American Journal of Humanities and Social Sciences Research (AJHSSR)
e-ISSN :2378-703X
Volume-5, Issue-6-pp-112-116
www.ajhssr.com
Research Paper Open Access

Analysis of Potential Bankruptcy using the ALTMAN Z-Score Method in Property & Real Estate Sector Companies Listed on the IDX in 2018

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ABSTRACT : Altman Z-Score is a method used to analyze the potential bankruptcy of a company. Z-Score is claimed to be able to detect company bankruptcy with a high degree of accuracy and this method is also very widely used. Altman uses calculations through 5 financial ratios in the formula, namely Net Working Capital to Total Assets, Retained Earning to Total Assets, Earning Before Interest and Taxes to Total Assets, Market Value of Equity to Book Value of Debt and Sales to Total Assets. This research was conducted on 40 Property & Real Estate companies listed on the Indonesia Stock Exchange. The research method used in this research is descriptive. The results of the research that has been conducted on 40 companies are 27 companies with a crisis condition, 11 companies with a gray area condition and 2 companies with a healthy condition.
KEYWORDS: *Altman Z-Score, Bankruptcy, Financial Statements, Indonesia Stock Exchange (IDX).*

I. INTRODUCTION

Bankruptcy is a condition in which a company fails to operate, resulting in the inability to finance its operations normally and the inability to pay its various obligations(Tron, 2021). Bankruptcy is generally caused by financial failure or financial distress, where the company cannot manage its finances properly(Paule-Vianez et al., 2020). Every company has an obligation to be able to carry out its operations properly with the right strategy to maintain its survival(Buzgurescu & Elena, 2020). Companies that have a good reputation and have gone public are generally listed on the Indonesia Stock Exchange (Yuliani et al., 2019). Until 2018, 491 companies have been listed on the IDX. In running its economy, Indonesia does not always run smoothly, with the company's failure to operate which is one of the causes of the unstable economy. If a company that is good enough will be listed on the IDX, then the company that has failed will be delisted(Hirsanuddin et al., 2020). The company was delisted due to various considerations, including the company experiencing dissolution, a merger with other companies, and the most common is being exposed to financial distress which causes the company's bankruptcy(Raza, 2019).

Based on data from the last 10 years, the three company sectors that experienced the most delisting were the Real Estate & property sector with 6 companies, 4 companies in the trade-in production goods (services), and the food & beverage sector (manufacturing), the mining & coal sector (mining), plastic & packaging (manufacturing) sector with 3 companies each. This shows that the property & real estate sector has the most number of companies delisted by the IDX, 6 companies as of the current year 2019. In carrying out its operations, a company does not necessarily just run its operations with a good strategy, but the company must also think about the bad effects of its strategy by always being aware of the potential for bankruptcy as early as possible(Inam et al., 2019). The risk of bankruptcy for a company can be seen and measured through financial reports, by analyzing the ratio of the financial statements issued by the company in question(Fadrul & Ridawati, 2020). Financial reports issued by companies are one source of information regarding the company's financial position(Xu et al., 2020). Through the information from the financial statements, an analysis of the potential for bankruptcy can be carried out which can assist the company in making decisions going forward(10Lukason & Camacho-Miñano, 2019).

Various analyzes have been carried out by many researchers to predict the potential bankruptcy of the company in the future. There are 3 analytical methods in predicting company bankruptcy, Zmijewski, Altman Z-score, and Springate(Al-Manaseer & Al-Oshaibat, 2018;Arum & Handayani, 2018;Hutomo et al., 2020;Prasandri, 2018;Saputri & Krisnawati, 2020). Hertina & Kusmayadi (2020)have conducted research using these 3 analysis methods, the results of the analysis obtained are the Altman Z-Score method, which has the highest level of accuracy and is the most appropriate to use. Altman Z-Score works in a complex manner by focusing on five existing financial ratios: Working Capital to Total Assets, Retained Earnings to Total Assets,

EBIT to Total Assets, Market Value of Equity to Total Liabilities, and Sales to Total Assets. These ratios relate one amount to another. This method also has a cut-off point that can categorize companies into 3 zones(Andriani & Sihombing, 2021)

Alim (2017)concluded that from the calculation of the average Z-Score of food and beverage companies listed on the Indonesia Stock Exchange during the three years of assessment, namely 2014, 2015, and 2016, it shows that 4 companies are in a state of distress, where this condition indicates the potential for bankruptcy of the company. Companies that are in a state of distress include PT. Tiga Pilar Sejahtera Food Tbk, PT. Tri Banyan Tirta Tbk, PT. Indofood Sukses Makmur Tbk, and PT. Pradisha Aneka Niaga Tbk. In addition, there is one company that is in a gray area position, namely PT. Sekar Laut Tbk. And 9 companies are in sound financial condition, including PT. Wilmar Cahaya Indonesia Tbk, PT. Delta Djakarta Tbk, PT. Indofood CBP Sukses Makmur Tbk, PT. Multi Bintang Indonesia Tbk, PT. Mayora Indah Tbk, PT. Nippon Indosari Corpindo Tbk, PT. Sekar Bumi Tbk, PT. Siantar Top Tbk, and PT. Ultrajaya Milk Industry & Trading Company Tbk.

Sawiya & Munandar (2016)stated that the calculation of the financial ratio Altman Z-Score from 2008 to 2015 obtained a Z-score that was above the cut-off Z-Score so that most of the pharmaceutical companies on the Indonesia Stock Exchange fall into the category of a healthy company.

Noviandani et al. (2018) concluded that manufacturing companies in the consumer goods sub-sector have strong Zi values or are defined as healthy companies. The company is PT. Unilever Indonesia Tbk and PT. Indofood Sukses Makmur. Meanwhile, manufacturing companies with the cosmetic goods sub-sector have a fluctuating Zi value, meaning that in a certain period it can be said to be healthy but in the next period it tends to weaken and is categorized as a company that is prone to bankruptcy. Companies in this category are PT. Mustika Ratu Tbk and PT. Martina Berto Tbk.

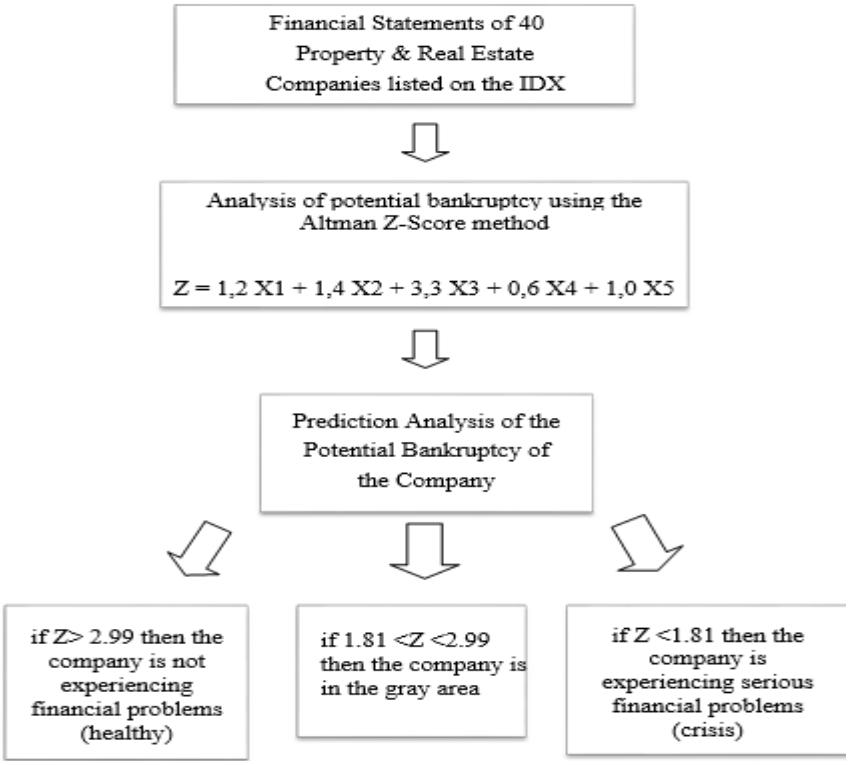

Fig. 1 Conceptual framework

II. RESEARCH METHODS

This type of research is quantitative research. The research was conducted on the Indonesia Stock Exchange (IDX) in the 2018 period. The IDX was chosen as the place for research because the IDX was the first stock exchange in Indonesia, which was considered to have complete data and was well organized. In this study, the samples to be taken were all Property & Real Estate sector companies listed on the IDX in 2018, which are 40 companies. The sampling technique using the saturated sampling method. The saturated sample method is a sampling technique when all members of the population are used as samples. The data collection technique in this study was non-participant observation. Data analysis in this study is to use the Altman Z-Score method to analyze financial statements.

Operational Variables

1) Net Working Capital to Total Assets shows "the company's ability to generate net working capital from total assets owned" (Nustini & Amiruddin, 2019).
2) Retained Earnings to Total Assets shows "the company's ability to generate retained earnings from the company's total assets" (Silvan, 2020).
3) Earning Before Interest and Taxes to Total Assets shows "the company's ability to generate profits from the company's assets before interest and taxes" (Kukreja et al., 2020).
4) Market Value of Equity to Book Value of Debt shows "a company's ability to meet its obligations from its own capital market value"(Riantani et al., 2020).
5) Sales to Total Assets shows "whether the company is generating a sufficient volume of a business relative to investing in its total assets"(Atidhira & Yustina, 2017).

III. RESULTS AND DISCUSSION

Based on calculations using the main formula Altman Z-Score, the final conclusion is obtained from the analysis of the potential bankruptcy of 40 property & real estate companies listed on the IDX for the 2018 period.

Table 1. Results of the Analysis of Potential Bankruptcy with the Altman Z-Score

COMPANY	Z	CATEGORY
AgungPodomoro LandTbk	0.36	**Crisis**
ArmidianKaryatamaTbk	1.96	Greyarea
BekasiAsriPemulaTbk	2.18	Greyarea
BekasiFajarIndustrialEstateTbk	1.11	**Crisis**
BinakaryaJayaAbadi Tbk	0.93	**Crisis**
BhuwanatalaIndahPermaiTbk	0.49	**Crisis**
SentulCity Tbk	1.18	**Crisis**
BumiSerpoDamaiTbk	1.12	**Crisis**
CowellDevelopmentTbk	(0.12)	**Crisis**
CiputraDevelopmentTbk	1.13	**Crisis**
DutaAnggadaReality Tbk	1.29	**Crisis**
IntilandDevelopmentTbk	0.64	**Crisis**
DutaPertiwi Tbk	1.68	**Crisis**
MegapolitanDevelopmentsTbk	1.08	**Crisis**
FortuneMate IndonesiaTbk	1.54	**Crisis**
ForzaLandIndonesiaTbk	1.37	**Crisis**
GadingDevelopmentTbk	2.70	Greyarea
PerdanaGapuraPrimaTbk	2.32	Greyarea
PT.GreenwoodSejahteraTbk	2.18	Greyarea
JayaReal PropertyTbk	1.38	**Crisis**
Kawasan IndustriJababekaTbk	1.40	**Crisis**
PTEurekaPrimaJakarta Tbk	8.30	Healthy
LippoCikarangTbk	2.48	Greyarea
LippoKarawaciTbk	1.32	**Crisis**
ModernRealtyLtdTbk	0.99	**Crisis**
MetropolitanKenjtanaTbk	2.01	Greyarea
PTMegaManunggalProperty Tbk	1.14	**Crisis**
MetropolitanLandTbk	1.86	Greyarea
MetroRealtyTbk	3.18	Healthy
CityRetailDevelopmentTbk	0.54	**Crisis**
IndonesiaPrimaProperty Tbk	1.14	**Crisis**
PlazaIndonesiaRealtyTbk	1.16	**Crisis**
PTPP PropertyTbk	0.81	**Crisis**
PokuwonJati Tbk	1.61	**Crisis**
RistiaBintangMahkotasejatiTbk	1.83	Greyarea
COMPANY	**Z**	**CATEGORY**
RodaVivatexTbk	2.29	Greyarea
PikkoLandDevelopmentTbk	1.52	**Crisis**
DanayasaArthatamaTbk	1.38	**Crisis**
SuryamasDutamakmur Tbk	2.05	Greyarea
PTSitaraPropertindoTbk	0.05	**Crisis**

The company is said to be in a healthy condition if the Z value is> 2.99, where the company does not experience financial difficulties and does not have the potential for bankruptcy in the future. These companies are PT Eureka Prima Jakarta Tbk and Metro Realty Tbk.

The company is said to be in a gray area if 1.81 <Z <2.99, where the company is in the middle of a critical and healthy condition. A company can potentially go bankrupt if it is unable to improve its performance and can also become a healthy company if it is able to improve its performance. These companies are Armidian Karyatama Tbk, Bekasi Asri Pemula Tbk, Gading Development Tbk, Perdana Gapura Prima Tbk, PT. Greenwood Sejahtera Tbk, Lippo Cikarang Tbk, Metropolitan Kentjana Tbk, Metropolitan Land Tbk, Ristia Bintang Mahkotasejati Tbk, Roda Vivatex Tbk and Suryamas Dutamakmur Tbk.

The company is said to be in a critical condition if Z <1.81, where the company is experiencing serious financial difficulties and has the potential to go bankrupt in the future. These companies are Agung Podomoro Land Tbk, Bekasi Fajar Industrial Estate Tbk, Binakarya Jaya Abadi Tbk, Bhuwanatala Indah Permai Tbk, Sentul City Tbk, Bumi Serpo Damai Tbk, Cowell Development Tbk, Ciputra Development Tbk, Duta Anggada Reality Tbk, Intiland Development Tbk, Duta Pertiwi Tbk, Megapolitan Developments Tbk, Fortune Mate Indonesia Tbk, Forza L and Indonesia Tbk, Jaya Real Property Tbk, Jababeka Industrial Estate Tbk, Lippo Karawaci Tbk, Modern Realty Ltd Tbk, PT Mega Manunggal Property Tbk, City Retail Development Tbk , Indonesia Prima Property Tbk, Plaza Indonesia Realty Tbk, PT PP Property Tbk, Pokuwon Jati Tbk, Pikko Land Development Tbk, Suryamas Dutamakmur Tbk and PT Sitara Propertindo Tbk.

IV. CONCLUSION

Theoretically, the Altman Z-Score theory can quickly identify the potential for bankruptcy, even though only from limited information (financial reports). Practically, the results of this study can be used as reference material for further research development. In addition, the results of this study can be used as a basis for conducting company efforts to improve company performance so that the company does not experience bankruptcy in the future.

For companies in the property & real estate sector with indications of financial difficulties and potentially bankruptcy, they should immediately take appropriate action to improve their financial conditions and for companies that are healthy and have no potential for bankruptcy, they should be able to maintain their existing financial conditions so that in the future not having financial difficulties.This study uses the Altman Z-Score method where the researcher only predicts the condition of the company through the information obtained from the financial statements so that the researcher finds it difficult to identify the source of the company's problems in real and in detail outside the financial statements. The condition of the company at any time can change outside of the Altman Z-Score theory in this research due to other factors, such as the occurrence of inflation, changes in legislation, changes in state economic regulations, and others. The research carried out only took the conditions for one period, so it did not present a comparison of the conditions of the company in different years.For further researchers, it is hoped that they can add to the research variables by adding an explanation or telling the real condition of the company outside the financial statements.

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