THE IMPACT OF MINIMUM WAGE PROVINCE TO ECONOMIC GROWTH (Study in Sumedang Regency, West Java Province Indonesia)

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ABSTRACT

This article studies the expansion of employment opportunities, the use of productive labor force, and the provision of decent wages, which are instrumental in determining long-term economic growth. A decent wage will increase labor income, the increase in income will increase the purchasing power of workers, and the increase in purchasing power will in turn increase effective demand. General issues that apply in relation to minimum wage increases are trends that have a positive impact on income, prices and employment opportunities, and economic growth. The problems in this study were analyzed using Input-Output analysis with the Supply Side approach. Analysis results show that wage increases will positively impact employment opportunities. To achieve optimal allocation, the government should not issue unemployment compensation or subsidies for recruitment costs. In addition, because companies and households experience catastrophic consequences related to minimum wages, the government does not intervene in the labor market to influence wage levels and does not set minimum wages. What the government can do is to make the right expenditure for the right success.

Keywords: minimum wage, employment opportunities, economic growth.

Contribution/Originality

This study is one of the few studies that has analyzed the expansion of employment opportunities, the use of productive labor force, and the provision of decent wages, which play a major role in determining long-term economic growth. This study contributes to the first logical analysis that a rise in wages will positively impact employment opportunities.

1. INTRODUCTION

The aim of economic development undertaken by countries in the world is to improve the welfare of the community and to achieve internal and external balance. Internal balance is the realization of economic growth, the stability of prices and the optimal level of workmanship. While the external balance is the balance in the foreign balance of both the balance of payments and the trade balance. During the process of economic development takes place there is a need for natural resources, human resources and technology.

The development of human resources as the main supporting element in the development process is one of the main problems in economic development because the high rate of economic growth is always - based on the experience of new industrial countries (NICs) - sourced from the efficiency of production supported by human resources quality. The expansion of employment opportunities and the use of productive labor and the provision of decent wages also play a significant role in determining long-term economic growth. A decent wage will increase labor income, the increase in income will increase the purchasing power of workers, and the increase in purchasing power will in turn increase effective demand. The key to people's welfare is actually what the quality of human resources is. Because of with the increase in the quality of human resources, the productivity of the business world will increase, (Mutia Fauzia, 2018).

Efforts to increase the income of workers through increased wages have been carried out by the government by setting the provincial minimum wage that must be paid by employers to workers. Because of the effect of inflation, the provincial minimum wage is raised every year so that workers' welfare does not decline. To see the impact of changes in wages on employment, several things need to be considered: First, in terms of the micro-side of the company. The impact of changes in wages on labor demand is shown by the elasticity of labor demand where one of the determining factors is the tendency of substitution between factors of production. The greater the elasticity of labor and machine demand substitution, the greater the elasticity of labor demand. The elasticity of substitution is very depended on the technology used. A less skilled workforce is more easily substituted by machine than a skilled workforce. The demand for skilled labor tends to be elastic, which means that even a slight increase in the wage rate will reduce the large demand for labor. Second, it is the magnitude of the company's market power in determining wages in the market. If the situation is competitive, one company does not have the power to determine wages in the market and the company will pay labor according to its marginal value. If the company has the power to determine wages in the market, the company can pay less than the value of its marginal product and gain extra profit. In this uncompetitive situation wage increases can actually increase employment, and thirdly, it is seen the scope of increase in labor wages (Sholeh, 2005).

Mankiw (in Mahyuddin and Maidah, 2010) considers that increasing labor productivity is an essential factor in creating economic growth because labor productivity reflects efficiency and technological progress. As a reflection of technological progress, increasing labor productivity is often seen as reducing employment opportunities. However, Nordhaus and Siregar's findings show that technological improvements in labor-intensive sectors (such as agriculture and agro industry) actually increase labor absorption. The logic is

that an increase in productivity and product competitiveness in the sector will lead to more competitive selling prices, thereby increasing the demand. The increase in demand in turn increases employment.

An increase in minimum wages that is too high in only some sectors or parts of the region can result in a surplus of labor supply in that sector or region. This surplus will put pressure on other sectors or regions and will reduce the wages. This means that the improvement in the welfare of workers in sectors or regions that experience wage increases is achieved at the expense of workers who are not protected by minimum wages, such as those in the informal sector who are a very large group in Indonesia. Due to the interrelated relations between sectors in the economy, changes in labor wages also have an impact on the region, mainly to regional income, production and employment opportunities in the region.

Because the environment faced by the regional government and regional economic actors is not only faced with increasingly interrelated and increasingly complex patterns of relations but also faced with increasing uncertainty then an area must be seen as a whole as an economic unit (economic entity) in which there are various elements that interact with each other. The increasing uncertainty and the very complex relationship requires three actions to overcome it. First, the regional government must think strategically, not just get used to it. Second, local governments must be able to translate these change signals into effective strategies. Third, local governments must develop these strategies in the form of rational activities.

Sumedang Regency, West Java as one of the provinces in Indonesia is also demanded to be able to develop its region. Coordination and alignment of development planning between sectors in the province must also receive major attention because if there is a change in one sector then the other sectors will also be affected. For example, if there is a change in wages in one economic sector, the other economic sectors will certainly be affected, this is due to an increasingly complex and interrelated relationship between the sectors concerned.

An increase in the Regional Minimum Wage (*UMR*) will have a direct impact on the workforce in the province concerned. Because the minimum wage is income for workers, an increase in wages means that their income increases. Additional income drives up spending which in turn increases market demand, rational economic man "who functions as a central point of modern economics. According to Umar Capra, the harmony of individuals and the welfare of the community are always a benchmark of Islamic economics (Mulyadi, 2016).

An increase in demand if not followed by an increase in supply in the market will lead to an increase in the price of the price of goods and services (Demand Pull Inflation). On the other hand, wage increases by employers are calculated as increases in production costs. Entrepreneurs are trying to cover the increase in production costs by raising the price of output. The next process is an increase in the price of goods in the market due to the increase in production costs (Cost Push Inflation). With the Demand Pull Inflation and Cost Push Inflation, there is mutual push between the two types of inflation, which in turn makes inflation in the economy bigger. The next stage of the inflation effect is an increase in input prices used by the company Conceptually, the level of wages reflects the level of labor productivity that has been contributed by the relevant workforce to the company, so that with rising wages it is expected that the level of labor productivity will also rise, and henceforth it

will increase the company's output. From the worker side, wages are one of the means to increase self and family welfare directly because nominal income has increased. So wages when viewed from the supply side of labor will have a positive impact on increasing production (Efi Suci Purwanti, et al., 2014).

An increase in the wage rate will be followed by an increase in worker productivity in almost all sectors. At a macro level, the aggregation of increases in each sector's production will increase GDP for the country or GRDP for the regions. On the other hand, wage increases in general will reduce aggregate employment. This means that wage increases can have an impact on employment rates, employment opportunities in the Sumedang Regency, West Java Province.

Armelly (2015), in her research on the impact of the increase in the minimum wage on prices and employment opportunities in the textile industry sector in Indonesia using an Input-Output (IO) analysis concluded that: if the minimum wage in the textile industry sector was raised by 7.89 percent, it would have an impact of general prices of 2.9423 percent, of which 1.4868 originated from price increased in the textile industry itself. If the minimum wage was raised 183.12 percent it would raise prices in general by 68.2885 percent, in which 50 percent came from rising prices in the textile industry itself. While the impact of the increase in the minimum wage on output and employment was positive.

Indrawati (2012), in her study of the impact of wage increases on labor supply with a cohort approach, concluded that the elasticity of Indonesian male and female laborers on wages was respectively 0.405 and 1.05. Indonesian women were more sensitive to changes in wages than men. Overall labor elasticity to tax was found to be -0.116. The estimation results of labor elasticity based on the level of income obtained -0,120 for the high income group, -0,131 for the middle income group, and -0.11 for the low income group. This means that the supply of high income workforce was more sensitive to changes in tax rates.

2. DATA ANALYSIS METHOD

The data for this study were taken from the Central Bureau of Statistics which includes Input-Output Table data, labor data and wage data of Sumedang Regency, West Java 2017. The analysis applied in this study is a quantitative empirical analysis. The method of analysis uses the Input-Output analysis. Input-Output analysis is used to find out the interrelationships, impacts and inter-linkages between sectors of an economy, both forward linkages and backward linkages. In addition, the input output analysis is used to determine the multiplier number in an economy. The multiplier number to know in this study is the job multiplier number. By knowing the multiplier figures, it can be seen what happens to economic variables such as sectoral employment opportunities when changes occur in exogenous variables, such as wage changes that are a planning technique developed from Tableu Economique made by Francois Quesnay and first popularized by Prof. Wassily Leontief in the late 1930s. To conduct an impact analysis in the Input-Output analysis it is necessary to know in advance the definition and calculation technique of the concept of the input coefficient concept and the multiplier number (Sholeh, 2005).

2.1. Input Coefficient

All goods, services and factors of production used in the production process to produce Output are categorized as Inputs. Input can be divided into two parts, namely intermediate input and primary input. Intermediate input is usually written with Xij notation and primary input is usually written with Vj. The sum between intermediate inputs and primary inputs is the number of inputs and is denoted by Xj.

In accordance with the principles of preparing the I-O table (BPS, 2017), the number of inputs (xij) must be the same as the number of outputs. The quotient between each component of the intermediate input with the amount of output is called the intermediate input coefficient (aij), aij = xij / Xj. While the quotient between primary inputs and outputs is called primary input (vj) where vj = vj / Xj.

The number of intermediate input coefficients is very important in the analysis with the input-output model. The purpose is to see the most dominant input components, the role of the use of raw materials and energy, the level of use of bank services, communication, transportation, and so on. Meanwhile the primary input coefficient indicates the role and composition and wages and salaries, business surpluses, indirect taxes and depreciation.

2.2. Reverse matrix

The inverse matrix derived from an I-O table is multiplier numbers used to calculate the impact of a macro variable on other macro variables. There are two types of inverse matrices that can be derived from the Input-Output table, namely the total inverse matrix and the domestic inverse matrix. In the total inverse matrix used as the basis for calculation is the total transaction table, while the domestic inverse matrix is derived from the domestic table. The valuation of transactions used in calculating the inverse matrix in general is producer price.

The simple steps for calculating multipliers are as follows:

1. Determination of the transaction table used; The inverse matrix can be composed of total transactions and domestic transaction tables. In accordance with the needs of the analysis in this study, the table to be used is the domestic transaction table based on producer prices.
2. Calculating the intermediate input coefficient matrix; After the transaction table has been determined, the next step is to calculate the intermediate input coefficient matrix. There are two types of input coefficient matrix, namely the intermediate input coefficient matrix for total transactions known as A matrix and the intermediate input coefficient matrix for domestic transactions or Ad matrix.
3. Calculating the I-A or I-Ad matrix. If the inverse matrix is calculated for total transactions, the formula used is I-A, while for domestic transactions, the inverse matrix is I-Ad. I in the formula is the identity matrix, which is a matrix whose contents are 1 for diagonal cells and 0 for all cells outside the diagonal.
4. Calculating the inverse matrix. The inverse matrix in linear algebra is denoted by rank (- 1). In this case the inverse matrix calculated is (1-A) -1 or (1- Ad) -1 (Sholeh, 2005).

To explain the operation of the interplay between increasing demand and output and the various impacts, it is stated in the following equations:

$$X_i = \sum_{j=1}^{n} x_{ij} + F_i - M_i$$

Information:
X i = is the total supply of domestic commodities
xij = is the amount of demand between commodities i
F i = is the number of commodity final requests i
Mi = is the import of commodities i

next

$$a_{ij} = x_{ij} \text{ or } x_{ij} = a_{ij} X_j \qquad X = \sum_{i=1}^{n} a_{ij} X_j + F_i - M_i$$

$$X_j$$

$x_i = x_j$
total input = total output

$$\therefore X_i = \sum_{i=1}^{n} a_{ij} X_j + F_i - M_i$$

Or in general, it can be written as:

$$X = \sum a_{ij} X + F - M$$

(Hastarini, 2009).

2.3. Impact of Wage Changes on Labor

To determine the effect of wage changes on output growth, the approach used in the Input-Output model is the Supply side approach. Both Gross Output and all elements for input payment are summed in the form of column (j). In the form of an equation it can be written:

$$X_j = \sum_{j}^{n} X_{ji} + P_j$$

Pj is payment for all primer input
If the output coefficient is A

$= (X)^{-1} = Z$ or $Z = X A$. so

$X = P (I-A)^{-1}$

A = output coefficient
P = Primer input factor
(I-A) $^{-1}$ = output inverse matrix, (Sholeh, 2005).

If the level of wage is noticed as (w), the output change appeared as a result of (*w)* changing is:

$\Delta \boldsymbol{X} = \Delta w\,(\boldsymbol{I} - \boldsymbol{A})^{-1}$

From the similarity above it can be seen that a change of final request which is caused by output change is:

$\mathbf{X = (I\text{-}A)^{-1}\ F}$

$\Delta X = (I\text{-}A)^{-1}\ \Delta\ F$

$\Delta F = (I\text{-}A)\ \Delta\ X$ (Hastarini, 2009)

Changes in output as a result of changes in the level of wages also result in a trend of changes in employment opportunities created. To find the level of change in the labor force requires additional data in the form of the amount of labor used by each sector. From these data we can find labor coefficients which describe the amount of labor needed to produce one unit of output. This labor coefficient is also an indicator to see the absorption of labor in each sector. The formula used is:

ni = Xi / Li

Li = Number of sectoral workers

Xi = output produced

From the above equation it can be seen that changes in employment occur as a result of changes in labor costs, which in the formula can be described as follows:

Δ Li = ni Δ Xi (Hastarini, 2009)

3. ANALYSIS RESULTS

From the data analysis using the Input-Output approach, the coefficient of sectoral labor in West Java is obtained as follows:

Table 1. Coefficient TK

Code	Sector Name	Coefficient Tk
14	Restaurant and hotel	6,24713E-09
8	Food, beverage and tobacco industry	6,34013E-09
9	Other industries	8,70842E-09
3	Other agricultural crops	6,27758E-08
15	Transportation and communication	6,30282E-08
18	Services	6,78294E-08
6	Fishery	1,57798E-07
17	General government and defense	1,96943E-07
7	Mining and excavation	2,02580E-07
2	Other food plants	2,64962E-07
10	Oil Refinery	3,16298E-07
4	Animal farming and its products	5,74275E-07
13	Trading	6,86959E-07
5	Forestry	1,07906E-06
16	Financial institutions, building businesses and business services	1,26905E-06
1	Rice plant	1,49982E-06

11	Electricity, gas and drinking water	1,89748E-06
12	Building	2,46047E-06
19	Unclear activity	

Source : processed by the researchers

Meanwhile the result ofcalculation, the effect of wage increase upto 16 % to the additional of job opportunity which can be seen on Table 2, as follow:

Table 2. Impact of wage increases on Additional Employment Opportunities

code	SectorName	Additional job opportunity
19	Unclear activity	125,233
1	Rice plant	95,203
16	Financial institutions, building businesses and business	92,366
17	General government and defense	45,505
15	Transportation and communication	71,032
5	Forestry	50,982
7	Mining and excavation	89,224
2	Other food plants	108,280
9	Other industries	36,415
13	Trading	50,597
18	Services	37,967
4	Animal farming and its products	48,074
3	Other agricultural crops	32,374
8	Food, beverage and tobacco industry	55,305
11	Electricity, gas and drinking water	53,754
10	Oil Refinery	35,032
12	Building	34,033
14	Restaurant and hotel	40,629
6	Fishery	40,092
	Total	**1,142,097**

Source: the projection of Sumedang Regencyci inhabitant in 2016

4. CONCLUSION

The indirect effect of increasing wages (through the supply side) of 16 percent will open employment opportunities in Sumedang Regency, West Java, as many as 1,142,097 people. The rice sector ranks first followed by the financial institutions, building businesses and business services sectors. While the smallest sector to open employment opportunities is the fisheries sector. The five most labor-seeking sectors are the Rice sector, and the Financial Institutions sector, the building and business services sector, the general and small government sectors opening employment opportunities are the fisheries sector. The five most labor-consuming sectors are the Rice sector, the financial institution sector, the building and business services sector, the general government and defense sector, the transportation and communication sector and the forestry sector.

The amount of the additional workforce in the rice sector and financial institutions, building businesses and business services can be understood because the rice sector and financial institutions, building and business services sectors are labor-intensive sectors. The

number of job opportunities created depends on the total output of each sector and its relationship with the employment multiplier coefficient (EMC.) The rice sector and the financial institutions, building and business service sectors are able to create considerable employment opportunities even though the output is relatively not too large. This is due to the large EMC of 0.000001499 for the rice sector and 0.000001269 for the financial institutions, building businesses and business services sectors. This figure is greater when compared to other sector EMCs. On the other hand, other industrial sector, the EMC is low at 0.0000000087084, but because the output generated is large, the employment opportunities created are also relatively large at 17,307.8 people.

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