

COMPARATIVE ANALYSIS OF FINANCIAL DISTRESS BEFORE AND DURING THE COVID-19 PANDEMIC: EMPIRICAL EVIDENCE IN INDONESIA

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ABSTRACT

The COVID-19 pandemic has had a negative impact on the global economy, including Indonesia. Hotel, restaurant, and tourism companies are some of the sectors most affected by the COVID-19 pandemic. This study aims to analyze whether there are differences in financial distress conditions before and during a pandemic of COVID-19 using the Altman Z-Score model. A comparative descriptive method with a quantitative approach is used in this study. This research uses financial data from 2019 and 2020. Purposive sampling is used for sampling, obtained 27 companies that match the criteria. The Wilcoxon Signed-Rank Test is used in this study with a significance level of (α) 5% which is then analyzed using the SPSS Statistic Version 26 software program. COVID-19. The results showed a significance value (α) < 5% and a decrease in the Z-Score value in the 24 companies studied. This means that the COVID-19 pandemic has had a negative impact on the hotel, restaurant, and tourism sub-sector companies in Indonesia. The findings of this study are likely to be utilized to make investment decisions. In addition, this research can be used as information for companies experiencing financial distress conditions so that they can immediately make changes to be able to maintain their companies in the future.

Keywords: COVID-19 Pandemic, Financial Distress, Altman Z-Score, Hotel Restaurant and Tourism Sub-sector Companies

INTRODUCTION

At the beginning of 2020, there has been an outbreak of a new disease known as COVID-19 disease, this disease has attacked almost every country in the world. COVID-19 (Coronavirus disease) is an infection caused by a virus that targets the respiratory system (Supono et al., 2020). This virus can cause acute pneumonia to death (Artayasa, 2020). Due to the rapid spread of this virus to various countries and continents, the World Health Organization has declared it a global pandemic. The coronavirus pandemic has become the decade's most serious threat. It has influenced people's habits and has harmed their health, social, and economic situations (Khan et al., 2021). The world economy was negatively impacted by the pandemic of COVID-19. According to the International Monetary Fund (IMF), the global economy experiences a crisis, 95 percent of nations are expected to face contraction or negative economic growth.

The pandemic of COVID-19 has had the greatest impact on hotel, restaurant, and tourism companies. One of the government's initiatives aimed at preventing the spread of the coronavirus pandemic is to implement the Large-Scale Social Restriction (PSBB) policy. This has caused individuals to undertake more activities at home, resulting in a significant drop in the occupancy rate of hotel rooms and restaurant visits. Pandemic has caused more than 2,000 hotels and 8,000 restaurants to close. As a result of the closure, the potential for lost revenue from January to April 2020 is IDR 70 trillion, of which IDR 30 trillion for the hotel sector and IDR 40 trillion for restaurants. There was a decline in income in this sector which was also related to the decline in arrivals of international tourists in Indonesia. According to the Central Statistics Agency, international tourist arrivals in Indonesia in 2020 would be much lower than the previous year. In February 2020, as compared to the same time of the prior year, the number of international tourist visits to Indonesia dropped by 30.55%.

Based on this phenomenon, the management must start to be careful because this condition is an indication of a state of financial distress, the creditors and investors also must be vigilant and required to monitor and notice the signs of financial difficulties experienced by the company. A bankruptcy analysis is needed so that the company can get an early warning of bankruptcy. The earlier signs of insolvency are discovered, it will be better for management because they can immediately make improvements. The Altman Z-Score model is a popular tool for predicting financial distress. Therefore, this study aims to compare the financial distress conditions before and during a pandemic of COVID-19 in the hotel, restaurant, and tourism sub-sector companies listed on the Indonesia Stock Exchange (IDX).

LITERATURE REVIEW

Financial distress

Purbayati and Afgani (2020) in their research state that financial distress is a stage of deterioration of the financial situation of a company before bankruptcy or liquidation occurs. Financial distress, according to Septiani et al. (2021), is a state of declining financial performance in which a firm lacks or has insufficient funds to carry out its operations. Financial distress can occur in various types of companies if the company is in this condition and management must be careful because the company that is being run may enter the stage of bankruptcy. Therefore, financial distress can be an early warning system for the company as a sign of a problem (Sahrani and Nabir, 2020). According to Dwijayanti (2010), Financial distress can be caused by several things, including 1) wrong in resource allocation, 2) wrong financial structure; 3) bad governance, and 4) bad macroeconomic conditions. Financial distress can also be caused by the company's inability to anticipate global developments which will result in a reduction in business volume, which in turn will result in the company's bankruptcy (Ratna and Marwati, 2018). Examining a company's financial

statements is one way to forecast financial distress. Financial statements are analyzed using financial ratios that describe a company's good or bad financial position, including financial distress conditions (Fadillah and Susilowati, 2019). According to Carolina et al. (2017), Information about the condition of companies experiencing financial distress is very important for investors who want to invest their capital because investors are wary of a firm's financial problems.

Altman Z-Score

Altman's Z-score is the most widely used quantitative bankruptcy prediction model. The Z-score is a multiple discriminant analysis that integrates ratios in a multivariate context (Rim & Roy, 2014). The Altman z-score model's function calculation has four specific measurements in the function calculation algorithm:

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

Information:

Z: Overall index

X₁: Working Capital to Total Assets

X₂: Retained Earnings to Total Assets

X₃: Earnings Before Interest and Tax to Total Assets

X₄: Book Value of Equity to Total Liabilities

Altman's Z-Score classification:

Z-Score < 1.1 = Indicates that the company is likely to go bankrupt (Distress Zone).

Z-Score between 1.1 and 2.6 (1.1 < Z-Score < 2.6) = Indicates that the company is at a point prone to bankruptcy (Grey Zone).

Z-Score > 2.6 = Indicates that the company is less likely to go bankrupt (Safe Zone).

The Altman model has been frequently utilized to predict the company's financial distress, such as research conducted by Babatunde et al. (2017) on Nigerian manufacturing firms, this study used a sample of ten manufacturing firms that were mentioned on the Nigeria Stock Exchange (NSE) throughout the fiscal year 2015, research proved that the companies with declining performance in Nigeria can be identified using the z-score. Then, Swalih et al. (2021) analyzed the Indian automotive industry using the z-score model of Altman. The study discovered that India's automotive industry is very strong and healthy. Also, a study conducted by Meressa (2018) examined 18 microfinance institutions in Ethiopia from 2011 to 2015. This study found that most of the selected Ethiopian microfinance institutions were in good health. According to the findings of research by Hussain et al. (2014) the study examined 21 textile companies listed on the KSE (Karachi Stock Exchange). This research discovered the Altman Z-score model can accurately predict company bankruptcy one, two, three, and even four years before it happens. This model is also beneficial to evaluate the financial health of the business. These results for bankrupt, not bankrupt indicate that the Altman model can provide good predictions for Pakistan's textile sector. Similarly, research conducted by Al-Manaseer and Al Oshaibat (2018) regarding the validity of Altman's model found that this model was shown to be highly predictive. In addition, the findings show that the Z-Score model may be a helpful instrumental indication for various users of financial accounts, such as financial managers, auditors, lenders, and investors, to make the appropriate decisions in the event of financial failure.

METHODOLOGY

The method used in this research is a comparative descriptive method with a quantitative approach regarding the comparison of financial distress before and during a pandemic of COVID-19. According to Sugiarto (2017), descriptive research is a study that describes certain characteristics and characteristics of a phenomenon or problem that occurs. Based on the type of investigation, this research is categorized as a comparative study. Comparative research according to Siyoto and Sodik (2015) is a research problem formulation that compares the existence of one or more variables with two or more different samples at different times. For this research, we took a quantitative method. According to Siyoto and Sodik (2015), quantitative research employs a large number of numbers throughout the research process, from data collection through data interpretation and findings.

Population and Sample

a. Population

According to Siyoto and Sodik (2015) population is an object or subject that exists in an area and has met certain conditions related to research problems. There are 34 companies which are the population of the hotel, restaurant, and tourism sub-sector companies listed on the Indonesia Stock Exchange (IDX).

b. Sample

According to Siyoto and Sodik (2015), a sample is a subset of the quantity and characteristics of a population or a small proportion of the population members selected in accordance with specific procedures in order to represent the population. In this study, the sampling technique was purposive sampling (non-probability sampling). According to Siyoto and Sodik (2015), purposive sampling is a strategy for identifying samples based on specific criteria or particular selection. Criteria for sampling in this study:

- (1) Hotel, restaurant, and tourism sub-sector companies listed on the IDX during the period 2019 and 2020.
- (2) audited annual financial reports for 2019 and 2020.

As a result of these criteria, 27 samples were gathered from 34 hotel, restaurant, and tourism companies listed on the IDX in 2019 and 2020.

Research Data

The data for this study were gathered from the following sources: The IDX website (www.idx.co.id) and the corporate website provide secondary data in the form of audited annual financial reports (statements of financial position and income statements) for 2019 and 2020.

Data Analysis

The following are the data analysis steps in this study: (1) Calculating the value of financial ratios using the variables contained in the Altman model in the sample companies. (2) Calculate the Z-Score value and clarify the value based on the criteria contained in The Z-Score model of Altman. (3) Input the results of the Z-Score value computation in the SPSS Statistics Version 26 program to test the hypothesis.

The steps for testing the hypothesis are as follows:

1. Normality Test

A normality test was performed to assess whether or not the study data were normally distributed. The normality test on the Z-score value for the period before and the period during the pandemic of COVID-19 was used by the Shapiro Wilk test tool with a significance level of 5% (0.05). If the value of sig. more than 0.05 means that the data is normally distributed, while the value of sig. less than 0.05 means that the data is not normally distributed.

2. Wilcoxon Signed-Ranks Test

The Wilcoxon signed-ranks are used to evaluate if the financial distress is significantly different using the Z-score value of the period before and the period during a pandemic of COVID-19. The following is the formulation of the Wilcoxon Signed-Ranks Test hypothesis:

- H_0 : There are no significant differences in Z-Score value.
- H_a : There are significant differences in the Z-Score value.

The following is the basis for making the Wilcoxon Signed-Ranks Test decision:

- If Asymp. sig. (2-tailed) < 5%, which means H_0 is rejected and H_a is accepted.
- If Asymp. sig. (2-tailed) > 5%, which means H_0 is accepted and H_a is rejected.

RESULT

Calculating Result Using Altman Z-Score Model

Table 1: Z-Score Calculation Result

Z-Score	Number of Companies	
	Before the COVID-19 Pandemic (2019)	During the COVID-19 Pandemic (2020)
Z-Score < 1.1 (Distress Zone)	2	12
1.1 < Z-Score < 2.6 (Grey Zone)	8	3
Z-Score > 2.6 (Safe Zone)	17	12
Total	27	27

Table 1 shows the results of calculating the Z-Score value which is then, clarified based on the criteria contained in the Altman Z-Score model. In 2019 (before the COVID-19 pandemic) there were 2 companies categorized in the distress zone. Then, there are 8 companies categorized in the grey zone, and 17 other companies are categorized in the safe zone. Meanwhile, in 2020 (during the COVID-19 pandemic) there were 12 companies categorized in the distress zone. Then, 3 companies are categorized in the grey zone, and 12 other companies are categorized in the safe zone. The results of this calculation show that there is an increase in the number of companies experiencing financial distress. This indicates that the COVID-19 pandemic has an impact on the hotel, restaurant, and tourism industries in Indonesia, as shown by the number of companies experiencing financial difficulties during the COVID-19 pandemic. These outcomes are similar to the research conducted by Armadani et al.(2021) the results of his research show that companies experiencing financial problems have increased during the COVID-19 pandemic.

Hypothesis Testing

1. Normality Test

A normality test was performed to assess whether or not the study data were normally distributed. When data that is normally distributed is a requirement for a parametric test, whereas if there are some data or all of the data is not normally distributed, a nonparametric test. To test the normality of the Z-Score value before and during the pandemic of COVID-19 are using the Shapiro-Wilk test tool with a significance level of 5%. If the significance value is more than 5%, the data is normally distributed, but if it is less than 5%, the data is not normally distributed.

Table 2: Normality Test

	Shapiro-Wilk		
	Statistic	df	Sig.
Z-Score Before the COVID-19 Pandemic	.315	27	.000
Z-Score During the COVID-19 Pandemic	.225	27	.000

The findings of the normality test on the Z-Score value are shown in Table 2, each of them had a 0.000 significance value, which means having a value less than 5% ($0.000 < 5\%$). Based on these findings, the data in this research were not normally distributed. With these results, the Wilcoxon Signed-Ranks Test is a nonparametric statistical test method that was used in this study.

2. Comparative Test

Table 3: Ranks from Wilcoxon Signed-Ranks Test

Ranks				
		N	Mean Rank	Sum of Ranks
Z-Score During the COVID-19 Pandemic - Z-Score Before COVID-19 Pandemic	Negative Ranks	24	13.50	324.00
	Positive Ranks	3	18.00	54.00
	Ties	0		
	Total	27		

Based on table 3 shows that the negative ranks between the Z-Score before and during a pandemic of COVID-19 is 24, meaning that 24 companies experienced a decrease in the Z-Score in the period before to the period during a pandemic of COVID-19. The mean rank is 13.50 and the sum of ranks is 324.00. While the Positive ranks between the Z-Score before and during the COVID-19 pandemic is 3, meaning that 3 companies experienced an increase in the Z-Score in the period before to the period during the COVID-19 pandemic. The mean is 18.00 and the sum of ranks is 54.00.

Table 4: Test Statistic from Wilcoxon Signed-Ranks Test

Test Statistics	
	Z-Score During COVID-19 Pandemic - Z-Score Before COVID-19 Pandemic
Z	-3.24
Asymp. Sig. (2-tailed)	.001

Based on table 4 shows the Z value is -3.243 and the Asymp. sig (2-tailed) value from before to the period during the COVID-19 pandemic is 0.001 which means it has a value of less than 5%. This means that H_0 is rejected and H_a is accepted, this shows that there are significant differences between the Z-Score values in the previous period and the period during a pandemic of COVID-19 in the hotel, restaurant, and tourism sub-sector companies.

DISCUSSION

Financial Distress Before the COVID-19 Pandemic

Based on the findings of the Z-Score calculation to determine the prediction of financial distress conditions in the hotel, restaurant, and tourism sub-sector companies in 2019 or the period before the COVID-19 pandemic, it shows that 2 companies have a Z-Score value below 1.1, so that the company is categorized in the distress zone which indicates the company is most likely going bankrupt. Then, 8 companies have a Z-Score value between 1.1 and 2.6 so that the company is categorized in the grey zone which indicates

that the company is at a point prone to bankruptcy. While the other 17 companies have a Z-Score value above 2.6 so that they are categorized in the safe zone which indicates that is in a healthy financial situation and are less likely to go bankrupt.

According to the findings of this study, the majority of the hotel, restaurant, and tourism sub-sector companies before a pandemic of COVID-19 were in a healthy condition and were less likely to go bankrupt. This is influenced by the success of the Ministry of Tourism in 2019, which in general has achieved the target of Key Performance Indicators, among others, based on the number of foreign exchange earnings from the tourism sector, the contribution of the tourism sector to national GDP, increased movement of domestic tourists, growth of the national tourism industry, the ratio of national tourism human resources. certified for the total national tourism human resources, the index of the utilization of the results of research and development of national tourism, and the value of Bureaucratic Reform of the tourism ministry (Kemenpar, 2019). The success of the Ministry of Tourism has led to an increase in performance in the hotel, restaurant, and tourism subsectors so that most companies in this sub-sector are in a healthy condition.

Financial Distress During the COVID-19 Pandemic

Based on the findings of the Z-Score calculation results to determine the prediction of financial distress conditions in the hotel, restaurant, and tourism sub-sector companies in 2020 or the period during the COVID-19 pandemic, it shows that 12 companies have a Z-Score value below 1,1, so that the company is categorized in the distress zone which indicates the company is most likely to go bankrupt. Then, 3 companies have a Z-Score value between 1.1 and 2.6 so that the company is categorized in the grey zone which indicates that the company is at a point prone to bankruptcy. While the other 12 companies have a Z-Score value above 2.6 so that they are categorized in the safe zone which indicates that is in a healthy financial situation and are less likely to go bankrupt.

The results showed that during the pandemic of COVID-19, there was an increase in companies categorized as distress zones or those indicated to have a high probability of going bankrupt compared to the previous period. This is due to government policies that limit tourist visits and restrictions on community activities so that many companies in the hotel, restaurant, and tourism sub-sector are temporarily closed. The closure caused a decrease in the company's financial performance.

Differences in Z-Score Before and During the COVID-19 Pandemic

The rapid spread of the coronavirus has made the Indonesian government make various efforts and make policies to be able to deal with this virus. The government has set a policy of Large-Scale Social Restrictions (PSBB). Restrictions on community activities due to the COVID-19 pandemic have caused economic losses nationally (Hadiwardoyo, 2020). This restriction also directly affects the company's financial health condition.

According to the result of research using the Wilcoxon Signed-Ranks Test to assess financial distress show the Asymp. sig value is $0.001 < 0.05$ means that there are significant differences in the Z-Score value between before and during the COVID-19 pandemic. The results showed that of the 27 companies studied, 24 companies experienced a decrease in the Z-Score value. This indicates that a pandemic of COVID-19 has had a negative impact on the hotel, restaurant, and tourism sub-sector companies. Similar to the research conducted by Rababah et al. (2020). The findings of this study indicate that a COVID-19 pandemic has a detrimental impact on the financial performance of Chinese-listed firms. This is reflected in declining revenues, profitability, and overall investment in companies across industries. Based on the research by Osyantini et al. (2020) results from linear regression in this study revealed that the Coronavirus Pandemic (COVID-19) is harmful to private enterprises' financial and non-financial performance in Nigeria. As well as a study conducted by Karim et al. (2021), Devi et al. (2020), and Candra & Indah, (2021) indicates that the coronavirus outbreak has a negative impact on the financial performance of the firm. However, in contrast to the findings by Anas (2021), their study shows that a pandemic of COVID-19 has no significant effect on company financial performance.

CONCLUSION

Based on research on differences in financial distress conditions in hotel, restaurant, and tourism sub-sector companies before and during the COVID-19 pandemic using the Altman's Z-Score model, the following conclusions are obtained:

1. In 2019 before the COVID-19 pandemic, 2 companies had a Z-Score value below 1.1 as a result of which the companies were classified as in distress zone or having a high risk of bankruptcy. Then, 8 companies have a Z-Score value between 1.1 and 2.6, indicating that they are included in the grey zone category or prone to bankruptcy. Meanwhile, 17 other companies have Z-Score values above 2.6 so that they are included in the safe zone category or have a small bankruptcy potential.
2. In 2020, during the COVID-19 pandemic, 12 companies had a Z-Score value below 1.1 as a result of which the companies were classified as in distress zone or having a high risk of bankruptcy. Then, 3 companies have a Z-Score value between 1.1 and 2.6, indicating that they are included in the grey zone category or prone to bankruptcy. Meanwhile, the other 12 companies have Z-Score values above 2.6 so that they are included in the safe zone category or have a small bankruptcy potential.
3. Based on the results of a different test using the Wilcoxon signed-rank test, it shows that there are significant differences between the Z-Score before and during the COVID-19 pandemic. This is indicated by a significance value of < 0.05 and a decrease in the Z-Score value in the 24 companies studied. This means that the COVID-19 pandemic has had a negative impact on hotel, restaurant, and tourism sub-sector companies in Indonesia.

The limitations of this study are the small number of samples and only uses one financial distress prediction model. It is hoped that further research will cover other industries that have also been affected by a pandemic of COVID-19. This study is also anticipated

to assist investors in determining a company's financial health, which can be utilized to make investment decisions. In addition, this research can be used as information for companies experiencing financial distress conditions so that they can immediately make changes to be able to maintain their companies in the future.

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