

CHAPTER V

RESEARCH FINDING AND DISCUSSION

A. Research Finding

In the results of this study will be explained through several stages, the first is the selection of the most appropriate method to be used in the data panel. The second is to test the classical assumptions for panel data that only test through multicollinearity and heteroscedasticity tests. Then the last one is statistical testing.

1) Selection of Panel Data Method

a) Chow Test

In order to know the model of panel data to be used, then utilize F-restricted test or Chow test by comparing F-statistic and F-table, by testing the hypothesis as follows:

H_0 : PLS Model (Restricted)

H_1 : Fixed Effect Model (Unrestricted)

The calculation of F-statistic is obtained from Chow Test with the formula (Baltagi as cited in Basuki and Yuliadi, 2015):

$$F = \frac{\frac{(SSE_1 - SSE_2)}{(n - 1)}}{\frac{SSE_2}{(nt - n - k)}}$$

$$F = \frac{\frac{(4,282035 - 0,009987)}{(6 - 1)}}{\frac{0,009987}{(42 - 6 - 4)}}$$

$$F = \frac{\frac{(4,272048)}{(5)}}{\frac{0,009987}{(32)}}$$

$$F = \frac{0,8544096}{0,000312094}$$

$$\mathbf{F\text{- statistic} = 2737,6697}$$

While F table is obtained from:

$$\text{F-table} = \{\alpha : \text{df} (n-1, nt - n - k)\}$$

$$\begin{aligned}\mathbf{F\text{-table}} &= 10\% : (6-1, 42 - 6 - 4) \\ &= 10\% : (5, 32) \\ &= \mathbf{2,04}\end{aligned}$$

Parameter test :

- $F_{\text{tabel}} > F_{\text{statistic}} = \text{So; } H_0 : \text{Accepted}$
 $H_1 : \text{Rejected}$
- $F_{\text{tabel}} < F_{\text{statistic}} = \text{So; } H_0 : \text{Rejected}$
 $H_1 : \text{Accepted}$

Based on the above calculation results shows F-statistic that is 2737,6697 which is bigger than F-table with result 2,04. Thus, it can be concluded that $F_{\text{statistic}} > F_{\text{table}}$. Thus, rejecting H_0 and accepting H_1 , which means the model used or more suitable in this study is the Fixed Effect Model (FEM).

b) Hausman Test

In purpose to find out whether the fixed effect or random effect model is selected, Hausman test is used by comparing Chi-Square statistic and Chi-Square table by testing the hypothesis as follows:

H_0 : Model follows Random Effect Model

H_1 : Model follows Fixed Effect Model

From the result of regression based on Random Effect Model method is obtained Chi-Square statistic as follows:

Table 5.1 Hausman Test Result

Correlated Random Effects - Hausman Test
Pool: PANEL
Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	12073.140703	4	0.0000

Based on the Hausman test results that have been done, the probability value smaller than 0,10 indicates the rejection condition of H_0 . According to Basuki and Yuliadi (2015: 215), because the probability value in table 5.1 above shows 0,0000, then with 90% confidence level can be concluded that for the data owned Fixed Effect model is more appropriate to be used.

2) Classical Assumption Testing

According to Basuki and Yuliadi (2015: 218), the classical assumption test used in linear regression using Ordinary Least Square

(OLS) approach includes Linearity, Autocorrelation, Heteroscedasticity, Multicollinearity and Normality test. However, not all classical assumption tests should be performed on any linear regression model with OLS approach.

1. Linearity test is almost not performed on every linear regression model, because it has been assumed that model is linear. Even if it must be done solely to see how far the linearity level.
2. The normality test is basically not a BLUE requirement (Best Linear Unbiased Estimator) and some opinions do not require this requirement as something that must be met.
3. Autocorrelation occurs only in time series data. Autocorrelation testing on time series data (cross-section or panel) will be useless or meaningless.
4. Multicollinearity needs to be performed at the time of linear regression using more than one independent variable. If the independent variable is only one, then it is not possible multicollinearity.
5. Heteroscedasticity usually occurs in cross-section data, where panel data is closer to cross-section data characteristics than time series.

From the above explanation, it can be concluded that in the panel data regression, not all the classical assumption test that exist on the OLS

method should be used, only multicollinearity and heteroscedasticity tests are needed.

a. Multicollinearity Test

This test is to determine whether the regression model found the correlation between the independent variables. According to Chatterjee and Price in Nachrowi (2002) as cited in Atahrim (2013), the correlation between the independent variables makes the interpretation of regression coefficients to be no longer correct. However, it does not mean that the correlation between independent variables is not allowed, only perfect collinearity is not allowed, namely the occurrence of linear correlation among fellow independent variables. As for the nearly perfect nature of the colinear (the relationship is not linear or correlation is almost zero) is still allowed or not included in violation of assumptions.

One way to identify the existence of multicollinearity is to find the value of the correlation coefficient between independent variables. It is said to be free from multicollinearity, if the value of the correlation coefficient is less than 0,9. When the value of the correlation coefficient is more than 0,9 it can be said that there is multicollinearity. Multicollinearity test results are listed in table 5.2.

Table 5.2 Multicollinearity Test Result

	_DKIJAKAR TA	_JABAR	_JATENG	_DIY	_JATIM	_BANTEN
_DKIJAKAR TA	1.000000	0.083283	-0.673293	0.007364	0.634434	-0.582658
JABAR	0.083283	1.000000	0.361733	-0.123427	0.173541	0.247074
JATENG	-0.673293	0.361733	1.000000	-0.084422	-0.082704	0.207420
DIY	0.007364	-0.123427	-0.084422	1.000000	0.475703	-0.393603
JATIM	0.634434	0.173541	-0.082704	0.475703	1.000000	-0.725553
BANTEN	-0.582658	0.247074	0.207420	-0.393603	-0.725553	1.000000

Based on table 5.2 above, the result of multicollinearity test is able to be concluded that in this study there is no or free from multicollinearity because there is no correlation coefficient value exceeding 0,9.

b. Heteroscedasticity Test

Heteroscedasticity test aims to test whether the regression model is formed has inequality residual variance of the regression model. Heteroskedasticity means the variant of non-constant disturbance variable. The problem of heteroscedasticity is this more often present in the cross-section than in time series data. If the variant of a residual observation to another observation remains the same, it is called heteroscedasticity.

The method used to detect the presence or absence of heteroscedasticity problems can be done by testing Park. Park test is done by regression of residual functions. When the independent variable is not statistically significant, it can be concluded that the

model formed in the regression equation does not contain the problem of heteroscedasticity.

Table 5.3 Heteroscedasticity Test Result

Dependent Variable: RESID?
 Method: Pooled Least Squares
 Date: 01/17/18 Time: 02:05
 Sample: 2010 2016
 Included observations: 7
 Cross-sections included: 6
 Total pool (balanced) observations: 42

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.341852	0.687002	-0.497600	0.6222
LNHEALTH?	-0.007991	0.005730	-1.394678	0.1727
LNEDUC?	0.008457	0.004256	1.986982	0.0555
LNWRKG?	0.019409	0.049585	0.391427	0.6981
IPM?	0.000484	0.002198	0.220128	0.8272
Fixed Effects (Cross)				
_DKIJAKARTA--C	-0.002513			
_JABAR--C	-0.016295			
_JATENG--C	-0.003732			
_DIY--C	0.022546			
_JATIM--C	-0.010455			
_BANTEN--C	0.010450			

From the above output shows that the probability value of the four independent variables is greater than 0,05. Thus, it can be concluded that this study is free or escaped from heteroscedasticity.

3) Statistics Testing

The statistical test consists of testing the partial regression coefficient (t-test) for each independent variable, testing the coefficient of regression simultaneously (F-test) and testing the coefficient of determination Goodness of fit test (R^2).

a. Individual Parameter Significance Testing (t-test)

Individual parameter significance test (t-test) is conducted to see the significance of independent variables affect the variable is not bound individually and consider other variables constant. Through the t-test it can also show how far the influence of an individual explanatory or independent variable in explaining the variation of the dependent variable.

The criteria in the individual parameter significance test (t-test), at 10 percent level of significance, the test used is as follows:

- If $t\text{-statistic} > t\text{-table}$, meaning one of the independent variables influence the dependent variable significantly.
- If $t\text{-statistic} < t\text{-table}$, meaning one of the independent variables does not affect the dependent variable significantly.

Table 5.4 t-Statistic Value

Variable	Coefficient	t-Statistic	Prob	Significance
C	0,813320	0,513920	0,6108	
LN_HEALTH	0,024034	1,820879	0,0780	Significant ($\alpha = 10\%$)
LN_EDUC	-0,006823	-0,695957	0,4915	Insignificant
HDI	0,071009	14,02230	0,0006	Significant ($\alpha = 10\%$)
LN_WRKG	0,433097	3,791644	0,0000	Significant ($\alpha = 10\%$)

If it is written into the equation then the result is:

Estimation Equation:

$$\text{LN_GRDP} = \beta_0 + \beta_1 \text{LN_HEALTH} + \beta_2 \text{LN_EDUC} + \beta_3 \text{HDI} + \beta_4 \text{LN_WRKG} + \mu$$

Substituted Coefficients:

$$\text{LN_GRDP} = 0,813320 + 0,024034 \text{ LN_HEALTH} - 0,006823 \text{ LN_EDUC} + 0,071009 \text{ HDI} + 0,433097 \text{ LN_WRKG} + \mu$$

In the government expenditure variable in the health sector, t-statistic (1,82) > t-table (1,30) and probability value (0,0780) with 90% confidence level. These results can be conclude that the variables of government spending in the health sector have a significant effect on economic growth with a 90% confidence level ($\alpha = 10\%$), because the t-statistic value is greater than the t-table value.

In the government expenditure variable on education sector is obtained t-statistic (-0,69) < t-table (1,30) and probability value (0,4915) with 90% confidence level. The result can be conclude that the variable of government expenditure in education sector has no significant effect on economic growth, because the t-statistic value is smaller than the t-table value.

Variable of Human Development Index is obtained t-statistic value (14,02) > t-table (1,30) and probability value (0,0006) with a confidence level of 90%. The result can be concluded that variable of

HDI have a significant effect on economic growth because t-statistic value is bigger than t-table value.

In the variable of working labor force, t-statistic values obtained is (3,79) > t-table (1,30) and the probability value (0.0000) with a confidence level of 90%. The result can be concluded that the variable of working labor force have a significant effect on economic growth because the t-statistic value is bigger than t-table value.

b. Simultaneous Significance Testing (F-test)

The regression result of the influence of government expenditure in health sector, government expenditure in education sector, Human Development Index and working labor force on economic growth in Java period of 2010-2016 using 90% ($\alpha = 10\%$) confidence level, with the degree of freedom for numerator (dfn) = 4 ($k-1 = 5-1$) and the degree of freedom for dominator (dfd) = 41 ($n-k = 42-1$), the F-table is 2,09. From the regression results is obtained F-statistic value of 15325,31 and the value of statistical probability 0,000000 which means smaller than alpha 10 percent, it can be concluded that the independent variables (government expenditure on the health sector, government expenditure on the education sector, Human Development Index and working labor force) simultaneously influence towards the dependent variable (economic growth).

c. Coefficient of Determination Test (Adjusted R²)

The result of the determinant coefficient essentially measures how far the model capability in explaining the variation of the dependent variable statistically. The regression result of the influence of government expenditure on the health sector, government expenditure on the education sector, Human Development Index and working labor force on economic growth in Java period of 2010-2016 is 0,999768. This means that 99,9 percent of economic growth in the six provinces of Java can be explained by government expenditure in the health sector, government expenditure in the education sector, Human Development Index and working labor force. While 0,1 percent is explained by other variables outside the model or other factors outside this study.

B. Data Interpretation

Based on model selection test to be used in panel data, the most appropriate regression model used is Fixed Effect Model (FEM). In the subsequent test, the model has passed the classical assumption test, so the results obtained after estimation are consistent and unbiased. The following table shows the results of data estimation with the number of observations from 6 Provinces during the period 2010-2016.

Table 5.5 Fixed Effect Model Calculation Result

Variabel	Economic Growth		
	Coefficient	t-Statistic	Prob
C	0,813320	0,513920	0,6108
LN_HEALTH	0,024034	1,820879	0,0780
LN_EDUC	-0,006823	-0,695957	0,4915
HDI	0,071009	14,02230	0,0006
LN_WRKG	0,433097	3,791644	0,0000
	Fixed Effects (Cross section)	Individual Effect	
_DKIJAKARTA-C	0,566909	1,380229	
_JABAR-C	0,524519	1,337839	
_JATENG-C	0,170256	0,983576	
_DIY-C	-1,727359	-0,91404	
_JATIM-C	0,613927	1,427247	
_BANTEN-C	-0,148253	0,665067	
R-squared	0,999768		
Adjusted R-squared	0,999703		
F-statistic	15325,31		
Prob (F-statistic)	0,000000		

- 1) If there is no change or constant on all independent variables, then economic growth in DKI Jakarta Province is 1,380229.

- 2) If there is no change or constant on all independent variables, then economic growth in West Java Province is 1,337839.
- 3) If there is no change or constant on all independent variables, then economic growth in Central Java Province is 0,983576.
- 4) If there is no change or constant on all independent variables, then economic growth in DIY Province is -0,91404.
- 5) If there is no change or constant on all independent variables, then economic growth in East Java Province is 1,427247.
- 6) If there is no change or constant on all independent variables, then economic growth in Banten Province is 0,665067.

Based on Table 5.5 above can be made model of panel data analysis or representation result of Fixed Effect Model from the influence of human resource investment on economic growth in Java period of 2010-2016 which can be concluded as follows: GRDP? HEALTH? EDUC? HDI? WKRG?

- 1) $LN_GRDP_DKI_JAKARTA = 0,567 + 0,813 + 0,024*LN_HEALTH_DKI_JAKARTA - 0,007*LN_EDUC_DKI_JAKARTA + 0,071*HDI_DKI_JAKARTA + 0,433*LN_WRKG_DKI_JAKARTA$
- 2) $LN_GRDP_JABAR = 0,567 + 0,813 + 0,024*LN_HEALTH_JABAR - 0,007*LN_EDUC_JABAR + 0,071*HDI_JABAR + 0,433*LN_WRKG_JABAR$

- 3) $LN_GRDP_JATENG = 0,170 + 0,813 + 0,024*LN_HEALTH_JATENG - 0,007*LN_EDUC_JATENG + 0,071*HDI_JATENG + 0,433*LN_WRKG_JATENG$
- 4) $LN_GRDP_DIY = -1,727 + 0,813 + 0,024*LN_HEALTH_DIY - 0,007*LN_EDUC_DIY + 0,071*HDI_DIY + 0,433*LN_WRKG_DIY$
- 5) $LN_GRDP_JATIM = 0,614 + 0,813 + 0,024*LN_HEALTH_JATIM - 0,007*LN_EDUC_JATIM + 0,071*HDI_JATIM + 0,433*LN_WRKG_JATIM$
- 6) $LN_GRDP_BANTEN = -0,148 + 0,813 + 0,024*LN_HEALTH_BANTEN - 0,007*LN_EDUC_BANTEN + 0,071*HDI_BANTEN + 0,433*LN_WRKG_BANTEN$

C. Economic Analysis

In the panel data regression, analysis of the effect of government expenditure on health sector, government expenditure on education sector, Human Development Index and working labor force on economic growth in Java period of 2010-2016 with the model used is Fixed Effect Model (FEM). Interpretation of result of panel data regression, from analysis of the influence of human resource investment towards economic growth in Java year 2010-2016 are:

Based on table 5.5, it can be seen that the value of Adjusted R^2 is 0,999703. This can be interpreted that the independent variables in the model

are able to explain the variation of the influence of the dependent variable of 99,9 percent, while the remaining 0,1 percent is influenced by other variables outside the model.

With a constant value of 0,813320, it can be explained as follows: if the independent variables (government expenditure in the health sector, government expenditure in the education sector, Human Development Index and working labor force) are considered constant, then the value of economic growth in Java increased by 0,813 percent.

From the results of the regression testing of government expenditure in the health sector is have a positive effect on economic growth with a confidence level of 90%. With a coefficient of 0,024034, this means an increase in government expenditure in the health sector by 1 percent, it will cause economic growth increased by 0,024 percent.

The results of government expenditure regression testing in the education sector is known to have no effect on economic growth. This can happen when the government may further optimize its expenditures for other sectors, so that government expenditure on education in Java period of 2010-2016 does not affect or have not been able to help improve economic growth.

The result of regression test of Human Development Index is known to have a positive effect on economic growth in Java period of 2010-2016. With a coefficient of 0,071009, this means an increase in HDI by 1 percent, it will cause economic growth increased by 0,071 percent.

While the results of working labor force regression testing is known to have a positive effect on economic growth. With coefficient value of 0,433097. It means, an increase in working labor force by 1 percent, it will cause an increase in economic growth of 0,433 percent.

1. Government expenditure on health sector toward economic growth

Government expenditure reflects government policy. If the government has implemented a policy to purchase goods and services, government expenditures reflect the costs that governments must incur to implement the policy (Mangkoesebroto in Atahrim, 2013).

Regression results found that government spending in the health sector has a significant positive effect on economic growth with 90 percent confidence ($\alpha = 10\%$), then the probability value is 0,0780 and the coefficient is 0,024034. It means an increase in government expenditure in the health sector by 1 percent, it will cause economic growth increased by 0,024 percent. Assuming that other variables are constant, increasing government expenditure in the health sector will effectively increase the economic growth. This is consistent with the results of a study by Wisesa (2016) found that government expenditure and the health sector as well population have a significant effect both partially and simultaneously on economic growth. According to research Anggraeni (2017) concluded that government expenditures in the education, health and agricultural sectors simultaneously affect both GDP Indonesia in the long and short-term. The

study found that government expenditure variable in the education sector has a positive effect on GDP of 1,19% in the long run and 1,58% in the short run. Government expenditure variable in the health sector has a positive effect on GDP of 0,37% in the long run and 0,32% in the short run. Government expenditure variable in agriculture positively affects GDP by 0,06% in the long run and 0,09% in the short run. Government expenditure variable in the education, health and agriculture sectors simultaneously affect both GDP in the long run and short run. From the conclusions of several journals concluded that health sector government expenditure significantly positively affects economic growth.

This study in accordance with Wagner's theory that states that in an economy if per capita income increases, relatively government expenditure will increase. According to Wagner the role of the government is greater because the government must regulate the relationships that arise in society, law, education, cultural recreation and so on (Mangkoesubroto as cited in Atahrim, 2013).

Health is a fundamental need for every human being, without health then society can not produce a productivity for the country. According to Law no. 9 of 2009 on health that the health budget allocation of 5%, through government spending in the health sector reflects the government's efforts in providing services to the public in the sector of health. Developing countries such as Indonesia are undergoing an intermediate stage of the development phase, in which the government

must provide more public facilities such as health to increase economic productivity. Therefore, the higher government expenditure in the health sector will then have implications for improved public health so that people can work optimally as human capital, so as to improve the economic condition of a country.

2. Government expenditure on education sector toward economic growth

The analysis showed that the variable of government expenditure on education does not significantly affect the economic growth in Java with a 90 percent confidence level ($\alpha = 10\%$), then the probability value is 0,4915 and the coefficient is -0,006823. This is not in accordance with the hypothesis used in this study, where government expenditure in the education sector affects economic growth in Java. Thus, the results do not indicate the conformity of the theory that government expenditure on education sector should have a positive effect on economic growth.

The government expenditure variable for the education sector is not significantly affecting economic growth in Java because it has a greater t-statistic probability than 10 percent alpha. These results mean that government expenditure in the education sector has no significant effect on economic growth in Java. These results are different from the hypotheses and theories that state if government expenditure in the education sector increases will increase economic growth as well. It can

happen if there is a waste in public sector budgets that are not on target. In other words, the inefficiency of the government in expenditure the education budget occurred so that economic growth cannot be driven by government expenditure in the education sector. According to Merini's (2013) study, the efficiency of government expenditure at the level of output can still be achieved by reducing the level of inputs and encouraging the private sector's role in public service investment, but the role of the private sector must still exist within the corridor of the government in order to protect the rights of its citizens, especially the poor.

This can happened because government expenditure in the education sector is the investment which can not directly contribute to economic growth in Java. As stated by Widodo as cited in Bastias (2010), in his research that government expenditure in the public sector such as education, cannot stand alone as an independent variable. Government expenditure variables must interact with other variables. The study period only takes 7 years which may not be able to accommodate the effect of government expenditure in the education sector. In addition, government expenditures in the education sector that will result in improvements in the education sector cannot rapidly alter the quality of the labor force which can then help increase worker productivity. Then productivity will increase the economic growth of Java. In accordance with research conducted by Kweka and Morrisey (1999) as cited in Bastias (2010) in

Tanzania, found results that government expenditure had a negative impact on economic growth due to inefficient government expenditure in Tanzania. The research journal also points out that in poor and developing countries there is a tendency for public sector expenditure such as consumptive education. Supposedly according to Todaro (2003) cited in Bastias (2010), in government expenditure intended as an improvement of human capital is basically an investment, so that such expenditure cannot directly affect economic growth.

According to Bastias (2010) found that government expenditure in the education, health and infrastructure sectors cannot have a direct impact on economic growth, but it takes several periods to be able to experience or know the impact. Requires time lag when the government issues development or expenditure budget for these three sectors.

3. The influence of Human Development Index toward economic growth

The result of FEM (Fixed Effect Model) estimation shows that HDI variable has positive and significant relation to economic growth with 90% confidence level ($\alpha = 10\%$), then the probability value is 0,0006 and the coefficient is 0,071009. An increase in HDI of 1 percent, it will cause economic growth increased by 0,071 percent. Assuming that other variables are constant, the increasing Human Development Index will increase economic growth.

This positive and significant relationship is in accordance with the hypothesis at the beginning of the study which stated that the HDI variable has a positive and significant relationship to economic growth. The existence of a positive and significant relationship between HDI and economic growth can occur due to the increase in HDI. HDI in Java according to Figure 1.1 shows an increase from year to year. The results of Sitepu and Sinaga (2005), entitled "The impact of human resource investment on economic growth and poverty in Indonesia" showed that human resource investment can improve economic growth and household income. The poverty ratio index, gap index and poverty intensity index also decreased. HDI and economic growth are strongly linked as HDI increases will encourage most industries to produce more efficiently so as to produce cheaper goods, which in turn the price becomes cheaper, so the consumption of the community has increased until eventually, the income of the community will increase.

Human development and economic growth are indicators that are closely related. This means that economic growth will make human development better, and vice versa as a result of improving human quality, in the long run, will make the economic performance will increase. Ranis (2004) stated that human development is the impact of human capital development. While the improvement of human capital itself cannot be separated from the improvement of economic performance. In other

words, between economic performance and its impact on human development and vice versa is a fairly strong connection.

Based on the results of the analysis resulted in Human Development Index has a significant positive effect on economic growth. The high Human Development Index will affect the economy through increased population capability and its consequence is on their productivity and creativity. Education and health of the population will determine the ability to absorb and manage the sources of economic growth both in terms of technology to institutions that are important for economic growth.

4. The influence of working labor force toward economic growth

According to the Law of the Republic of Indonesia, Number 13 of 2003 on Labor, Labor force is every person who is able to work in order to produce goods and services to meet the needs of themselves and to society. Labor can also mean the working age population (aged 15-64 years). The number of labor depends on the amount of demand in the community, then the demand is influenced by economic activity and the level of wages. In the Neo-Classical economy, it is assumed that the supply of labor will increase if the wage rate increases.

Regression results found that working labor force has a significant positive effect on economic growth, with a probability value of 0,0000 and coefficient value of 0,433097. This means an increase in working labor

force by 1 percent will lead to economic growth increased by 0,433 percent. Assuming that other variables are constant, increasing working labor force then the more economic growth will increase. The result of this study in accordance with research Kodar (2014) entitled "Analysis of the influence of human capital investment on economic growth in Central Java" concluded that the variable working labor force is a variable that has a significant effect on economic growth, while the transmigration and unemployment variables have no significant effect on economic growth.

The result of the research shows that working labor force has positive and significant effect to economic growth in accordance with the theory of Arthur Okun, also known as Okun Law which states that unemployment rate is inversely proportional to output growth (GNP), meaning that when the rate of economic growth increases, the increasing labor force growth or reduce unemployment, otherwise if the rate of economic growth low or negative will be followed by an increasing unemployment rate.

This research is also strengthened by Prasetyo and Firdaus (2009) as cited in Atahrim (2013), in a study entitled "The influence of infrastructure on regional economic growth in Indonesia" concluded that the economy in Indonesia is more labor-intensive than capital-intensive so the need for investment in human resource development (education) will bring the same positive impact on production figures, even greater if population continues to increase in order to support sustainable

development in development in terms of skill and knowledge thus creating a better quality of human capital and well-trained skilled labor force which can take advantage of capital goods that can effectively increase productivity.

The result of this study in accordance with the development of data obtained by the author is proven from the data of working labor force in 6 provinces in Java increasing along with economic growth from year to year. In accordance with the classical economic theory of Adam Smith which explains that economic growth is influenced by two aspects, namely the growth of total output and population growth. A population is an important factor in the economy as the supply of labor force. Increasing working labor force then the resulting production levels will be greater and lead to increased economic growth.