

CHAPTER III

METHOD OF THE RESEARCH

In this chapter, we will explain more about the data source, data collecting method, populations and samples, and variables measurement. This chapter also consists of the data analysis technique that used in this research.

3.1 Data Source

This research is conducted using secondary data. Secondary data is data obtained indirectly by using intermediary media, such as obtained and recorded by other parties. The data was obtained from the institution concerned through a literature study based on the relationship with the problems encountered and analyzed. The data used in this research is documentary data, in the form of an annual sustainability report obtained through the website of the company that is the research sample. All data sources originating from the official website have been approved by all interested parties in their publication and all processed financial reports have been audited by public accountants. The reason for choosing the secondary data from companies that won Asia Sustainability Reporting Awards 2020 is because we want to extend the knowledge of the role of CSR disclosures in disciplining investment behavior in emerging markets by examining how the levels of disclosure affect investment efficiency using a cross-country sample of firms that won ASRA 2020.

3.2 Data Collecting Method

The data collection method used in this research is documentation. The author collects data based on documents including books, reference journals, and company sustainability reports issued by the sample company.

3.3 Population and Sample

3.3.1 Research Population

The population is a generalization area consisting of objects or subjects with certain qualities or characteristics that have been applied by

researchers to be studied and draw conclusions. The population can then be concluded as the entire object of research where in this study are all companies that won the Asia Sustainability Reporting Awards (ASRA) 2020.

3.3.2 Research Sample

The sample is part of the population that has the number and characteristics needed by the researcher. In this research, the determination of the sample uses a purposive sampling method where the research sample has certain criteria. The criteria for selecting the sample are :

1. Companies that won the Asia sustainability report awards 2020.
2. Companies that have complete data on their annual report.
3. Companies that report their sustainability reporting using English.

3.4 Variables and Measurements

3.4.1 Dependent Variable

The dependent variable used in this research is investment efficiency. Investment efficiency is the optimal level of company investment and avoids overinvestment or underinvestment problems. In this research, the measurement for the dependent variable is as described below :

Investment

In accordance with previous research by Zhong and Gao (2017), The measurement of investment efficiency (ineff) as the dependent variable in this research is calculated from the absolute value of the residual ($\epsilon_{i,t}$) of the model used by Biddle et al (2009). The result of the residual value is used as a proxy for the dependent variable (investment efficiency), which is then divided into two parts, namely negative and positive. Where the negative residual value is included in the underinvestment group and the positive residual value is included in the overinvestment group. The dependent variable of this study is the absolute value of the residual

multiplied by -1, so a higher value means higher investment efficiency.
The model used is as follows :

$$\text{Investment}_{i,t+1} = \beta_0 + \beta_1 * \text{Sales Growth}_{i,t} + \varepsilon_{i,t+1}$$

Description :

Investment_{t+1} = The total investment and Sales Growth_t is the percentage change in sales from year t-1 to t.

Sales Growth = Changes in sales from year t-2 sales to year t-1 divided by sales in year t-2.

3.4.2 Independent Variable

To measure CSR disclosure, a content analysis method based on GRI is used which is an indicator of the disclosure of companies listed on the GRI database from the website <https://www.globalreporting.org/how-to-use-the-gri-standards/gri-standards-english-language/>. Carroll (1991) states that corporate social responsibility gives us a framework for understanding the evolving nature of the firm's economic, legal, ethical, and philanthropic performance³⁰. Measurement of disclosure is done by observing the availability of information items that have been determined in the company's sustainability report or annual report. If the information item is not available, then the score is 0. If the information item is available, then the score is 1.

3.4.3 Control Variable

The control variable is a variable that causes the relationship between the independent variable and dependent variable to remain constant.

a. Leverage

$$\frac{\text{Total liabilities}}{\text{Total Assets}}$$

³⁰ Kannan Govindan and others, 'The Pyramid of Corporate Social Responsibility: Toward the Moral Management of Organizational Stakeholders, *Business Horizons*, July-August 1991', *Production and Operations Management*, 24.1 (2018), 1031–1031
<<https://doi.org/10.1016/j.ecolecon.2017.08.001>><https://doi.org/10.1016/j.jclepro.2017.10.003>>.

b. ROA (Return On Asset)

$$\frac{\text{Net Profit}}{\text{Total Assets}}$$

c. Size

$$\text{Natural Log Total Assets}$$

d. Tangibility

$$\frac{\text{Fixed Assets}}{\text{Total Assets}}$$

e. Slack

$$\frac{\text{Cash}}{\text{Fixed Asset}}$$

3.5 Descriptive Statistical Analysis

The descriptive statistical analysis explains the characteristics of the data that have been summarized and presented in a more informative form that can be seen from the minimum, maximum, mean, and standard deviation of each variable in this research. The independent variable in this research is CSR disclosure. The dependent variable in this research is investment efficiency. The control variables in the research are Leverage, ROA, size, tangibility, and slack.

3.6 Classic Assumption Test

This research uses secondary data, therefore to test the model's determination, it is possible to test several classical assumptions. To assess the research findings, the authors utilize the Ordinary Least-Squares method (OLS) to estimate the regression results. OLS estimations, however, will not be efficient in the presence of heteroskedasticity issues. In addition, to ensure the robustness of the results on the mediating role, we added the high low CSR dummy test, which further provides information on the whether the companies with high CSR dummy have more investment efficiency rather than the low CSR. Furthermore, this study also uses correlation analysis method to test the multicollinearity problem.

3.7 Hypothesis Test

3.7.1 Regression Model

The regression model was conducted to determine the effect of the independent variable on the dependent variable. In this study, there is a regression model that is formulated to determine the effect of investment efficiency as the dependent variable and CSR disclosure as the independent variable. The regression model used in this study is as follows :

1. Model 1 (Investment Efficiency)

$$\text{Inveff}_{i,t} = \beta_0 + \beta_1 \text{CSRreporting}_{i,t-1} + \beta_2 \text{LEV}_{i,t-1} + \beta_3 \text{ROA}_{i,t-1} + \beta_4 \text{Size}_{i,t-1} + \beta_5 \text{Tang}_{i,t-1} + \beta_6 \text{Slack}_{i,t-1} + \varepsilon_{i,t}$$

Description :

Inveff = Investment efficiency

CSRreporting = CSR reporting

LEV = Leverage

ROA = Return On Assets

Size = Company's size

Tang = Tangibility

Slack = Slack

β_0 = Constant

ε = Residual value

2. Model 2 (Overinvestment)

$$\text{Inveff_over}_{i,t} = \beta_0 + \beta_1 \text{CSRreporting}_{i,t-1} + \beta_2 \text{LEV}_{i,t-1} + \beta_3 \text{ROA}_{i,t-1} + \beta_4 \text{Size}_{i,t-1} + \beta_5 \text{Tang}_{i,t-1} + \beta_6 \text{Slack}_{i,t-1} + \varepsilon_{i,t}$$

Description :

Inveff_over = Investment Efficiency in overinvestment scenario

CSRreporting = CSR reporting

LEV	= Leverage
ROA	= Return On Assets
Size	= Company's size
Tang	= Tangibility
Slack	= Slack
β_0	= Constant
ε	= Residual value