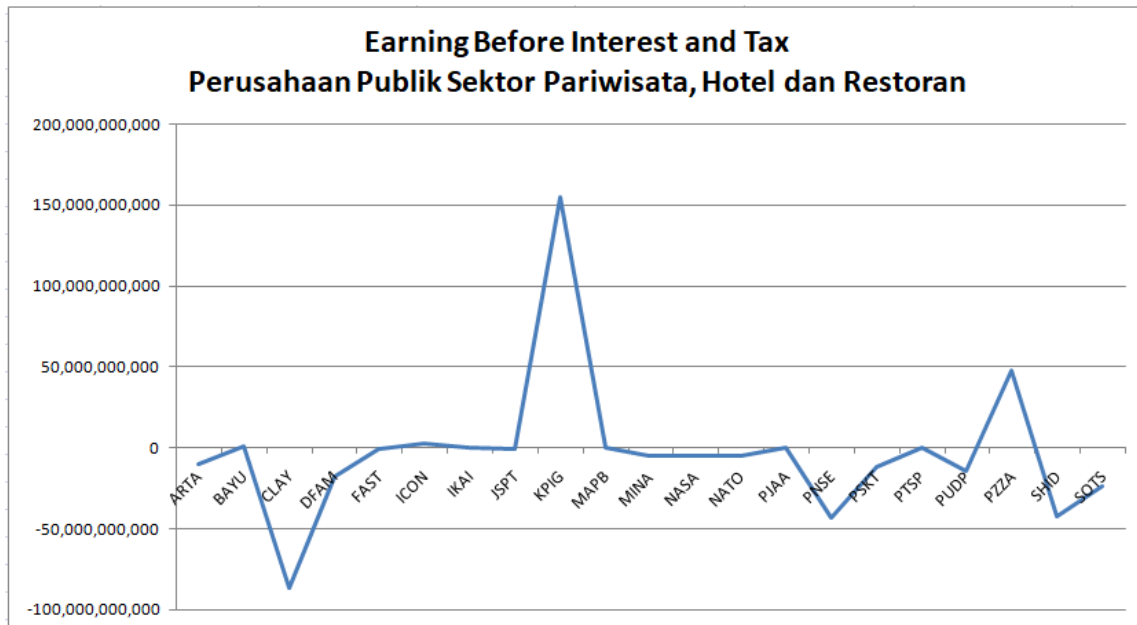


Figure 1. Earning Before Interest and Tax Issuers in the Sector Restaurant, Hotel and Tourism During the Covid-19 Pandemic

In this research, the first step is to calculate the Altman Z-Score value. Altman Z-Score uses four independent variables, namely X1 (working capital to total assets), X2 (retained earnings to total assets), X3 (earnings before interest and taxes to total assets), and X4 (total equity to total debt). The next stage is to classify the Z-Score values obtained for each issuer in the tourism, restaurant and hotel sectors. Furthermore, the classification of companies based on the Z-Score value is compared with the auditor's opinion according to Marcelinda (2014). The results of the comparison are used to determine the accuracy of the Altman Z-Score model.

The results of this study indicate that 9 issuers are in a healthy condition, 3 issuers are in a gray area condition (uncertain), and 9 issuers are in a bankrupt condition. If the classification based on the Z-Score value is compared with the auditor's opinion, the results obtained are 43% accurate, while the remaining 57% are inaccurate.

Table 1
The Altman Z-Score Issuers in the Sector Restaurant, Hotel and Tourism

KODE	Z	KATEGORI	OPINI AUDITOR	KOMPARASI
ARTA	8.738308837	SEHAT	WTP	AKURAT
BAYU	5.392289386	SEHAT	WTP	AKURAT
CLAY	-4.554583875	BANGKRUT	WTP	TIDAK AKURAT
DFAM	0.615002022	BANGKRUT	WTP	TIDAK AKURAT
FAST	-0.050273237	BANGKRUT	WTP	TIDAK AKURAT
ICON	4.781322489	SEHAT	WTP	AKURAT
IKAI	-0.299543371	BANGKRUT	WTP	TIDAK AKURAT
JSPT	1.836866357	GREY AREA	WTP	TIDAK AKURAT
KPIG	4.840141277	SEHAT	WTP	AKURAT
MAPB	0.06052627	BANGKRUT	WTP	TIDAK AKURAT
MINA	16.39175041	SEHAT	WTP	AKURAT
NASA	19.19916582	SEHAT	WTP	AKURAT
NATO	307.8444755	SEHAT	WTP	AKURAT
PJAA	0.657071926	BANGKRUT	WTP	TIDAK AKURAT
PNSE	-0.080969527	BANGKRUT	WTP	TIDAK AKURAT
PSKT	2.802566289	SEHAT	WTP	AKURAT
PTSP	-0.860577592	BANGKRUT	WTP	TIDAK AKURAT
PUDP	5.299808445	SEHAT	WTP	AKURAT
PZZA	1.611334772	GREY AREA	WTP	TIDAK AKURAT
SHID	2.032161149	GREY AREA	WTP	TIDAK AKURAT
SOTS	0.025776038	BANGKRUT	WTP	TIDAK AKURAT

Conclusions and Suggestions

The results showed that the accuracy of the prediction of corporate bankruptcy using the Altman Z-Score method was 43%. This means that there is a need for further research related to methods that can be used to predict the bankruptcy of a company. The limitation of this study is that it only analyzes public companies engaged in the tourism, hotel and restaurant sectors. Further research can use the Altman z-score method to predict bankruptcy in other sectors and perform accuracy comparisons in various sectors.

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