

## **CHAPTER III**

### **RESEARCH METHOD**

#### **A. Research Object**

The objects that have been used in this study are the mining sector companies listed in Indonesia Stock Exchange and Bursa Malaysia. The period in 2018 with the aim to use the latest data. Mining companies have the potential to damage the environment significantly. Therefore, mining companies have broader level of environmental disclosures.

#### **B. Type of Data**

The type of data in this research is secondary data, it means that the research data are obtained indirectly. The Data were obtained from companies that had issued their annual reports. The data used in this research are the annual reports from the mining companies listed in Indonesia and Bursa Malaysia in period of 2018.

#### **C. Sampling Technique**

This study uses purposive sampling method. In purposive sampling method, the selection of the samples is not random, but using certain criteria that have been set by the researcher. In this study the criteria of purposive sampling are as follow:

- a. Mining companies that publish annual reports listed in Indonesia Stock Exchange and Bursa Malaysia year 2018.
- b. Companies that publish full annual reports year 2018.
- c. Companies that publish annual reports with complete data related to the all variables.

#### **D. Data Collection Technique**

The data collection techniques in this study will be conducted from documentation that is called as secondary data. The secondary data are collection techniques of data derived from the recording of data sources or other publications. The data are obtained from the annual reports and the summary of financial statements of companies. The data were collected by downloading the annual reports of mining companies listed in Indonesia Stock Exchange and Bursa Malaysia year 2018.

#### **E. Operational Definition of Research Variables**

##### **1. Dependent Variable**

Environmental Disclosures is used as both the dependent variable and the independent variable. In the first model it is used as the dependent variable, while in the second model it is used as independent variable. Environmental disclosure is a form of contribution from the company in informing the community activities that have been reported in the annual reports.

Measuring environmental disclosures requires a checklist of items or indicators disclosure which are matched with the disclosures contained in the annual reports of companies. The environmental disclosure in this research is using environmental indicators of GRI Standards, GRI Standards 300 (Environmental). This framework can be used for a variety of different types of organizations, in terms of size, sector, or location (Global Reporting Initiative, 2016). GRI suggests some aspects related to the environment that must be disclosed in the annual reports.

GRI Standards that used is GRI 300 (Environmental) that consists of 8 sub topic there are materials, energy, water, biodiversity, emissions, effluents and waste, environmental compliance and supplier environmental assessment that consists of 32 indicators. The formula to find out environmental disclosures index is below:

$$CED = \frac{\text{Number of items the company disclose}}{\text{Number of environmental disclosures items GRI}}$$

The second dependent variable in this study is Firm Value. The company's value can be measured by several aspects of the company's stock market price, as stock market prices imply any judgment on the entire equity investor-owned companies. Mardiyati *et al.* (2012) state that the value of the company is the price that the potential buyers are willing to pay when the company is sold. According to Rahayu and Sari (2018) argue

that company value is the perception of investors on the level of company's stock price. Company value can be measured by using the Price to Book Value (PBV). The company's value in this study was measured using the ratio of Price to Book Value (PBV). PBV ratio can be calculated as price per share divided by book value per share.

## **2. Independent Variables**

### **1) The Proportion of Independent Commissioners on Board**

The proportion of independent directors is a comparison of the number of board members who come from outside the company (not affiliated) and the total number of board members from the company. According to Haniffa and Cooke (2002) The Proportion of Independent Commissioners on Board is by dividing the number of commissioners who come from outside the company with its high overall number of commissioners. Thus, the Independent Commissioners on Board is expected to improve the company's performance. In looking for the number of The Proportion of Independent Commissioners on Board can use the formula; Total member of Independent Board Commissioners divided by Total of Board Commissioners.

### **2) Audit Committee**

The size of the Audit Committee is the number of audit committee members in the company. Audit committee size is measured

by counting the number of audit committee members in a company based on the total number of audit committee members in the company and outside the company. The number of the Audit Committee can be listed in the company's annual report (Sari *et al.*, 2019).

### **3) Board of Commissioners Size**

Board of Commissioners Size is the number of Commissioners in a company (Sembiring, 2009). The Board of Commissioners Size in this study is the total members of the Board of Commissioners Size that exist in company.

### **4) Board Gender (Percentage of Female Directors)**

Gender diversity variable in this research is used as an independent variable. Gender diversity is equitable or fair representation between genders. Gender diversity in an organization is the equal treatment and acceptance of both males and females. Lagasio and Cucari (2019) stated that the existence of female directors can be measured by using percentage of women directors. Thus, the variable will be measured by percentage whereby the total of women directors divided by total directors and multiplied by one hundred percent.

### **5) Political Visibility**

Political variable visibility in this study is measured by firm size (size). The size of the company can be demonstrated by total assets, sales, total employment, market capitalization and so on. Similar to research conducted by (Oktafianti and Rizki, 2015), then the size of the companies in this study was measured by total assets.

### **6) Foreign Ownership**

High foreign ownership in a company makes managers try to carry out high intensity of environmental disclosure because foreign parties are more concerned with corporate social and environmental activities. According to Wulandari and Sudana (2018) the amount of foreign ownership is measured from the percentage (%) of total shares of foreign ownership in company.

### **7) Profitability**

Profitability is a factor that makes the management to be more flexible to disclose social responsibility to shareholders (Anggraini, 2006). In this study, the company's ability to generate profits measured using ratios Return on Assets (ROA). Sulistiyowati (2014) state that the profitability is measured by the formula of ROA that is Net Profit divided by Total Asset.

## 8) Leverage

Leverage is a toll used to measure the financing of company assets that financed by creditors. Debt to Equity Ratio (DER) is a ratio that compares the amount of Debt to equity. Researchers choose this ratio because it is often used by analysts and investors to see how much the company's debt when compared to the equity owned by the company or shareholders (Andriany *et al.*, 2017). The Debt to Equity Ratio calculated by Total Liabilities divided by Total Asset.

## F. DATA ANALYSIS TECHNIQUE

The method of data analysis is a technique or procedure to test the research hypothesis. This method uses the tests namely descriptive statistical analysis, the classic assumption test, and hypothesis testing. The description of the tests are as follows:

### 1. Descriptive statistics

Descriptive statistics is a method that explains about the data examined included the amount of data, the mean and standard deviation of each variable of the study. Maximum-minimum is used to view the minimum and maximum values drawn from the population. The mean is used to assess the average size of the estimated population of the sample. Standard deviation is used to assess the average dispersion of the sample.

## **2. Classic assumption test**

Classic assumption test is the next procedure to be done so that the results of data analysis in this study is qualified for testing. The purpose of the classic assumption test is to determine whether the results of multiple regression causes deviation from the classical assumptions.

### **1. Normality test**

Normality test is done to test the data that will be analyzed to learn whether the regression and residuals data are normally distributed (Ghozali, 2011). Normality test is done by applying Kolmogorov-Smirnov nonparametric statistics, while the conditions that must be met are as follows:

- a. Normally when the residual data generate sig value greater than 0.05.
- b. Residual data is not normal when sig generate less than 0.05.

### **2. Autocorrelation**

Autocorrelation testing aims to examine whether in a linear regression model there is a correlation between residual in period  $t$  (today) and a residual period  $t-1$  (previous). A good regression model is a regression that is free of autocorrelation. To detect the presence or absence of autocorrelation by the Durbin-Watson test is used. If there is no relationship between the residual correlations it is said that the residuals are random or random. If the value of  $dW$  is greater than the



upper limit (dU) and less than 4-dL, it can be concluded that there is no autocorrelations (Ghozali, 2011).

### **3. Test Multicollinearity**

Multicollinearity test aims to test whether the regression model has a correlation between the independent variable, then this type of test is only intended for research that has more one independent variable (Ghozali, 2011). Multicollinearities can be seen by analyzing the VIF (Variance Inflation Factor). A regression model show multicollinearities if:

- a. Tolerance value  $< 0.10$ , or
- b. The value of VIF  $> 10$ .

### **4. Test Heteroscedasticity**

Heteroscedasticity test has the aim to test whether the regression model occurred inequality residual variance from one observation to another observation. If the variance of the residuals of the observations to other observations is different it is called Heteroscedasticity. The Statistical test equipment used to do Heteroscedasticity test is using Glejser test. Glejser test proposes to regress absolute residual value of the independent variable. If the independent variables affect the dependent variables significantly, then there is indication of heterpscedastisity (Ghozali, 2011).

## 5. Hypothesis Testing and Data Analysis

This study used multiple linear regression to explain the correlation between some of the variables studied. Multiple linear regression method is a method that measures the strength of correlation between two or more variables and shows the direction of the correlation between the dependent variables and independent variables. Multiple linear regression equation can be formulated in two different model as follows:

In the research model 1, multiple regression can be formulated as follows:

$$ED = \alpha + \beta_1 PIC + \beta_2 AC + \beta_3 BS + \beta_4 PBG + \beta_5 PV + \beta_6 FO + \beta_7 PFT + \beta_8 LEV + e$$

Information:

ED = Environmental Disclosures

PIC = Proportion of Independent Commissioners on Boards

AC = Audit Committee

BS = Board of Commissioners Size

PBG = Board Gender

PV = Political Visibility

FO = Foreign Ownership

PFT = Profitability

LEV = Leverage

e = Error Term

The second multiple regression models in the research model 1 can be formulated as follows:

$$\text{PBV} = \alpha + \beta_1 \text{ED} + \beta_2 \text{LEV} + \beta_3 \text{PFT} + e$$

Information:

PBV = Price to Book Value

ED = Environmental Disclosures

LV = Leverage

PFT = Profitability

e = Error term

#### **A. Coefficient Determination Test (Adjusted R Square)**

This test is used to measure how far the model's ability to explain variations in the dependent variable. The coefficient of determination is between 0 and 1. The small determination coefficient value indicates that the ability of independent variables in explaining the dependent variables is weak. When the determination coefficient value is close to 1, it means that the ability of the independent variable in explaining the dependent variable is more visible (Ghozali, 2011).

#### **B. Simultaneous Significance test (test F)**

F test is a test used to determine significant influence among a group of independent variables on the dependent variables. The test is performed with a degree of  $\alpha = 0.05$ . F test is done by comparing the significant F with alpha ( $\alpha$ ). The independent variables affect the

dependent variable when the significant value  $F < \alpha (0.05)$  (Ghozali, 2011).

### **C. Partial test (T test)**

The T-test is a test used to determine the significant influence of each independent variable on the dependent variable. The test is performed with a degree of  $\alpha = 0.05$ . The independent variables affect the dependent variable when the significant value  $t < 0.05$ . The criteria used in the t-test is:

- a. If significant value  $t < \alpha (0.05)$  and beta coefficients is in line with the hypothesis, therefore the hypothesis is accepted.
- b. If the significant value of  $t > \alpha (0.05)$  and the beta coefficient is not in line with the hypothesis, therefore the hypothesis is rejected (Ghozali, 2011).

### **D. Independent Sample T-test**

Independent sample T-test was conducted to determine differences in the level of environmental disclosure in Indonesia and Malaysia. Before conducting the T-test, a homogeneity variance test with the Levene Test was previously carried out. If the variants are the same, then the T-test uses the Equal Variance Assumed. Meanwhile, if the variants are different, then use Equal Variance Not Assumed. The hypothesis is accepted if  $\text{Sig.} < 0.05$  (Ghozali, 2011).