

# THE ANALYSIS OF FACTORS AFFECTING HUMAN RESOURCE INVESTMENT TOWARDS ECONOMIC GROWTH IN JAVA PERIOD OF 2010-2016

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## ABSTRACT

This study aims to analyze the impact of human resource investment towards economic growth in Java period of 2010-2016. The human resource investment consists of investment on health and education through government expenditure. The dependent variable is Growth Regional Domestic Product (GRDP) while the independent variables are government expenditure on health sector, government expenditure on education sector, Human Development Index (HDI) and working labor force. This study used panel data which includes cross-section of 6 provinces in Java and time-series of 7 years from 2010 to 2016. The study found that investment on health (government expenditure on health sector), Human Development Index (HDI) and working labor force have significant and positive effects toward economic growth (GRDP). Whereas, investment on education (government expenditure on education sector) has no significant effect towards economic growth.

**Keywords** : Health Sector, Education Sector, Human Development Index, Working Labor Force and Economic Growth.

## INTISARI

*Penelitian ini bertujuan untuk menganalisis pengaruh investasi sumber daya manusia terhadap pertumbuhan ekonomi di Pulau Jawa tahun 2010-2016. Investasi sumber daya manusia terdiri dari investasi pada kesehatan dan pendidikan melalui pengeluaran pemerintah. Produk Domestik Regional Bruto (PDRB) sebagai variabel terikat dan pengeluaran pemerintah dalam sektor kesehatan, pengeluaran pemerintah dalam sektor pendidikan, Indeks Pembangunan Manusia (IPM) dan angkatan kerja yang bekerja adalah variabel bebas. Penelitian ini menggunakan data panel yang mencakup cross-section dari 6 provinsi di Pulau Jawa dan time-series selama 7 tahun dari tahun 2010 sampai 2016. Hasil penelitian menunjukkan bahwa investasi pada kesehatan (pengeluaran pemerintah dalam sektor kesehatan), Indeks Pembangunan Manusia (IPM) dan angkatan kerja yang bekerja berpengaruh signifikan dan positif terhadap pertumbuhan ekonomi (PDRB). Sedangkan, investasi pada pendidikan (pengeluaran pemerintah dalam sektor pendidikan) tidak berpengaruh signifikan terhadap pertumbuhan ekonomi.*

**Kata kunci** : Sektor Kesehatan, Sektor Pendidikan, Indeks Pembangunan Manusia, Angkatan Kerja yang Bekerja dan Pertumbuhan Ekonomi.

## **INTRODUCTION**

According to World Bank (2016), Indonesia is included as a lower-middle income country since Indonesia has GNI per capita for about 3,400 USD. Economies are divided into four income categories which are low, lower-middle, upper-middle, and high. Income is measured by using Gross National Income (GNI) per capita in USD. The World Bank defined four levels of a country's income group based on GNI per capita. In 2016, World Bank points out that country which earned income less than 1,005 USD is classified as low-income country. While country who have income between 1,006 – 3,955 USD is classified as lower-middle income, and 3,956 – 12,235 USD would define as upper-middle income. However, for country with income more than 12,235 USD would be classified as high income.

Indonesia is one of developing country which is in take-off stage where economic growth is quite high along with the changes and development of the economic structure. Nevertheless, the growth is expected to raise the development in synergy with the welfare of society and the environment. However, increasing of economic growth from public expenditures including investment, government spending and private sector or entrepreneurial activities are affecting only on pseudo economic growth.

In order to help Indonesia from middle income trap, Indonesia needs to implement development that emphasizes on principle of growth and equity. In order to realize the development of growth, equity and avoid middle-income trap, the strategy of increasing human capital investment supported by good infrastructure is needed so that the income and social gap could reduce as well. A configuration of human capital investment in the form of investment both in education and health have done by society and government.

Human is in the role of subject and object of development, which means human as well as actors of development is also the target of development. In this case, required various facilities and infrastructure to encourage human role in development. Therefore, investment is needed to create productive human resources. The better quality of a country's human resources, the better human resources will drive the state economy. The government tried to improve its human resource investment in enhancing economic growth through government spending that can be used as a reflection of policies taken by the government in a region. According to Usaliadanti (2011) cited in Syalkahfi (2016), government spending is used to

finance important public sectors, including investment in education and health sectors which are expected to have an effect on improving the quality of human resources.

Allocating government expenditures, especially in improving the quality of human resources as a driver of the economy is a way that is done in fiscal policy. Supported by the theory of Peacock and Wiseman and Wagner's law which states the higher overall national income and per capita, then relatively government expenditure will also higher. In addition, government spending that can drive economic growth is government spending that is used as an investment of human resources.

## **RESEARCH OBJECTIVES**

1. Analyze the effect of investment in health (government expenditure on health sector) toward economic growth in Java.
2. Analyze the effect of investment in education (government expenditure on education sector) toward economic growth in Java.
3. Analyze the influence of HDI (Human Development Index) on economic growth in Java.
4. Analyze the effect of working labor force on economic growth in Java.

## **TEORITICAL FRAMEWORK**

### **Economic Growth**

Economic growth is an indicator to see the performance of the economy, both at national and regional levels. Economic growth is the development of activities in the economy that cause goods and services produced by the population increases. At the country level, all goods and services produced in the country are measured aggregately in the form of Gross Domestic Product (GDP). Economic growth can be measured by changes in real GDP increase over a certain period. According to Todaro and Smith (2006) in Syalkahfi (2016), at the level of individual household or economic growth can be measured by the increase in household income or income per capita.

According to Todaro and Smith (2006) in Syalkahfi (2016), define economic growth as a process of productive capacity building in an economy on an ongoing or continuous basis over time resulting in greater levels of national income and output. There are three main components in economic growth:

1. Capital accumulation, which includes all forms or types of new investments invested in land, physical equipment, and capital or human resources.

2. Population growth which in the following years will increase the number of labor force.
3. Technological advances.

According to Sukirno (2006) as cited in Syalkahfi (2016), several important factors that can realize economic growth include:

1. Land and other natural resources.
2. The number and quality of the population and labor.
3. Capital goods and technology level.
4. The economic system and public attitudes.

The long-term economic growth of a country is not only supported by the increase in physical capital stock and the amount of labor, but also the improvement of the quality of human capital which has a strong influence on the improvement of labor quality and the utilization of technological progress. The technological factor is dynamic and is determined by the quality of human capital. According to the theory of modern growth, economic growth is not only coming from an increase in the number of factors of production in the form of labor and physical capital but also from labor productivity that is closely related to the increase in the quality of human capital (Sukirno cited in Syalkahfi, 2016).

### **Human Development Index (HDI)**

According to BPS (2016), HDI is a composite index used to measure the average achievement of a country in three basic dimensions of human development, namely: (1) Health dimension or longevity; (2) the dimension of education or knowledge; and (3) Economic dimension or standard of living. The value of this index ranges from 0-100. In general, HDI is composed of four indicators that describe the three most fundamental dimensions of human development. The dimension of life opportunity is measured by the indicator of life expectancy of the population at birth (life expectancy at age 0 or  $e_0$ ). The dimension of knowledge is measured by two indicators, namely expected years of schooling and mean years of schooling of the working age. High standards of life are measured by indicators of real per-capita income that have been adjusted to the purchasing power parity (PPP) in the region concerned. The concept of human development in the previous section states that human development is not merely seen from an economic perspective, but includes a broader dimension. Until now, HDI has become a composite indicator that is representative enough to describe the achievement

of human development quality among regions in Indonesia. This index provides a broader perspective for assessing human progress as well as reviewing the complex relationship between income and welfare (UNDP, 2004).

### **Government Expenditure**

In the State Budget (APBN), the expenditures of the Indonesian government can be broadly grouped into two categories: regular expenditures and development expenditures. Regular expenditures basically include spending items to finance the implementation of daily administration of the government including personnel expenditures, goods expenditures, various subsidies (local subsidies and price subsidies), installments and government debt, and other expenditures. According to Putra (2015) as cited in Syalkahfi (2016), while expenditure for development is an expenditure in order to increase public capital in the form of physical infrastructure. According to Ananta (2013) cited in Syalkahfi (2016), if the government plans to increase economic growth and reduce unemployment, the government can increase expenditure.

Government expenditure is used as a form of government investment in improving the country's economy. In improving the quality of human resources, the government needs to pay attention to spending on education and health sectors. Health expenditure reflects the government's efforts in providing services to the public in the sector of health and as an effort to fulfill the government's commitment in Law No.36 of 2009 concerning health, that the allocation of health budget is 5%. Health is a fundamental necessity for every human being, without public health cannot generate a productivity for the country. According to Setiawan (2006) as cited in Bastias (2010), associated with the human capital theory that human capital plays a significant role, even more important than technological factors in spurring economic growth.

Investment in education is absolutely necessary, so the government should be able to build good educational facilities and systems. The budget allocation of government expenditure in education is a tangible form of investment to increase community productivity. Education budget of 20% of total State Budget and Local Budget in accordance with Article 49 of Law No.20 of 2003 article 1. According to Setiawan (2006) as cited in Bastias (2010), the implication of development in education is human life will be more qualified. In relation to the economy in general (national) the higher the quality of life of a country, the higher the rate of growth and prosperity of the country. Then, the

higher quality of life or investment of high-quality human resources will have implications for the national economic growth rate.

### **Working Labor Force**

Labor force is a working-age population of 15-64 who has employment but is temporarily unemployed and unemployed. While not the labor force is a working-age population of 15 to 64 years who have no economic activity, either because it is still in school, taking care of the household or implementing other activities. A labor force classified as a worker if someone who undertaking economic activities with the intention of obtaining income or profit, is at least one hour without a stop in the past week. These activities include unpaid worker activities that assist in a business or economic activity. Meanwhile, the non-labor force is a group of people who do not have economic activity either because they are still in school, taking care of households or carrying out other activities, and those who have not been able to do activities such as those belonging to the previous category are elderly, and others.

## **RESEARCH METHODOLOGY**

A method which performed in this study is quantitative method. There are four independent variables and one dependent variable. The dependent variable is Growth Regional Domestic Product (GRDP) while the independent variables are government expenditure on health sector (as representative of investment in health sector), government expenditure on education sector (as representative of investment in education sector), Human Development Index (HDI) and working labor force. This study used panel data which includes cross-section of 6 provinces in Java and time-series of 7 years from 2010 to 2016. Fixed Effect Model (FEM) is performed in this research.

## **RESEARCH FINDINGS**

### **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):

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

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

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

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

**F- statistic = 2737,6697**

While F table is obtained from:

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

$$\mathbf{F\text{-tabel}} = 10\% : (6-1, 42 - 6 - 4)$$

$$= 10\% : (5, 32)$$

$$= \mathbf{2,04}$$

Parameter test :

- F tabel > F statistic = So; H<sub>0</sub> : Accepted  
H<sub>1</sub> : Rejected
- F tabel < F statistic = So; H<sub>0</sub> : Rejected  
H<sub>1</sub> : 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-statistic > F-table. Thus, rejecting H<sub>0</sub> and accepting H<sub>1</sub>, 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:

### 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.

### Classical Assumption Testing

#### 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. 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 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 the table 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.

### 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.

## Statistics Testing

### a. Individual Parameter Significance Testing (t-test)

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  $R^2$ )**

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.

## Fixed Effect Model 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 the table 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? WRKG?

- 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)  $LN\_GRDP\_BANTEN = -0,148 + 0,813 + 0,024*LN\_HEALTH\_BANTEN - 0,007*LN\_EDUC\_BANTEN + 0,071*HDI\_BANTEN + 0,433*LN\_WRKG\_BANTEN$

## DISCUSSION

### 1. Government expenditure on health sector toward economic growth

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. 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. 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.

The study period only takes 7 years which may not be able to accommodate the effect of government expenditure in the education sector. 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. 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**

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 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.

## **CONCLUSION**

Based on the analysis that has been done, can be obtained the following conclusion:

1. Government expenditure variable on health sector which represented as a human resource investment has positive and significant influence to the economic growth in Java period of 2010-2016.
2. Variable of government expenditure on education sector which represented as an investment of human resource is not significant influence to the economic growth in Java period of 2010-2016.
3. Variable of Human Development Index has a positive and significant influence on economic growth in Java period of 2010-2016.
4. Working labor force variable has a positive and significant influence on economic growth in Java period of 2010-2016.

## **RECOMMENDATION**

In accordance with the results obtained, then proposed some suggestions as follows:

1. Considering the influence of government expenditure on health sector towards economic growth in Java, the government is expected to increase the realization of government spending in the health sector efficiently. The government in every province in Java should allocate 10% of the total regional government budget for the health sector in accordance with Law No.36 of 2009 Article 171 on health. Increased government expenditure in the health sector can be performed through several things, including by providing adequate health facilities, improving the quality of health services, conducting health counseling, and providing free medicines for the poor.
2. Through the analysis results that government expenditure in the education sector does not affect the economic growth in Java period of 2010-2016, then the government should pay more attention to the budget issued whether the expenditure are distributed properly and on target, or not. The mechanism is can be through change the composition of routine expenditure which is more suppressed as possible and enlarges the effort of the government itself when issuing the budget in order to make the education sector able to boost the economic growth.
3. Considering the influence of Human Development Index on economic growth in Java, the government should make efforts to increase economic growth in each region by relying on its potentials, as well as implementing development that is oriented on the



distribution of income and economic results throughout the community. Therefore the purchasing power parity of the community will be better, so that can improve the welfare of life.

4. The government is expected to increase the availability of job in order to absorb the labor force due to working labor force has a positive effect on economic growth in Java.

## **RESEARCH LIMITATION**

Based on the results of the research there are several limitations, as follows:

1. Lack of time series data which only took 7 years, due to the limitations in data availability for some variables.
2. May there are so many factors that affecting economic growth, however in this study only analyze 4 variables only.
3. Limited data from Human Resource Investment indicator becomes an obstacle in this research, so it is necessary to look for more data which can be more representative for research and can be accounted for by economic analysis.
4. For a future researcher who is interested in Human Resource Investment, it is advisable to pay more attention to the determination of other factors and look for more references about human capital or human resources.

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