IOSR Journal of Economics and Finance (IOSR-JEF)
e-ISSN: 2321-5933, p-ISSN: 2321-5925.Volume 7, Issue 6 Ver. II (Nov. - Dec. 2016), PP 16-22
www.iosrjournals.org

How Regional Minimum Wage Affect Economic Output?

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Abstract: *The government has compelled for controlling wagesto control the market mechanism by establishing wages at the balance level of supply and demand, which is known as regional minimum wages. This study aims to determine how is the effect of minimum wages on each districts / cities in East Java to theeconomic output as measured by Gross Domestic Product on each districts / cities in East Java. The study shows thatthe higher wages lead to the higheroutput. It is compelled from the increasing of public expenditure and the higher wages decrease the hours of spare time and working hours will be increased, as well as theincrease in output.*
Keywords: *Minimum wages, Economic output, Gross Domestic Product*

I. Introduction

Wages, is a payment made by the company to labour as a compensation for the production factors supply of labour which are used as input companies in the production process. Wages is one of the production cost which spent by the company. Sumarsono (2007) argued that the cost is a value that must be sacrificed (missing) of the alternative using in production process toproduce specific output.

Employment decisions are related to fundamental decisions about how to spend time. One of those ways which is used by someone to spend his free time is with doing some fun activities or work. A person can work at home or work to paid (Sumarsono, 2003). Thus, the wages scale for sure will affect the motivation of workers in their work and producing output. Labour will be more motivated to work when they receive appropriate wages or even more than their expected wages. It can be said that wagesrate equal or bigger than the expected wage. High motivation, will encourage labour to produce a greater output.

On the other hand, the government as regulator in the economy, always trying to improve economic development. One of the efforts made by government is to increase economic growth as one of the success development requirements. Economic growth means that occurs increase of economic output which is usually measured by gross domestic product at constant prices. Assuming that high wages will motivate the labour on producing output, so the government is also taking part by making a policy regarding wages.

The government policy on wages, based on microeconomic theory called the policy of the basic price (floor price). It means that the government sets the level of the lowest wages that must be paid to the company's labour. Basic wages price policy is referred to as minimum labour wage.

The minimum labourwage, determined by the government with legal regulations for guiding the allocation of public resources. The government compelled to control wages and control the market mechanism. The market mechanism in form of labour market create wages on the balance level of supply and demand. The role of government over wages, is the establishment of a basic wage price (minimum wage) will establish wage above the balance point. The condition is illustrated in Figure 1.

Mankiw (2012) stated that minimum wages policy is trying to help people out from poverty. Further stated that the minimum wages can increase labour’s income, but also can decrease the income of unemployment. The minimum wages has no effect on labour with high skills and a lot of experiences. Instead, having a considerable influence on the group of unskilled labour and less experience if it compared with the other groups.

Studies conducted by Watanabe (2013) may be used as a reference of a relation between the minimum wages and GDP. He examines about the relation between economic growth and the minimum wages, where the minimum wages rise will have a positive impact on poverty reduction and improvement of living standards, but many people assume that it will also cause a negative effect on unemployment and GDP. But the research conclusion shows that it occurs resulting increase in economic growth is driven by increasing minimum wages and public investment ratio of the income tax.

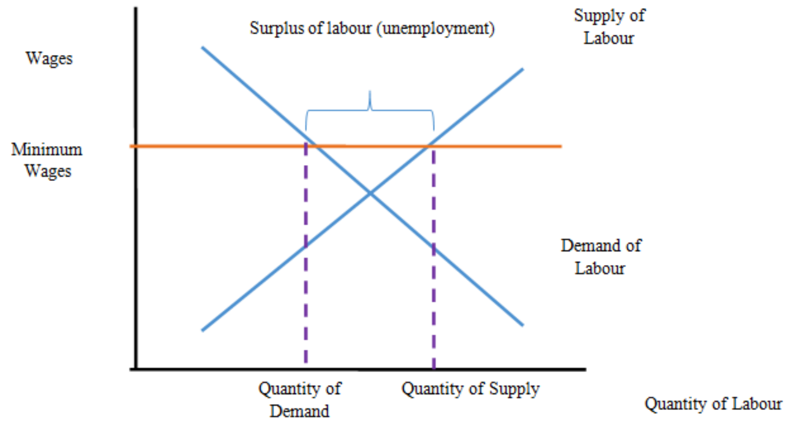

Figure 1. The labour market with Minimum Wages policy

Source: Mankiw, 2012a

Adelzadeh and Alvillar (2016) examines the minimum wages policy in Africa by taking attention about Micro- and Macroeconomics context, which results in the minimum wages policy could potentially have a positive contribution on the whole macro and micro economy. Where the policy is related directly *(direct)* or indirectly *(indirect)* on the dynamic process onlabour market, income, household expenses, the price and production. But a study conducted by Cuong (2012) about the effects of increasing minimum wages in Vietnam turned out to be not significant on the increase of Salaries and labour's expenses.

Government regulation of the minimum wages that puts wages above the market wages, of course causing an opposition among labour / employees and the company. If the amount is too small compared to the public purchasing ability, the labour will be objected. However, if the amount is too large, then the companies will be objected because the cost of production is increasing.

Government as a policy maker, of course, must be able to convince the company that the minimum wages will increase economic output. Whether the problem can be formulated minimum wages on each districts / cities in East Java influences the economic output as measured by Gross Domestic Product on each districts / cities in East Java. This study aims to determine how the effect of the minimum wages per districts / cities in East Java to the economic output as measured by Gross Domestic Product on each districts / cities in East Java.

II. Literature Review

The theory which underlying the wages system can basically be divided according to two extreme theories, namely: 1) based on the teachings of Karl Marx's theory of value and class antagonisms; 2) based on the theory of raising marginal product which is based on the free economy assumption. The teachings of Karl Marx stated that only labour who are the source of economic value. The value of goods depends on the value of services or the amount of labour time used to produce such goods. The implication of this view, there are: 1) The price of goods is different according to the amount of labour service which is allocated to the entire process of production of the goods; 2) The number of working hours which are sacrificed to produce a type of goods is almost the same, so the price in some place also become almost the same; 3) The entire national income created by labour, so therefore only labour (workers) are entitled to acquire all of the national income. Meanwhile, Neo Classical Theory suggests that in order to maximize the advantages of each entrepreneur to use the factors of production until that each production factor which is used receive or be rewarded for the result of added marginal value of that production factor (Sumarsono, 2003).

When it is assumed that the company uses only one variable of production factor, the marginal revenue production factor curveis the same as demand of production factor curve in that company for short term. If public consider of certain goods more than cost that should be paid by the company to the workers who produce the goods, the goods will be produced. Likewise it also applies for more than one input. Companies weigh the value of the output value which is reflected on output price to the input valuewhich is reflected in the marginal cost (Case et al, 2012).

The price of labour is the hourly wage specified in the labour market. Wages per hour is considered as the marginal cost of one unit of labour. Profit-maximizing firms will add *input* (labour), all proceeds from the marginal inputs *(input)* exceeded the market price of the input *(input),* it can be formulated as follows (Case *et al*, 2012),

$W = MRP_{L} = MP_{L} XP_{X}$

Explanation:
W = Wages
MRP_L = *Marginal Revenue Product of Labour*
MP_L = *Marginal Product of Labour*
P_x = Price of goods

Income distribution theory propounded by David Ricardo in 1951, contains three elements, there are: theory of rent, wages theory and the theory of profit. According to Ricardo, the wages of workers depending on the needs of subsistence, it is the minimum needs which is necessary by labour in order to survive. Wages theory by Ricardo called wages subsistence theory. Further explained that the increase in wages and rents, which means increase production cost will cause a reduction in profits of the capitalists. When profits decrease, the motivation of companies to raise capital will be vanished. The economic upturn will come to an end and the economy will stop (Pressman, 2000). Based on the Ricardo's theory, wages negatively affect export intensity as it relates to cost. The higher the wage, the cost that should be paid by company is rising, capitalist profits decrease, so the motivation to produce the output decrease. That means, the resulting output is decreasing due to increase in wages.

Hicks (1932) suggested The Theory of Wages which states that the amount of wages would affect a person's decision in working hours and their spare time. If wages rise, the price of spare time becomes higher. This is because people have to sacrifice more wages for each hour of spare time that they have been consumed. This sacrifice is a form of opportunity cost. Furthermore, wage rises will affect the working hours depending on the effects of substitution and income effects (Nicholson and Snyder, 2012).

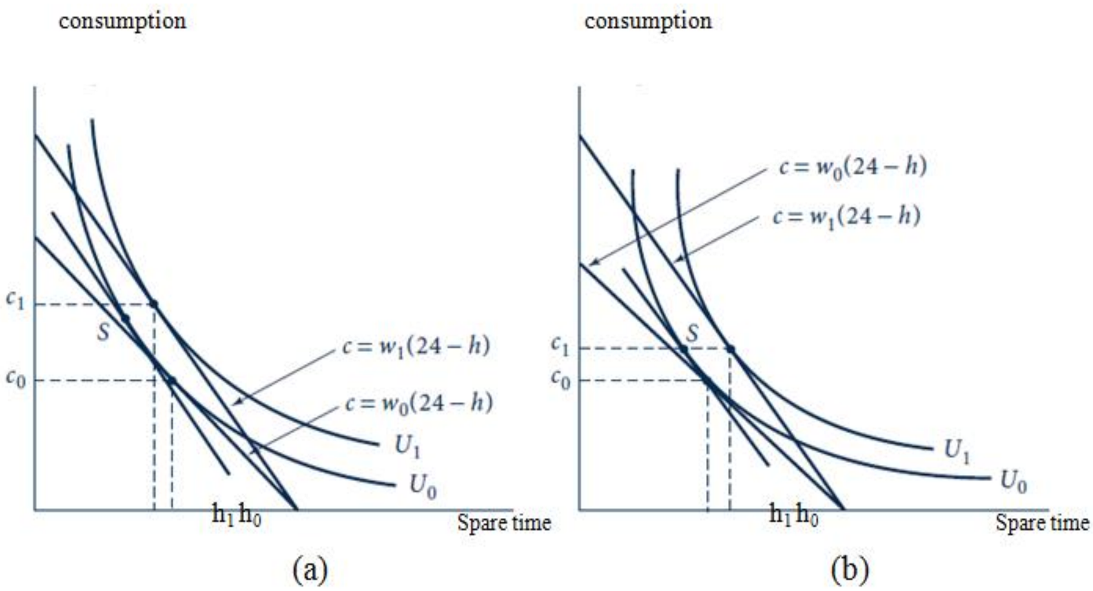

Figure 2. Income Effect and Substitution Effect of Changes in Real Wage Rate
Source: Nicholson and Snyder, 2012

The substitution effect means that the wage rises will reduce spare time. Because spare time becomes more expensive, then there is no reason to use them less. The income effect means the increase in wages will tend to increase spare time. Because spare time is a normal goods, so the higher income as a result of higher wages will increase or decrease the demand against it. Thus, the effect of income and substitution effects work in opposite direction. Spare time and working hours are a way of using time mutually exclusive. The decrease or increase in working hours will affect the output which produced by labour (Nicholson and Snyder, 2012).

The individual is a labour supply, the effect of income and substitution effects of rising real wages working in opposite direction in their influence on the hours of spare time requested (or the working hours). In Figure 2.4, Panel (a) the substitution effect (displacement to the point S) exceeded the income effect, and higher wages lead to decrease in spare time hours to $h_{1.}$ Therefore, the working hours increase increased. In panel (b), the effect of income is more powerful than the substitution effect, and H rise to $h_{1.}$ In this case, the working hours decreased (Nicholson and Snyder, 2012).

III. Research Method

These studies include the type of causality research. The variables which studied: the regional minimum wages and output. Each variable is defined operationally as follows: 1) the regional minimum wages is the lowest wages rate in each district / city in East Java province in 2015 that must be paid by the company to the workers by the government regulation. Secondary data obtained from East Java Governor Regulation No. 72 Year 2014 About Regional Minimum Wage/ City in East Java on 2015. 2) the output is the Gross Domestic Product on each district / city in East Java province on 2015. The type of secondary data obtained from the Central Statistics Agency of East Java. Data analysis tools using Ordinary Least Squares (OLS).

IV. Finding and Discussion

Distribution of Gross Regional Domestic Product doesn't spread evenlyon each districts / cities in East Java province. Potential in each district/ city are different to produce economic output. It can be influenced by the potential factors of production they owned and how each district/ city use it fully or not, so the result is in a different amount of output.

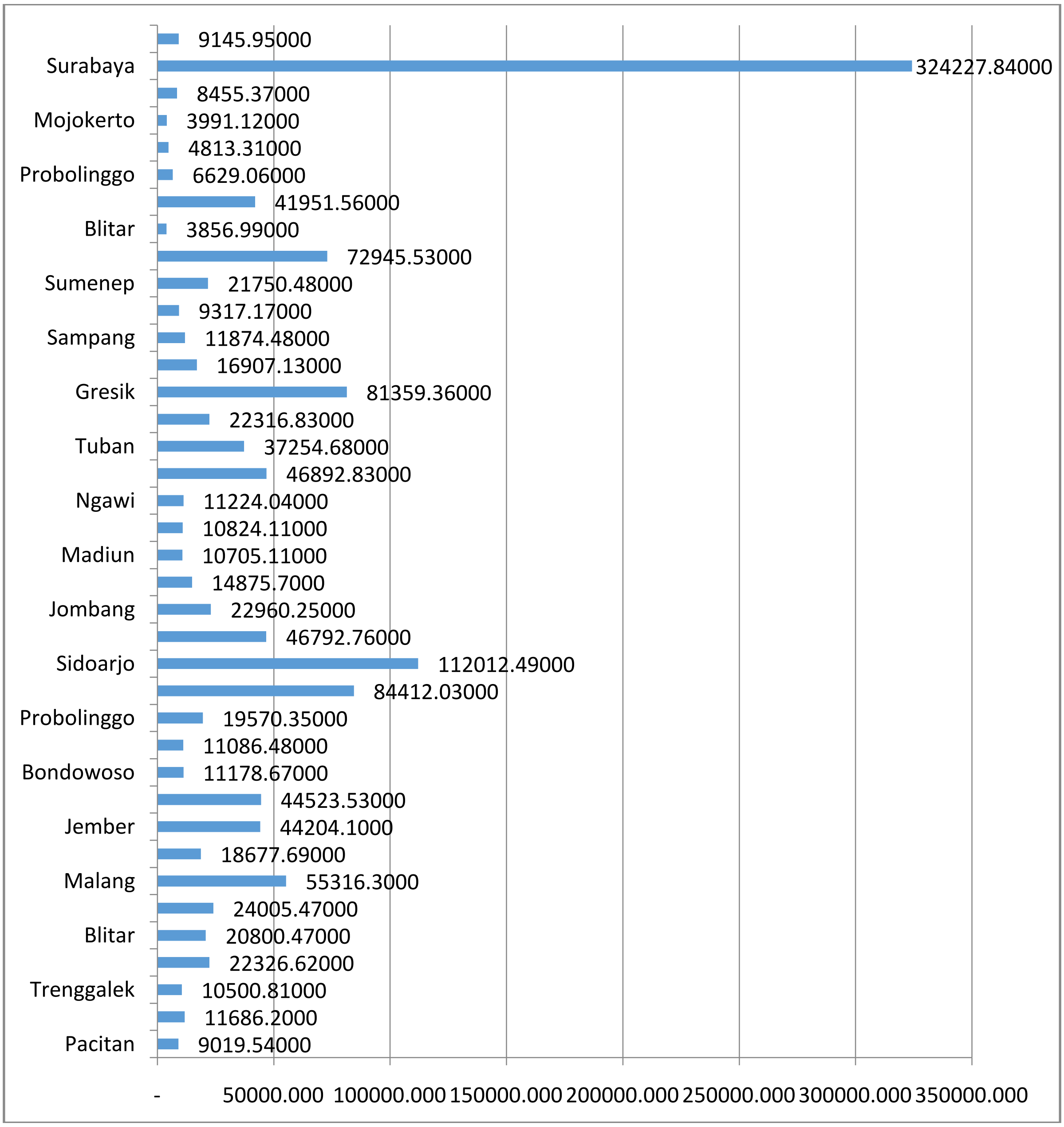

Figure 3. Gross Regional Domestic Product on each Regency / City of East Java Province in 2015 On 2010 Constant Prices

Source: Central Bureau of Statistic of East Java processed, East Java in 2016.

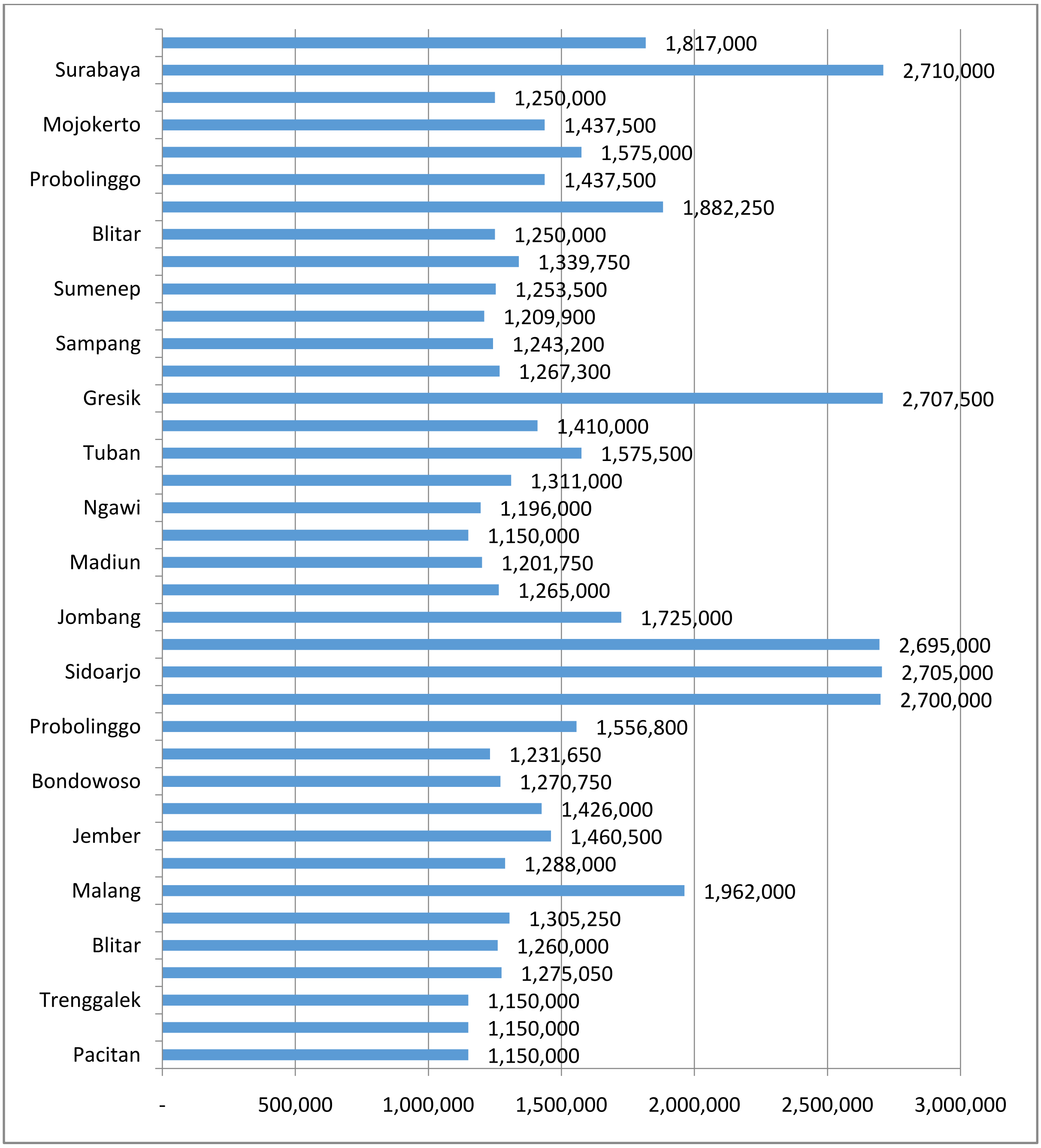

Figure 4. Minimum wage on eachregency / city of East Java Province in 2015 On 2010 Constant Prices Source: Governor of East Java.2014. East Java Governor Regulation No. 72 Year 2014 About Regional Minimum Wage/ City in East Java on 2015.

Based on Regulation of the Republic Indonesia Government No. 78 Year 2015 about wages, regional minimum wages/ cities in East Java province inaugurated by East Java Governor with regard to the recommendation regents / mayors as well as the advice and consideration of provincial wages council. Wages of employees / workers with tenure of 1 (one) year or more of bipartite agreements negotiated between employees / workers with Employers in the company concerned.

The data analysis of minimum regional wages/ cities as well as the GDP on each districts / cities in East Java with cross section was analysed using a regression equation with OLS. The results of the analysis are as follows:

Dependent Variable: PDRB				
Method: Least Squares				
Date: 09/19/16 Time: 00:23				
Sample: 1 38				
Included observations: 38				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-78741.39	21802.75	-3.611535	0.0009
UMR	0.073682	0.013428	5.487360	0.0000
R-squared	0.455462	Mean dependent var		35273.48
Adjusted R-squared	0.440336	S.D. dependent var		54437.64
S.E. of regression	40725.17	Akaike info criterion		24.11828
Sum squared resid	5.97E+10	Schwarz criterion		24.20447
Log likelihood	-456.2472	Hannan-Quinn criter.		24.14894
F-statistic	30.11112	Durbin-Watson stat		2.117326
Prob(F-statistic)	0.000003			

Based on the data analysis, the regional minimum wages significantly influence the GDP of East Java province, the estimation equation as follows:

GRDP = -78741.39 + 0.074 * UMR

The regional minimum wages on each districts / cities positivelyinfluence the GDP on each districts / cities, it means that an increase in the regional minimum wages will increase the GDP. According to the theory of Hicks, wage rises will affect the working hours depending on the substitution effect and the income effect. If the substitution effect goes beyond the effects of income, higher wages will reduce the hours of spare time and working hours have increased. If the income effect is stronger than the substitution effect, the working hours decreased.

Amount of working hours will affect the output which is produced by workers/ labour. The higher outpouring of working hours, the higher output resulted. The results were positive regression coefficient indicates that the high wages also increase output. It can be concluded that higher wages lead to increase in working hours, so the output becomes increased. This means that the substitution effect goes beyond the income effects, higher wages decrease the hours of spare time and working hours have increased, as well as increase in output. The wage raises in real terms of motivating workers to work harder and increase their working hours.

Research by Watanabe (2013) which concluded that the rate of economic growth is driven by increasing the minimum wages could be applicable in East Java. Studies conducted by Aaronson (2013) in the United States has also found that the increase in minimum wages of $ 1.70 dollars per hour would contribute to an increase in GDP of 0.3% in the short term. The conclusions on Alonso’s research (2016) also states that the increase in minimum wages will push the raising of expenditure. But a study which conducted by Sabia, 2015 shows the opposite conclusion in which the 10% increase in minimum wages will depress GDP by 1% to 2%. This occurs when business conditions are in the middle of the peak period.

The increase in GDP is driven by a rise in the minimum wages in East Java in fact has now occurred. But for the amount of their establishment needs to be studied more in depth in every area because it will be associated with so many things especially macro-economic conditions in each area as well as the different characteristics of each region. Conflicts of regional minimum wages on each districts/ cities that have often occurred, should be reduced. Government, provincial wages council, workers / labour and employers should be able to wisely arrange the amount of regional minimum wages.

V. Conclusion

Based on the study results, the increase in wages can increase output, thus the parties which are concerned will equally get benefit if the wages is raised. The Government will produce a high economic growth. Workers / labourget their wages rises, so it makes a good living. While employers will still get the profit / benefit with increase in production output.

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