CHAPTER III

RESEARCH METHOD

3.1 Type and Source of Data

The writer used secondary data. Secondary data is the data provided by the second party. The data come from Badan Pusat Statistik (BPS) and Direktorat Jenderal Perkebunan. In this research, the writer used these following data:

- a. Data of labor absorption in rubber plantation in 10 provinces from
 2012 2015
- b. Data of provincial minimum wage of each province from 2012 2015
- c. Data of the size of rubber plantation area in 10 provinces from 2012 –
 2015
- d. Data of number of rubber company in each province from 2012 2015
- e. Data of rubber production from 2012 2015
- 3.2 Variables
 - 3.2.1 Dependent Variable

3.2.1.1 Labor Absorption

Labor absorption refers to the decreasing and increasing of labor in the labor market. When the labor absorption increases, it means that the labor supply in the labor market increases and when the labor absorption decreases, it means that the labor supply in the labor market decreases. Labor absorption can be affected by many variables such as wage, labor productivity, level of education, skill and ability, and number of output, etc.

3.2.2 Independent Variable

3.2.2.1 Provincial Minimum Wage

Provincial minimum wage is the minimum wage that regulated in every region and provinces in Indonesia. The law that stated about this rule is Peraturan Menteri Tenaga Kerja dan Transmigrasi Nomor 7 Tahun 2013 about minimum wage. This minimum wage is regulated based on the daily needs of the worker in each province.

3.2.2.2. Size of Rubber Plantation Area

The size of rubber plantation area is very important to the production because this is the main capital that the producers should have before planting their plantations. Related to the land and area of production, the quality of soil is very important as well since not every plant can survive in certain location or land or area. 3.2.2.3. The Number of Company (Producer)

The number of company is one of the indicators that are used in this writing in order to measure the role of this indicator in absorbing labor in rubber production. It is believed that when the number of company increases, the need for labor will increase as well. In the other words, the labor demand will increase. On the other hand, when the number of company decreases because of some factors, the number of labor needed will decrease as well and it will cause a lower demand of labor in the labor market.

3.2.2.4. Production

Production is the volume of certain production produced by the producers. Volume of production can affect the supply and price of the products in the market. When the volume is high, it means that the producers will be able to meet the demand both in domestic and international market. In the other side, when the volume decreases, it is going to be difficult for the producers to meet the demand from domestic and international market.

3.3 Analysis Method

In this research, the writer used panel data regression with e-views 9. The result of the regression was used to examine the hypothesis that the writer had settled before. The reason of the writer used panel data was because the advantages that it provided (Hakim, 2014) such as; high number of observation that can be used, the increasing of free degree, the decreasing of co-linearity of other variables, high efficiency of econometric estimation, and the parameter estimation that is more reliable and stable.

Panel data analysis is the combination of cross section data and time series data. Time series data is the data that is based on certain time for instance; yearly, monthly, and daily. In the other side, cross section consists of data that is taken in the same time but they come from different region, company, or individual. The combination between cross section and time series are pictured as the data taken on certain time and several places or companies. Panel data regression will give a better result compare to the others because the combination between cross section and time series will create a bigger degree of freedom. This will be effective in facing omitted variable (Sriyana, 2014).

However, in processing the data, there were three models of approach that the writer used, they were;

a. Common Effect Model (CEM)

Common Effect Model is the simplest model in panel data regression because this model will only combine the data of cross section and time series into the pool data. This model assumes that intercept and slope are good between time and place (Sriyana, 2014).

b. Fixed Effect Model (FEM)

By only using common effect model, there is a possibility to receive a non valid result of the data. The result can be said as not valid when it is not the same or near to the actual condition. To face this possibility, there is another model called Fixed Effect Model that makes it possible to create a difference between intercept and slope.

c. Random Effect Model (REM)

Random Effect Model is a test that is based on the difference between the intercept and constant that is caused by the error residual.

Moreover, there were two tests that were used in panel data; Chow Test and Hausman Test.

1. Chow Test

Chow test was conducted to select the appropriate model that should be used as the last estimation between Common Effect Model and Fixed Effect Model. In this test, the hypotheses were as follow:

H0 = F-statistic < F result, the correct model used is Common Effect.

H1 = F-statistic > F result, the correct model used is Fixed Effect.

2. Hausman Test

Hausman test was conducted to determine the appropriate model that should be used as the last estimation between Fixed Effect Model and Random Effect Model. The hypotheses in Hausman test were as follow:

H0 = chi-sq statistic < chi-sq table, the correct model used is Random Effect

H1 = chi-sq statistic > chi-sq table, the correct model used is Fixed Effect