

## **Financial Distressproperty and Real Estate Sector Companies Listed on the Indonesia Stock Exchange Before and During the Covid 19 Pandemic**

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### ***Abstract***

*The purpose of this study was to determine the difference between the potential for financial distress in property and real estate companies before the covid 19 pandemic and during the covid 19 pandemic. This type of research is a comparative analysis using quantitative methods. The data used is secondary data taken from the official website of the Indonesia Stock Exchange. This study took the population of property and real estate companies listed on the Indonesia Stock Exchange as 33 companies (purposive sampling). The variables used are as many as 2 variables, namely Altman Z score and Zmijewski X Score. The statistical test used in this study is the Paired Sample t-test which aims to find a comparison of two paired groups. Based on the results of the study.*

**Keywords:** Altman Z Score, Zmijewski X Score, Covid 19, property and real estate companies.

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## **Introduction**

The Global Economy experienced a major correction caused by Covid 19 which made many activities meet, transact in person, and gather in crowds. constrains the economy. These limitations make it difficult for companies to generate income and balance cash flow, making it difficult for companies to pay off short-term and long-term debt. According to (Firman, 2020) Covid 19 had an effect on the Economic, Industrial and Transportation sectors.

According to Gordon (2016), the growth of a country's Global Gross Domestic Product (GDP) is influenced by various factors, some of which are, capital, productivity, natural resources, human resources, changes in economic structure and environmental factors. Meanwhile, the International Monetary Fund (IMF), that the world economy is projected to increase in the range of 5.9% in 2021, while in 2022 the World Economic Outlook (WEO) predicts that the global economy will reach a moderate rate of 4.4% and for the 2023 projection at 3.8%. For Indonesia itself, it is predicted to improve in 2023 6.0% and in 2022 5.6%.

The property and real estate sector is an important sector in driving the economy. The International Property Rights Index is an index that aims to measure property, environmental, political, economic and physical property rights, this index consists of 129 countries. The International Property Rights Index is an approach or method that can be used by the government, private sector and individuals with the main objective of highlighting private interests that can affect national and global interests. The 2022 International Property Rights Index represents 129 countries, 94% of the world's population and 98% represents World GDP. IPRI correlates 0.899 with the Global Adaptability Index providing relevant information between property rights systems in promoting social flexibility, increase readiness and reduce risk for future global challenges. Among the ASEAN countries listed in the International Property Rights Index association, Indonesia is in third place while Malaysia is in second place and Singapore is in first place.

Since the beginning it was declared a pandemic on March 11 2020 by the World Organization Health (WHO) positive cases of Covid until cases of death caused by Covid 19 tended to improve On July 17 2022 the number of Covid cases reached 6,721,558 cases with the death rate occurring on June 11, 2022 with a total of 12,194 deaths. Compared to the start of 2021 on January 4 with total cases 4,987,339 with a death rate reaching 91,360 worldwide. The data above illustrates that Covid cases tend to increase every year but there has been a decrease in the number of death cases caused by Covid 19. The Covid 19 pandemic has shown a positive trend for the world community. This allows many industries to recover more quickly to recover losses caused by Covid 19.

Quoting data from Investing.com, 7 companies with large market capitalization show that the average Return On Assets (ROA) ratio of companies as shown in table 1.11 has decreased their total assets except for PT Puradelta Lestari. Tbk experienced an increase in ROA with a percentage increase of 6% and PT Ciputra Development Tbk experienced an increase in ROA with a percentage increase of 6%. The company's Return On Equity (ROE) which experienced an increase was still the same as mentioned above, namely PT Puradelta Lestari Tbk with a 15% increase and PT Ciputra Development Tbk, namely with an 11% increase. In the Debt Equity Ratio (DER) financial ratio, only two companies decreased in percentage terms, while 5 other companies experienced an increase in the debt ratio of PT Plaza Indonesia Realty Tbk. Experiencing an increase in debt of up to 400%, this figure is very high. It is only an indication

that the company is in financial trouble and several other companies have experienced an increase in debt above 5%. According to (Kasmir, 2008) that DER is a ratio to measure a company's ability to cover its debts, the higher the DER, the higher the level of debt returns the company needs.

According to Platt (2002) that Financial Distress is a condition in which a company experiences a decline in financial performance, both in liquidation, product quality and debt and credit problems. The data above shows that property companies experienced a decline in seller performance on average during the Covid 19 pandemic.

Lehman Brothers is wrong one company biggest on ~~list~~ The company is engaged in finance and investment. Established since 1850 by owning employees as much as 25,000. On year 2008 Lehman Brader experience bankruptcy due to the 2000-2008 Mortgage Backed Securities Crisis. Lehman Brader has a debt in 2008 of US\$2.8 Billion. (New York Times, 2008) The crisis in 2008 was caused by ballooning property prices and rising interest rates at that time, making it difficult for the American people to pay their obligations to the Bank according to (Woodard, 2008). Woodard added that the financial crisis was caused by several things, namely:

1. Government: in making policies this is due to the 2008 housing crisis due to the Federal Reserve System (The Fed) raising interest rates, and the government loosening the credit system at that time. This had an impact on the ability of the people of the United States to pay their obligations to banks and banks had difficulty getting profits at that time.
2. Corporate governance: the company must maintain integrity so that it can extend the life of the company itself. The loosening of credit ratings by the government made it easy for banks to provide loans to the public, because banks hoped that insurance companies would protect bad credit customers.
3. Supervision: Inability to supervise from various related parties, such as rating agencies, the government, insurance companies. So that makes the crisis happen.

Evergrande Group company is the largest company in China, the company generated revenue of \$ 70 Billion in 2020 and 2019 of \$ 66 Billion. The property sector contributes 29% of GDP (Gross Domestic Product) per capita in China. (Wiley & Sons 2010).

Some of the descriptions above are about the property crisis in 2008 which made Lehman Brothers, a company that was founded in 1850, be able to go bankrupt only with the problems that the company experienced less than 8 years ago until it went bankrupt in 2008. Likewise with the Chinese giant Evergrande Group which has established in 1996 also has the same potential if the company is unable to maintain its financial condition so that it can survive the current and future recessions and crises. On this occasion, the author is interested in examining the relationship between the Covid 19 pandemic and Financial Distress in property sector companies listed on the Stock Exchange Indonesia.

Based on the phenomena and problems that researchers found, therefore researchers are interested in researching Financial Distress in Property and Real Estate Sector Companies Registered in Bei before and during the Covid 19 Pandemic.

### **Theoretical and Empirical Studies of Signaling Theory**

Signal Theory (Signaling Theory). First proposed by Spence (1973). This theory aims to provide information or signals to the giver who provides incomplete but relevant information, so that the

recipient of the information can take a signal from that information. In theory, it aims to provide a signal to the recipient of information with a managerial, psychological and scientific approach. According to Brigham and Houston (2010). Cues and signals are one of the most important things for investors. Investors need information to be able to analyze and make investment decisions. Brigham and Houston added that the investment company Berkshire Hathaway company with the owner named Warrant Buffet, is still using financial reports as a signal to get stable profits.

### **Altman Z-Score Theory**

Altman Z-Score itself is a theory put forward by Edward Altman, the theory aims to assess the potential for bankruptcy of companies in the United States. In 1968 Altman examined about 33 companies in the United States. The purpose of the theory is to see whether the company has the potential for bankruptcy in the future. Edward Altman considers that each company cannot use the same ratio, where the profitability ratio, liquidity ratio, and solvency ratio are one of the relevant methods for assessing bankruptcy, this method combines to obtain an accurate value in predicting bankruptcy.

This method is used for manufacturing companies with the method:

$$Z = 1.2X_1 + 1.4X_2 + 3.3X_3 + 0.6X_4 + 0.999X_5$$

$X_1$  = 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 / Total Liabilities

$X_5$  = Sales / Total Assets Implementation value

- a. Z-Score > 2.99 (Safe Zone)
- b.  $1.81 < \text{Z-Score} < 2.99$  (Gray Zone)
- c. Z-Score < 1.81 (Distress Zone)

Modified Almatman Z-Score Method (2000) Used for non-manufacturing companies  $Z = 6.56 X_1 + 3.26 X_2 + 6.72 X_3 + 1.05 X_4$

That is

$X_1$  = Working Capital to Total Assets  $X_2$  = Retained Earnings to Total Assets

$X_3$  = Earning Before Interest and Tax to Total Assets

$X_4$  = Book value of equity to Book Value of Total Liabilities With the value of Implementation Value

- a. Z-Score > 2.6 (Safe Zone)
- b.  $1.1 < \text{Z-Score} < 2.6$  (Gray Zone)
- c. Z-Score < 1.1 (Distress Zone)

### **Zmijewski X-Score Theory**

The Zmijewski X-score theory is a theory that was first put forward by Mark E Zmijewski, the

purpose of this theory is to calculate the potential bankruptcy of a company using leverage and liquidity to calculate the potential bankruptcy of a company. Theory. Zmijewski Xscore (1984) was used for the first time to examine 40 companies that have the potential for bankruptcy and also 800 companies that are safe from the bankruptcy zone. There are several differences between Zmijewski's theory and Altman's Z-Score where Zmijewski uses a safe zone value Between  $X < 0$  as a safe zone and  $X > 0$  as a distress zone (Mark E Zmijewski 1984)

$$X = 4.3 - 4.5 X_1 + 5.7 X_2 - 0.004 X_3$$

That is

$X_1$ : Net Profit/Total Assets

$X_2$ : Total Debt/Total Assets

$X_3$ : Current Assets/Current Debt

Cut off Value for safe zone ie

a.  $X < 0$  (Safe Zone)

b.  $X > 0$  (Distress Zone)

### **Empirical Study**

The empirical studies that are used as a reference for this research are:

1. Bankruptcy Analysis of the Altman Z-score Model, Springate, Zmijewski and Fulmer in Property Sector Companies listed on the IDX. (Sari & Yulianto 2018), (Shita, Tiara, et al 2019), (Adnan & Dicky 2017), (Ariawan, 2018), (Sumolang & Keles 2021) (Herlambang 2015)
2. Analysis of Financial Performance in assessing the potential for Financial Distress in property and real estate sector companies listed on the IDX (Septiani & Dana 2019), (Suryani, 2020), (Ayu, 2019), (Curry & Banjarnahor 2018)

### **RESEARCH METHODS**

The analysis used in the comparative method is a type of descriptive research that wants to find answers fundamentally about cause and effect, by analyzing the factors that cause the occurrence or emergence of certain phenomena.

This study uses a quantitative method, namely research that starts from deductive logic and then uses theory to derive research hypotheses by measuring and statistically empirical testing, in order to obtain research results.

The research is located in Jakarta, the Indonesian Stock Exchange and the object of research is the financial reports of property and real estate companies listed on the IDX for 2019-2020.

Data collection method is a documentation technique. It should be noted that the financial reports used are the period from 2019 to 2020. These data were obtained on the official website of the Indonesia Stock Exchange, namely [www.idx.co.id](http://www.idx.co.id) and other relevant sources.

This study took a population of 33 property and real estate companies listed on the IDX. The sampling technique is a total sample (purposive sampling) in this case 33 companies in the property and real estate sector.



The stages of the data analysis method used in this study include descriptive statistical analysis by using the classification of property and real estate companies, the researchers identified 33 property and real estate companies that have the potential to experience financial distress.

The statistical method used is the paired sample t-test (dependent sample test), namely by comparing two objects in different time periods (Jhonson & Bhattacharyya, 2010).

## Discussion

### Altman Z-Score Test Results

Perusahaan	Tahun	X1	X2	X3	X4	Z-score
BIKA	2019	0,52	0,03	0,26	0,35	5,56 Safe
	2020	0,13	-0,09	-0,11	-0,10	-0,28 Distress
BKSL	2019	0,08	0,14	0,14	0,16	2,16 Safe
	2020	0,07	0,03	0,03	0,03	0,77 Distress
MDLN	2019	0,12	0,31	0,45	0,82	5,76 Safe
	2020	-0,47	0,13	0,28	0,40	-0,24 Distress

Altman Z score test results using Microsoft excel as many as 33 samples from the company's financial statements. The results show that PT. Binakarya Jaya Abadi Tbk. Experiencing potential Financial Distress in 2020. PT. Sentul City Tbk. Experiencing the gray zone in 2019 experiencing Financial Distress in 2020. PT. Modernland Realty Tbk. Experiencing Financial Distress in 2020. The results shown are companies that experience potential in the Gray Zone and Distress Zone areas

### Zmijewski Z Score Test Results

Perusahaan	Tahun	X1	X2	X3	Xcore
BIKA	2019	-0,03	0,74	2,91	0,06 Distress
	2020	-0,03	1,11	1,18	2,16 Distress
BKSL	2019	0,00	0,86	1,43	0,58 Distress
	2020	-0,03	0,97	1,40	1,38Distress
MDLN	2019	-0,12	0,72	0,26	0,31 distress
	2020	0	0,71	0,98	-0,23 Safe

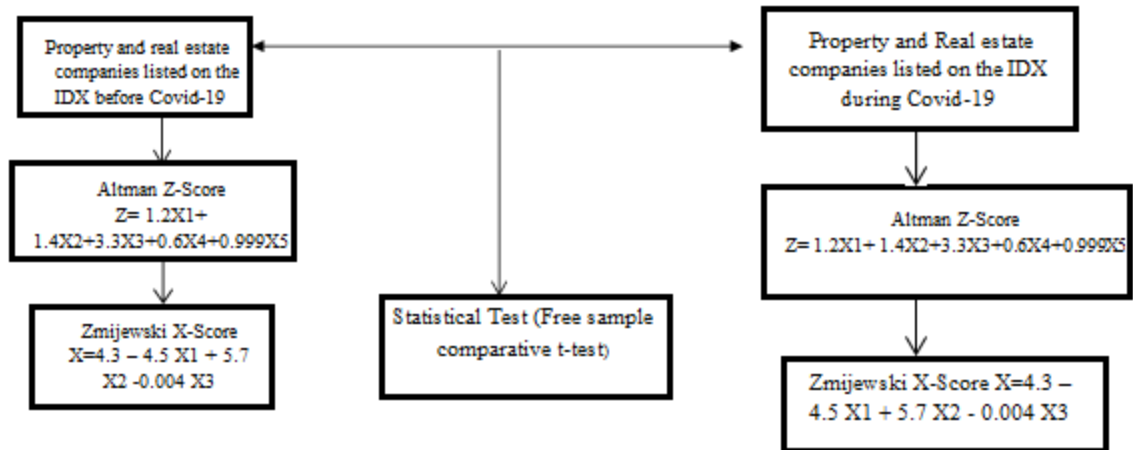
Zmijewski X score test results using Microsoft excel as many as 33 samples from the company's financial statements. The results show that PT. Binakarya Jaya Abadi Tbk. Experiencing potential Financial Distress in 2019 and 2020. PT. Sentul City Tbk. Experiencing Financial Distress in 2019 and 2020. PT. Modernland Realty Tbk. Experiencing Financial Distress in 2019. The results shown are companies that are in the gray zone and distress zone. The other 30 companies are in the safe zone area.

## Hypothesis Test

The data used in this study is ratio scale data which has an absolute zero value so that it cannot be converted into ordinal scale data. so that the paired samples t-test. The paired sample t-test is a test tool to compare differences in two paired groups (Johson & Bhattacharya, 2010)

## Paired Samples t-test

### Conceptual framework



		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	AltmanZ ScoreSebelum Covid 2019 - AltmanZ ScoreSaat Covid 2020	.84631	2.22079	.38659	.05885	1.63377	2.189	32	.036
Pair 2	Zmijewski X ScoreSebelum Covi 2019 – Zmijewski X Score Saat covid 2020	-.39364	.58896	.10252	-.60247	-.18480	-3.839	32	.001

property and real estate using the altman z score method before the covid 19 2019 pandemic and during the covid 19 2020 pandemic. In pair two 0.01 < 0.05, which means there is significant potential for Financial Distress in property and real estate companies before the Covid 19 2019 pandemic and during the Covid 19 2020 pandemic

## Discussion

Based on the results of the paired sample t-test above, it shows that there is significant potential for Financial Distress in property and real estate sector companies before Covid 19 2019 and during Covid 19 2020 using the Altman Z-score and Zmijewski X score methods. This can be proven through table 5.6. It shows that the Sig 2-tailed value for each company is at a number less than < 0.05, this number is significant, which means that there is a potential effect of Financial Distress on property and real estate companies.

Altman Z score test results using Microsoft excel as many as 33 samples from the company's financial statements. The results show that PT. Binakarya Jaya Abadi Tbk. Experiencing potential Financial Distress in 2020, this is due to PT. Binakarya Jaya Abadi Tbk. Experiencing a decrease in income. This makes it difficult for the company to pay short-term debt and results in

the provision of funds for the company's branches in the future. This is illustrated in the table. PT. Sentul City Tbk. experienced a decrease in revenue so that the company is in the distress zone. For PT. Modernland Realty Tbk. Experiencing a similar situation, the principle of distress is that the company does not have the ability to pay off both short-term and long-term debt.

Zmijewski test results have several differences where PT. Binakarya Jaya Abadi Tbk. Experiencing distress from 2019 to 2020, this is illustrated in table 5.1. The company's ROA (return on assets) continues to fall every year, namely 2019 X1: -0.03 and 2020 X1: -0.03. For PT. Sentul City Tbk., has ROA which tends to decrease every year, namely 2019 X1: 0.0 and 2020 X2: -0.03. PT. Modernland Realty Tbk. Experiencing distress in 2020 due to X1: -0.12 while 2019 X1:0.03.

### **Conclusion**

1. Based on the results of the paired sample t-test, it was found that there were significant differences in the potential for Financial Distress in property and real estate sector companies listed on the Indonesia Stock Exchange before the Covid-19 pandemic (2019) and during the Covid-19 pandemic (2020). .
2. Based on test results using Microsoft Excel on the altman z score and zmijewski methods, the obstacle faced by the company is that the company has difficulty generating profits so that it makes it difficult for the company to maintain the reserve funds that the company has so that it makes it difficult for the company to pay off short-term and long-term debt length.
3. Based on the analysis of financial statements that PT. Sentul City Tbk is experiencing problems in terms of generating profits, there is a decline in property prices on the market, so the company has difficulty selling its products at higher prices, this makes it difficult for the company to pay off its debts and maintain the strength of the company's equity. PT Bina Karya Abadi Tbk, also experienced the same thing, that there was a decline in sales during the Covid 19 pandemic where the company had difficulty paying operational costs because market prices during the pandemic fell and public interest decreased, causing the company's debt to increase and the company having difficulty maintaining cash. . At PT. Modernland has the same case in principle, that is, declining revenues make it difficult for companies to sell property prices
4. the company's land dispute problem, in these conditions the company pawns the land into bonds and bank notes but it needs to be considered in more detail, that the company takes short-term bonds, namely one year. If the company has difficulty paying off the debt, the company will be in a more difficult financial position than the financial conditions of 2020 during the Covid 19 pandemic.

### **Recommendation**

Based on the conclusions that have been mentioned in this study, there are several suggestions that can be conveyed by the author as follows:

1. For company management. In order to maintain a balance of cash flow / cash flow so that the company is able to survive in economic conditions that will occur in the future.
2. For investors. In order not to take too much risk on a company that is experiencing potential Financial Distress, although some investors took advantage of this to buy shares, which at that time were still very cheap.
3. For further research and development, it is expected to use more research objects and methods, so that later research results can be more comprehensive.



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