

CHAPTER III

RESEARCH METHOD

Determining Research methodology is crucial in conducting research because it influences how researcher process the data, analyze data and decision of result.

A. Type of Research

The type of research applied in this research is descriptive research because it is appropriate with problem formulation. Agung (2012:4) said descriptive research is conducted to determine the value of an independent variable, either a variable or more without making comparisons or connecting with other variables. Based on Darmawan (2013:49), descriptive research objective are describing an object or activity which is becoming a concern for researcher. In descriptive research, researcher only develops concept then collect supported facts without test hypotheses.

The approach that is done by the researcher is quantitative approach. Tanuwijaya said that quantitative method is a process of discovering knowledge which using data in the form on numbers as a tool to find information about what we want to know (Tanuwijaya,1997 in Dermawan,2013:37). Besides, Sugiyono (2008:12) mentioned quantitative method is a process of discovering knowledge which is using the numerical data.

Based on explanation above, this research use descriptive research, with quantitative approach . It is to describe the financial performance of the researched company that is obtained from financial statements as a corporate value reflection. It

describes probability of bankruptcy using Altman (Z – Score). The Initial Bankruptcy signals are expected presence of an appropriate policy to the future. Prediction of bankruptcy is one of the aspects need to be considered in operating business. It means conducting business research should apply an appropriate research type.

B. Location of Research

Researcher conducted this research in Indonesian Stock Exchange (IDX). IDX provides financial statements and annual reports for listed and delisted company especially for property and real estate sector. In addition, the data has been audited. It is the reason why the researcher choose Indonesian Stock Exchange (IDX).

C. Variable and Measurement

1. Variable

Researcher used Altman (Z-Score) formula. In this research, the formula are:

$$Z = 6.56 X_1 + 3.26 X_2 + 6.72 X_3 + 1.05 X_4$$

These variables consist of several financial ratios. According to Horne (2013:163) financial ratio is the index which is connecting two accounts and it is acquired by dividing one number by another number. The ratio mention as below:

- a. Liquidity Ratio (X_1), it is calculate working capital to total assets. It is used to determine the ability of companies to meet short-term obligation such as liabilities.

- b. Leverage Ratio (X_2), finds from retained earnings to total assets. This ratio measures the accumulated profits of the operating enterprise which extends to which a company has been financed by debt and shareholder's funds. (Thomas, 2011: 601)
- c. Profitability Ratio (X_3), it is calculate from earnings before interest and tax to total assets. It is used to measure actual productivity of the assets such as performance, or returns which management has been able to achieve. (Thomas, 2011: 601)
- d. (X_4), Book Value of Equity to Book value of Total Liabilities shows how much the firm's assets can decline in value before the liabilities exceed the assets and the firm becomes insolvent (Reuters:2011)

2. Measurement

Measurement on this research was obtained from comparing Z-Score value that has been calculated with index (cut-off point) that has been determined. The cut-off points were:

- a. If Z-Score value more than 2.6 it means the company is in good condition.
- b. If Z-Score value within 1.1 until 2.6 means the company in vulnerable condition which is suffer financial problem.
- c. If Z-Score value under 1.1 means the company in bankrupt condition.

D. Population and Sample

1. Population

Sugiyono (2008:389) stated that population is a generalization consist of object or subject that have certain qualities and characteristics assigned by researcher to learn then take the conclusion. Population used in this research is all listing company and delisting company in Indonesian Stock Exchange (IDX) at property and real estate sector. Total companies that listed in subsector property and real estate is 47 companies and total delisted company is 5 companies.

2. Sample

Sample is part of characteristic of the population (Sugiyono, 2008:389). Researcher used purposive sampling as a sampling technique. Based on Darmawan (2013:152), purposive sampling is electing method for the sample based on the consideration of the researcher. The considerations that used in this sampling technique were described in the criteria as follows:

Table 6 Purposive Sampling Criteria

Point	Listing	Delisting
a.	The companies listed in IDX from 2013 until 2015.	The companies which ever delisted from IDX from 2015-2017
b.	The companies which never did partial delisted.	The companies never relisted in IDX.
c.	Have Listed in LQ 45 during research period.	The company that publish annual report from 2013 until 2015 in IDX

Source: Data Processed by Author, 2017

Table 7 Listing Company in IDX Subsector Property and Real Estate

No	Stock Code	Company	Criteria		
			Point a	Point b	Point c
1	APLN	Agung Podomoro Land Tbk	√	√	
2	ASRI	Alam Sutera Realty Tbk	√	√	√
3	BAPA	Bekasi Asri Pemula Tbk	√	√	
4	BCIP	Bumi Citra Permai Tbk	√	√	
5	BEST	Bekasi Fajar Industrial Estate Tbk	√	√	
6	BIKA	Binakarya Jasa Abadi Tbk	√	√	
7	BIPP	Bhuwanatala Indah Permai Tbk	√	√	
8	BKDP	Bukit Darmo Property Tbk	√	√	
9	BKSL	Sentul City Tbk	√	√	√
10	BSDE	Bumi Serpong Damai Tbk	√	√	√
11	COWL	Cowell Development Tbk	√	√	
12	CTRA	Ciputra Development Tbk	√	√	√
13	DART	Duta Anggada Realty Tbk	√	√	
14	DILD	Intiland Development Tbk	√	√	
15	DMAS	Puradelta Lestari Tbk	√	√	
16	DUTI	Duta Pertiwi Tbk	√	√	
17	ELTY	Bakrieland Development Tbk	√	√	
18	EMDE	Megapolitan Developments Tbk	√	√	

Table 7 Continue Listing Company in IDX Subsector Property and Real Estate

No	Stock Code	Company	Criteria		
			Point a	Point b	Point c
19	FMII	Fortune Mate Indonesia Tbk	√	√	
20	GAMA	Gading Development Tbk	√	√	
21	GMTD	Gowa Makassar Tourism Development Tbk	√	√	
22	GPRA	Perdana Gapuraprima Tbk	√	√	
23	GWSA	Greenwood Sejahtera Tbk	√	√	
24	JIHD	Jakarta International Hotels Dan Development	√	√	
25	JGLE	Graha Andrasentra Propertindo Tbk	√	√	
24	JRPT	Jaya Real Property Tbk	√	√	
25	KIJA	Kawasan Industri Jababeka Tbk	√	√	
28	KPIG	MNC Land Tbk	√	√	
26	LAMI	Lamicitra Nusantara Tbk	√	√	
27	LCGP	Eureka Prima Jakarta Tbk	√	√	
28	LPCK	Lippo Cikarang Tbk	√	√	
29	LPKR	Lippo Karawaci Tbk	√	√	√
30	MDLN	Modernland Realty Ltd Tbk	√	√	
31	MKPI	Metropolitan Kentjana Tbk	√	√	

**Table 7 Continue Listing Company in IDX Subsector
Property and Real Estate**

No	Stock Code	Company	Criteria		
			Point a	Point b	Point c
32	MMLP	Mega Manunggal Property Tbk	√	√	
33	MTLA	Metropolitan Land Tbk	√	√	
34	MTSM	Metro Realty Tbk	√	√	
35	NIRO	Nirvana Development Tbk	√	√	
36	OMRE	Indonesia Prima Property Tbk	√	√	
37	PLIN	Plaza Indonesia Realty Tbk	√	√	
38	PPRO	PP Properti Tbk	√	√	
39	PUDP	Pudjiati Prestige Tbk	√	√	
40	PWON	Pakuwon Jati Tbk	√	√	√
41	RBMS	Ristia Bintang Mahkotasejati Tbk	√	√	
42	RDTX	Roda Vivatex Tbk	√	√	
43	RODA	Pikko Land Development Tbk	√	√	
44	SCBD	Danayasa Arthatama Tbk.	√	√	
45	SMDM	Suryamas Dutamakmur Tbk	√	√	
46	SMRA	Summarecon Agung Tbk	√	√	√
47	TARA	Sitara Propertindo Tbk	√	√	

Source: Data Processed by Author, 201

The company that was listed in Indonesia Stock Exchange in subsector property and real estate and meet the criteria were mentioned on table 71. There were five companies that delisting from subsector property and real estate.

Table 8 Delisting Company in IDX Subsector Property and Real Estate

No	Stock Code	Company	Criteria		
			Point a	Point b	Point c
1	CTRP	Ciputra Property Tbk	√	√	√
2	CTRS	Ciputra Surya Tbk	√	√	√
3	PTRA	New Century Development Tbk		√	
4	PWSI	Panca Wirasakti Tbk	√	√	
5	SIIP	Surya Inti Permata Tbk		√	

Source: Data Processed by Author, 2017

Table 9 The Company Chosen as Research Sample

No	Listing Company	Code	Delisting Company	Code
1	PT Alam Sutera Realty Tbk	ASRI	Ciputra Property Tbk	CTRP
2	Sentul City Tbk	BKSL	Ciputra Surya Tbk	CTRS
3	PT Bumi Serpong Damai Tbk	BSDE		
4	PT Ciputra Development Tbk	CTRA		
5	PT Lippo Karawaci Tbk	LPKR		
6	PT Pakuwon Jati Tbk	PWON		
7	PT Summarecon Agung Tbk	SMRA		

Source: Data Processed by Author, 2017

According to the criteria that was described by using purposive sampling technique, total sample that able to meet the criteria were 7 listed companies and 2 delisted companies as mentioned in table 9.

E. Source of Data

“Source of data in this research is subject from where data obtained” (Arikunto, 2006:129). Types of data consist of primary data and secondary data. In this research, source of data applied was secondary data. According to Masyuhir and Zainuddin (2008:48) secondary data is historical data related to the variables that have been collected by other parties before. Secondary data obtained from financial statements of the company. Financial statement obtain from Indonesian Stock Exchange (IDX) through official website at www.idx.co.id.

F. Data Collection Method

Data collection is sytematic procedure to obtain the needed data. Data collection method in this research as below:

1. Documentation

Hakim (2006:36) said documentation is collecting data by re-record or documents the data which are previously collected by another person or entity. Researcher apply documentation tehnic that is collect and analyze secondary data from Indonesian Stock Exchange (IDX) corner at University of Brawijaya Malang and also from official website IDX.

2. Literature

The Data collection procedure where the process was done by collecting the data through information gathering and previous literature study in order to obtain related data for the research.

G. Method of Data Analysis

Data analysis has purpose to simplify the data process Which make it easier to be understood and interpreted. Method of data analysis that use are follows:

1. Statistic Descriptive Analysis

Method of data analysis applies in this research is descriptive analysis by using quantitative approach to support data processing that were presented in mathematical symbol in financial statements . In this descriptive research, also applied statistic method to collect, to process, to present and to interpretate obvious description.

The steps to conduct the analysis were listed as below:

- a. Calculate working capital to total assets ratio (WC/TA) of each sampling company based on time series.
- b. Calculate retained earnings to total assets (RE/TA) of each sampling company based on time series.
- c. Calculate the earnings before interest and tax to total assets ratio ($EBIT/TA$) of each sampling company based on time series.

- d. Calculate the book value of equity to book value of total liabilities ratio (BVE/BVTL) of each sampling company based on time series.
- e. According to the last formula of Altman Analysis model, the result of calculation above analyzed with this formula:
- $$Z = 6.56 X_1 + 3.26 X_2 + 6.72 X_3 + 1.05 X_4$$
- f. According to the cut-off point, classify the company position.
- g. Interpreting the result of Z- Score calculation of listing and delisting company as an object.
- h. Provide conclusion about financial performance of the company and the company's position in the area of bankruptcy, gray, or good.

Table 10 Cut-off point to classify the company position

Cut-off	Interpretation	Description
$Z > 2.6$	Safe Area	Company in a good condition
$1.1 < Z < 2.6$	Gray Area	Companies experiencing financial problem which must be handled immediately
$Z < 1.1$	Danger Area	The company in a dangerous zone or a company in a state of bankruptcy.

Source : Data Processed by Author, 2017