AN ANALYSIS ON FACTORS INFLUENCING LABOR DEMAND OF INDUSTRIAL SECTOR IN INDONESIA IN 2010-2015

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This study analyzes the existence of any factors influencing labor demand especially in industrial sector in Indonesia. The data used in this research is secondary data from BPS and Central Bank 2010-2015, the data include of the gross domestic product in constant price, minimum wage, government spending, investment, and money supply per province. The analysis used in this study is panel data analysis with fixed effect model. The results of the analysis shows that the demand for labor in the industrial sector has been significantly influenced by GDRP, and government spending. Government spending give negative impact toward labor demand, while GDRP give positive impact toward labor demand in industrial sector. Investment, minimum wage and money supply not significantly affect the labor demand of industrial sector in Indonesia.

Keywords: Labor, Minimum Wage, Investment, Government Spending, Money Supply, GDRP

1. Introduction

The industrial sector is one sector that plays an important role and gives a significant contribution in national development. Lewis in Todaro & Smith (2006) said that in the economic growth and development of a country can be done by increasing growth in sectors of the industry. The role of the industrial sector in National economic development can be traced from the respective subsector contribution towards national economic growth rate or to the gross domestic product. In some countries who pertained to the developing countries, the role of the industrial sector was more dominant compared to the agricultural sector. The industrial sector holds a key role as the engine of development because it has some advantages over other sectors. It is because the value of the embedded capital capitalization is very large, the ability to absorb a large labor force, as well as the capability of creating value added from each input or raw material that is processed.

In developing countries, the role of the industrial sector also shows higher contribution. The higher contribution from the industrial sector has caused structure changes of the economy of the country from agricultural sector to industrial sector. The role of the industrial sector in economic development in many countries was very important because the industrial sector has some advantages in terms of accelerating development. Excellences of the industrial sector contribute to the absorption of labor and are capable in creating higher value added on a variety of commodities produced.

Manufacturing industry is a significant sector that absorbs labor in Indonesia. The magnitude of labor absorption due to the high demand for labor in industries. A large work force in Indonesia is formed by a large number of population, while the demand for labor by the company is limited. The issue of employment can be influenced by many factors interacting with patterns that are not always easy to understand. To illustrate the problem of labor in the future is not easy, because it cannot be merely seen from the number of labor in the past, but it should also consider the production prospects in the future. It is because the amount of production in the future could affecting the number of labor demand by company. The number of unemployment and lack of demand of labor in Indonesia could pose new problems that will affect the lives and economy of a country. For this, the researcher wants to find out the factors that affect demand for labor especially in the industrial sector.

Satrio (2010) argued that the increased investment will improve employment opportunities so that the unemployment rate will decrease. The increasing investment in an industry would also increase employment because an increase in investment will increase the number of companies that exist in the industry and will ultimately increase the amount of output produced, thus it will increase employment opportunities. Indirect investment has influence on the demand for labor in the industrial sector.

Increasing demand of employers toward labor depending on the value added of society demand towards goods that is produced is called derived demand. If consumer demand will increase the results of production, the company will increase the production of goods which are of course the company will need additional workers, so the demand for labor will increase (Simanjuntak, 1985).

Other factors that give impact to labor demand is wage. Wage is as retribution that must be paid by a single company or agency to employees or workers (Badan Pusat Statistik) [BPS], 2017. The level of wages will affect demand or supply of labor. The government has made regulations on waging (minimum wages) for employees or workers in order to meet the minimum necessities of life, but many worker in Indonesia still have a low prosperity.

Capital expenditure also can affect demand for labor in Indonesia. Capital expenditure is the government spending that is the purchase or procurement of capital goods, which will increase the production capacity of the economy to increase Gross Domestic Regional Product (GDRP). Besides increasing the GDRP, capital expenditure also increase the use of labor in the region because of the high rate of open unemployment rate in Indonesia (Sumanto & Effendie, 2015). Fiscal policy is a government policy related to the budget of expenditure and the receipts of the government. According to Mankiw (2007) when inflation happens, usually fiscal policy will be released to reduce government spending and increasing taxes. Otherwise, once unemployment is serious then the government tried to increase spending and reduce taxes.

From opinions and research that have been revealed, there are several factors that can affect industry toward labor demand, among others are, wage, technology, productivity, quality of the workforce, capital facilities, and factors affecting demand such as changes in the market demand results will be produced.

2. Literature Review

Kadafi (2013) in his research said that capital gives negative effect toward labor absorption in industrial sector. Capital gives negative impact to labor absorption but in fact capital not significantly influencing labor absorption. Related to money supply, based on research conducted by Li, J., & Li, D. (2012) the impact of money supply on employment in primary industry is not significant, but the impact of money supply on the employment of other two industrial is significant. Therefore money supply give positive effects toward employment, money supply increased then employment has also increased.

Research conducted by Wicaksono (2009) showed that absorption of labor in manufacturing industry are influenced significantly by GDP of industry sector and real wages. Both of the influential variables are positive toward the industrial sector labor absorption. It was also noted by Ferdinan (2011) that employment is strongly influenced by government spending, GDP, and the real wage. GDP is a variable with the high effect toward labor absorption, the increase of GDP gives impact in increasing the labor. While real wages gives negative effect to labor demand.

Brown, Gilroy, & Kohen (1982) in a research revealed that minimum wage give negative effect, the increase in unemployment is due to the increase in the minimum wage. The research described the 10 percent increase in minimum wage is reduction 1 until 3 percent in total employment. Sugiyarto (2001) in his research said increase in wages will decrease the labor demand while increasing production values and increasing expenditures for labor will increase the demand for labor of furniture industry. The negative impact of wage also was stated by Zamrowi (2007) the number of labor requested will go down as a result of the increase in the level of wages. The wage is one factor that is very important for a business, because the amount of wages or retribution provided by business owners to the workforce will have no small influence to the operations of the company. Systematically the influence factors. Systematically various factors that influence labor demand in industrial sector can be described in the following formula:

$$Y_{it} = \beta_0 + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 X_{3it} + \beta_4 X_{4it} + \beta_5 X_{5it} + e_{it}$$

Y is labor demand in province (dependent variable). While $X_1, X_2, \dots, X_n$ are main independent variable that might influencing labor demand. β_0 is constanta; $\beta_1, \beta_2, \dots, \beta_n$ are the magnitude of the influence of independent variable toward the dependent variable; i is the province; t is series 2010-2015 , and e_{it} is the error term. The independent variable that are used in the research that are Gross Domestic regional Product (GDRP), minimum wage, money supply, investment, government spending.

3. Research Method

The type of study conducted by the researcher is quantitative research. This research uses quantitative method by generating numerical data or data that can be transformed into useable statistics. The type of data in this research is secondary data, the researcher reuses and repurposes information as secondary data because it is accessible and more efficient to collect. Secondary data is data obtained directly from the source, such as a quote from the books, literature, reading scientific journals, which have relevance to the theme of the research. The specified data are the number of workers of industry in Indonesia, gross domestic regional product (GDRP), investment value, minimum wage, money supply and government spending. The research method is used panel data model. Panel data is combination between time series data and cross section data. In other words, panel data are data from some of the same individuals that are observed in a certain of period time. The use of panel data allows the researcher to be able to capture the characteristic between individuals and between different times. There are three standard estimation model to data panel regression which are Polled Regression (Common Effect Model), Fixed Effect Model (Least Square Dummy Variable), and Random Effect Model. The kind of estimation model used for the analysis are based on two tests, they are Chow test and Haussman test. Chow test has been used to decide the best model between common effect model and fixed effect model, while Haussman test is to decide the best model that is used whether fixed effect model or random effect model.

4. Result and Discussions

GDRP significantly had positive impact toward labor demand in industrial sector by significant level under 5%, increasing value on GDRP give impact in increasing number of labor demand in industrial sector. The effect of GDRP in this research is same with previous research conducted by Wicaksono (2009) where GDRP have positive impact toward labor demand in industrial sector. The regression estimation Panel Data model obtained the coefficient of GDRP is 0.0048, this value reflect the magnitude of elasticity of economic growth toward demand of labor, and it means the increase of GDRP would increase the demand of labor. When the amount of production increase, the company needs more labor to produce goods, so the demand for labor would increase along with the increasing amount of production in this sector.

Zamrowi (2007) said the number of labor requested will go down as a result of the increase in the level of wages. The wage is one factor that is very important for a business, because the amount of wages or retribution provided by business owners to the workforce will have no small influence to the operations of the company. Based on regression data panel model the probability of minimum wage, it is obtained 0.8003, it means the relation between minimum wage and labor demand in industrial sector is not significant.

Government spending is a part of fiscal policies which is a government action to regulate the course of the economy by way of determining the magnitude of the revenue and expenditure of the government annually. It is reflected in the budget of the state expenditures revenues documents for national and budget expenditure revenues regional (Sukirno, 2000). Stiglitz (2000) said there are three things that are relevant to the financial of the country, they are income redistribution, the provision of public goods and social protection. The data output shows the independent variable of government spending (G) gives negative impact toward labor demand in industrial sector. From the regression estimation Panel Data model obtained, the coefficient of government spending is -0.009117 and probability value is 0.0789. It means the increasing in government spending would decrease labor demand. Wilensky (2012) argued that government spending provides disincentive to work, so it will reduce labor-force participation and create unemployment. Based on Kemenkeu (2015) the focus of the government spending as a whole is that prioritizing poverty reduction than the unemployment. Government spending as the program of poverty reduction budgetary is draining government revenue, spend more make government should increasing their income. The largest source of the government is taxes, when government spending goes up then the tax will go up too. When the taxes are rising, companies should lower their production costs to survive by decreasing labor.

Investment in fact is a prelude to economic development activities. Investment is a way that can be done by the government to improve economic growth and for the long term it can raise the standard of living of its people (Mankiw, 2003). According to Sukirno (2007) investment activity allows a society to continuously increase economic activity and employment, increase national income and improve the prosperity of the community. In this regard, some experts argue that the investments can boost economic growth and demand for labor. The role of capital in the sectors of industry and services is higher than other sectors. The panel data regression shows that investment give negative impact to labor demand in industrial sector with coefficient by -0.573977 but the value of probability is 0.4520, it means the effect of investment is not significant to labor demand in industrial sector.

Money Supply is the amount of circulating money in the economy and is available to be transacted and have relation with the level of interest rates in a country. The money supply is related positively toward Indonesia economic growth. According to the data obtained as a result of coefficient value is -8.201589 and probability value is 0.7717. The result shows the impact of money supply to labor demand is not significant.

5. Conclussion

Factors that significantly influence labor demand in industrial sector in 2010-2015 are gross domestic regional product and government spending. Gross domestic regional product (GDRP) has positive impact toward labor demand, while government spending gives negative impact toward labor demand in industrial sector. GDRP has positive impact toward labor demand, increasing in GDRP would have an effect on the increasing in the number of labor demand in industrial sector assuming the other variables considered fixed or constant. Government spending gives negative impact on labor demand, and increase in government spending will decrease the number of labor demand in industrial sector in Indonesia. Investment, minimum wage and money supply have no significant effect toward labor demand in industrial sector in Indonesia.

GDRP is the most influential variable toward labor demand among other variables and it has effect on economic growth. GDRP gives positive influence toward demand for labor. Government should encourage society to buy Indonesian product and encourage export goods than importing goods from other countries. Government and private needs to encourage labor-intensive industries than capital-intensive to increase the labor demand in Indonesia. Government spending should be more prioritized to the expense for development that will absorb more labor. Government is expected to create fiscal stimulus for the expansion of industry and pull the labor.

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