THE EFFECT OF FDI, LABOR AND WAGE ON REGIONAL ECONOMIC DEVELOPMENT: A CASE STUDY

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Abstract. This study aims to look at the effect of the investment amount of labor and the minimum wage to economic growth. This study use PLS, and use time series data from 2010 to 2016. The variables in this research are domestic investment variable physical, minimum wage, and the amount of labor work in Indonesia. The results showed that the physical variables domestic investment, domestic investment in non-physical, minimum wage, and the number of workers who work GRDP of East Java but for variable non- physical investments in the country negatively affect the Gross Regional Domestic Product of East Java.

1. Introduction

Economic growth is a benchmark to measure the achievement of economic development from one period to the next period. Regional development is an integral part of national development and implemented based on the principle of regional autonomy. The improvement of welfare not only the obligation for the government, but also the entire community. Therefore, the government should be able to empower all components of society, particularly the private sector, to play a bigger role in improving the welfare of the community. Thus, the economic growth that is more just and equitable can be achieved by better and faster. Government decentralization began to be practiced when the enactment of Law No. 22 Year 1999 on Regional Government and officially started on January 1, 2001. The authority of district / city in organizing the regional autonomy began a very important role. Implementation of fiscal decentralization in Indonesia was appointed to create the aspect of independence in the area with the principles of local autonomy. East Java Province is one of the provinces in Indonesia, whose economies are good. It can be seen from the percentage of economic growth in East Java ishigh. Not only that, at this time the level of fossil energy consumption in Indonesia continues to increase which means the vision to become a developed country with high economic growth will soon be achieved.

East Java Growth during the period 2001-2015 grew an average of 5:36%, above the national average growth that only 4.86%. In macroeconomic theory, the terms of expenditure, gross regional income is the sum of many variables including the investment. Investment itself is affected by foreign and domestic investment. Investment from the private sector can come from domestic and overseas (foreign). Investment is one of the variables

that can boost the economy of a region. Investments can include capital investment to open a new business, expand a business or add capacity and increase the number of goods and services activities which will absorb a lot of labor and increase the increase in spending and incomes. Investment is one of the variables that can boost the economy of a region. It can include capital investment to open a new business, expand a business or add capacity and increase the number of goods and services activities which will absorb a lot of labor and increase the increase in spending andincomes.

So, the investment will boost per capita income of local residents. Growth in per capita income makes people no longer able to meet the basic daily needs, but the secondary and tertiary needs can be met. This is what will trigger the development of various economic activities in the area. Regional gross domestic growth (GDP), as a measure of the growth of the regional economy can not be separated from the role of government spending in the public service sector. Local government expenditureis measured by the total recurrent and development expenditure allocated in the local budget. The larger the area of productive government spending then the increase rate of the economy in a region. In this case the role of government is essential in regulating the economy. One of the government's role in regulating the economy is to implement fiscal policy by allocating expenses to build a useful proposition and infrastructure for development. The Government spending is closely related to the budget (local budget) because it will directly affect the revenue and the spending of each regional. So, it will affect the economic growth directly. In the last four years, domestic investment has increased. This can be seen from the recording of the Investment Coordinating Board (BKPM), which noted that the realization of domestic investment during January-September 2010 reached Rp38,5 trillion, up Rp10.3 trillion compared to the same period in 2009. Deputy Head of BKPM Yus'anin Jakarta, Sunday (31/10), said according to BKPM data, domestic investment in food crops and plantations are the largest, covering 76 projects with a total value of Rp 4.5 trillion, followed by investment in transport, storage and telecommunications which consists of 13 projects with a total value of Rp 3.1 trillion , While domestic investment in the food industry sector consists of34 projects with a value of Rp 2.8 trillion; basic chemical industry, chemical and pharmaceutical goods includes 20 projects worth a total of 1.4 trillion; and investments in other services sectors are 33 projects worth a total of Rp1.1 trillion. Location domestic investments are located mainly in Central Kalimantan (Rp 2.8 trillion, with 23 projects); Jakarta (Rp 2.5 trillion, 27 projects); West Java (Rp1.9 trillion, 41 projects); East Kalimantan (1.8 trillion, 20 projects) and East Java (Rp1,8 trilion, 30 projects).

2. Theoretical Basis Endogenous Growth Theory

Endogenous Growth Theory is a theory of the development of the Solow model. Among the endogenous growth theory that attempts to explain that the sources of growth are the increase in the accumulation of capital in the broadest sense. Capital in this case is not only in the physical properties but also non-physical form of science and technology. The development of this technology will develop innovations that increase productivity and lead to an increase in economic growth that could bring new discoveries that improve production efficiency. This efficiency can increase productivity. So, in this case the quality of human resources is factors that affect the economicgrowth.

2.1. Neo Classical Theory of Economic Growth Solow

According to Neo Classical Theory of Economic Growth, economic growth depends on the increase of the supply of production factors (population, labor, and capital accumulation) and the rate of technological progress. Neo-classical theory found modaloutput ratio could change. In other words, to create a number of specific outputs, the amount of capital that can be used vary with the amount of aid workers is different also, as needed (Arsyad, 1997). Neoclassical growth theory calculates output growth as a function of input growth, especially of capital and labor. Long-term growth resulted from improvements in technology. Solow-Swan production function written in the following way (Barro and Martin, 1995):

$$Y(t) = A(t) K(t) \alpha L(t) \beta$$

Information:
Y (t) = the level of production in t
K (t) = number of stocks of capital in year t
L (t) = the amount of labor in year t
A = technology

According to Mankiw (1992), the difference in income per capita of each country can be addressed using the augmented Solow growth model. In this model the output produced from physical capital, human capital and labor. The model called MRW-style neoclassical growth models written as follows:

$$Y(t) = K(t)\alpha H(t)\beta [A(t) L(t)] 1 - \alpha - \beta$$

Information:
Y (t) = the level of production in t
H (t) = the amount of human capital in year t
K (t) = number of stocks of capital in year t

2.2. Invesment

According Suparmoko (1998), stating that investment is everything that is issued and is intended to increase or maintain the stock of capital (capital stock). Capital inventories consist of factories, machines, offices and durable goods used in the production process, including houses and stock of goods that have not been sold or used within the relevant time (inventory). It has been suggested that investment is adding to the stock of capital expenditure. According Sukirno (2008), investments may also be interpreted as an expense or planters shopping capital or companies to purchase capital goods or machines to increase the ability to produce goods and services available in the economy. According to BPS, Gross fixed capital formation or investment is an activity adds to or reduces the assets remain on the unit of production within a specified time. Increases in capital goods include procurement, manufacturing, purchasing, leasing (financial leasing) new capital of the region, as well as capital goods, new or used capital goods from outside the region (including major repairs, transfer and barter capital goods), and asset growth sources biological resources were cultured (Cultivated Biological Resources/ CBR).Invesment can be summed up as everything was issued to increase the supply, purchase or completeness of capital goods in order to increase the production capacity.

2.3. Domestic Investment

Terms of Domestic Investment (DCI) is derived from the English language, namely domestic investment. Domestic Investment (DCI) can be found in Article 2 of Law No. 6 of 1968 concerning Domestic Investment (DCI). Domestic investment is the use rather than fortune as stretcher in Article 1, either directly or indirectly run businesses by or under the provisions of this law. The use of direct wealth is the use of capital employed directly by domestic investors for their business development, while the use of indirectly represents the use of capital used are not made directly to build a business. Implementation of the investment is based on laws and regulations Article 1 of Law No. 25 of 2007 on Investment, Domestic Investment is investing activity to do business in the territory of the Republic of Indonesia by domestic investment using domestic modal. Parties can be domestic investments are: 1. The Individual Indonesian citizens, and or; 2. Enterprises Indonesia, and or; 3. The Indonesian Legal Entity.

2.4. Labor

Based on the Central Bureau of Statistics defines if labor is the entire population of working age or age 15 and older who have the potential of producing goods and services. The Central Bureau of Statistics in dividing the workforce, which is the first full-time employment where workers have a number of hours more than 35 hours a week to work in accordance with certain job descriptions. Both full-time labor is labor working hours less then

35 hours a week. Third unemployed workers or temporary workers are not having time to work with working hours 0 less than 1 hour per week. Workforce are individuals who are willing to work for themselves and for the family to earn wages in the economic activities to produce goods and services. Traffic measured physical base through productivity-called working-age population.

2.5. Theory of Labor Demand

According to Borjas (2008) Demand for labor is the theory that describes how much a business field will give jobs to workers with different levels of wages in a given period. The additional demand for employers or producers of labor depends on the level of increase in market demand for goods produced.According to Todaro and Smith (2010) The function of the demand for labor is always seen in neoclassical economic theory, where in a market economy it is assumed that the employer or the manufacturer can not influence market prices. to maximizing their profits entrepreneurs or manufacturers are only able to regulate how much the amount of labor that can be given the job.
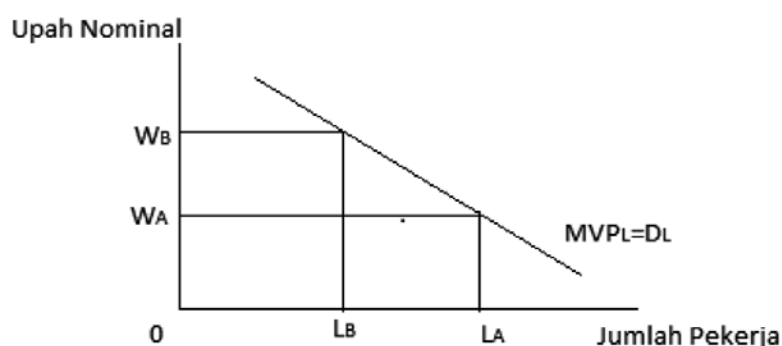

Figure 1. Labor demand curve

Based on the theory of labor demand, if an entrepreneur or manufacturer before adding labor still would have taken various steps in advance such as by adding working hours of existing workers and increase wages. This will occur when the additional marginal due to the addition of this larger workforce can increase company profits. Demand for labor is related to the amount of labor needed by the company, but the labor demand is affected by changes in wage rates. Then it will change other factors that can affect demand for products. According to the economist Alfred Marshall on labor demand decreases when labor wage rate then increases the demand for labor in the labormarket.

2.6. Minimum Wage

According to Indonesian Law No.13 / Th / 2003 on Manpower, in Chapter I Article 1, paragraph 30, explained that the wages are earned rights of workers / laborers of the companies that provide employment in the form of money over what is done, and will be paid under the agreement or agreements already done, or by legislation. This agreement includes cash benefits paid to workers / laborers for the work that has been done, while the Minimum Wage (UMR) is defined as the minimum wage was allowed to be given to workers by employers, and normative. The amount of the minimum wage based on the determination of the minimum living needs, the magnitude of job opportunities, consumer price index, the continuity of the company, the region's prevailing wage, and the level of 21 regional and national economic development (Kuncoro and Suhardjono, 2002). The provincial minimum wage is a wage standard set by the provincial government in order to protect the interests of the workers with the aim to improve the welfare of the community. When there is a wage increase then the cost of factors of production companies is increasing, if not offset by an increase worker productivity then the benefits will be reduced investor and investment will decline.

2.7. Relationships Domestic Capital Formation Against the GDP

Investment is everything that is issued with an objective of achieving returns in the form of profit or revenue. Investment can be in the form of purchasing land, equipment and production machinery as well as merchandise. Investments may affect the GDP through employment, with it initially will open up new jobs so that unemployment declined and incomes will be increased so that the GDP and economic growth rose. According to a research conducted by Sulaksono (2015) states that the mining sector investment has positive influence on the Gross Regional Domestic Product of the mining sector excluding oil and gas. Also, Suindyah (2011) and Muryani and Usvishiko (2018) state that investment has a positive effect on economic growth.

2.8. Labor relations with the GDP

The role of labor as a factor of production will affect national income. Labour is the most important factors in terms of quality. If the quality of labor is better, there will be an increase in production. In addition, employee performance can also be improved by competent leaders and in accordance with the culture and work environment in the company (Eliyana and Ma'arif, 2019). The heterogeneous nature of labor both in terms of age, gender, ability to work, health, education, skills and so on, therefore the necessary manpower planning in order to support the national development of Indonesia (manpowerplanning).

2.9. Relations with Labor Productivity Growth

The relationship between labor productivity and economic growth has been carried out. Generally, indicates that the labor productivity boosts economic growth. The increase in productivity during the crisis is a significant driver of the economy after a period of time (Emsina, 2014). Alany (2011) found that the growth of technological advances generate economic growth, while the increase in productivity either capital or labor productivity lead to a decrease in economic growth in the period, because labor productivity growthmay have led workers to enjoy more leisure than work or capital productivity growth could make capital more efficiently and produce more idle capacity.

The Alany's study explains Gross fixed capital formation became one of the drivers of economic growth, especially investment in the country. Capital investment and labor input into economic growth as measured by the GDP by production or business field. Component inputs in the economy are labor and capital. Investments taken from the researchers is domestic investment in physical and non-physical as well as other input components of labor is the amount of labor bekerj in Indonesia. The independent variable of the data processed by Stata 13 with models Pooled Least Square (PLS) so as to produce simultaneous results are seen from the F test and partially visible from the R-square.

3. Data and Methodology

The study used a quantitative approach to demonstrate gender equality to the regional gross domestic product in the 28 districts of East Java provincial town with the method used is the panel data regression Pooled Least Square (PLS). This quantitative method aims to analyze the relationship dependent and independent variables. Meanwhile, in order to obtain robust results, this study also used two other methods is the method of PLS with standardize analytical tool used is a statistical software program STATA13.

The data used in this research is secondary data which is quantitative data. The quantitative data used is the data panel with two groups of data that is data sexes, male and female gender of data. This study used data samples taken by the Central Bureau of Statistics of East Java and BPJS Health and Labor.The scope of the study is 28 districts in East Java city from year 2000 to 2016. The collected data are annual data on the number of workers, minimum wage, investment in the country and the number of companies with health insurance, to be clearer in Table 1 data source for this study briefly and Rici are presented in Table 1 below:

Table 1. Types and sources of data.

Variables	Information	Year	Source
GRDP	East Java GRDP based business field	2000-2016	East Java, Central Statistics Agency
Labor	The number of workers both male and female informal and formal sectors are bekerj in Indonesia	2000-2016	East Java, Central Statistics Agency
Minimum wage	Minimum wage standard urban districts in East Java	2000-2016	East Java, Central Statistics Agency
Domestic Investment	Total investment of both physical and non-physical in East Java Province	2000-2016	East Java, Central Statistics Agency

3.1. Methodology

The model used in this study is the Fixed Effect Modeldan processed using STATA software 13. The dependent variable of this research or paper s Gross Domestic Product (GDP) and the independent variables consist of the workforce, the number of companies which have the guarantee of labor, minimum wage, investing their capital in country. PLS method selected as the analytical method in this research because it also used in the previous research.The Hausman test in advance, so that eventually the model Pooled Least Square is most appropriate to test the panel data in this study.

Pooled Least Squares regression equation as follows:

$$\text{GRDP} = A + \beta 1\,\text{Tng} + \beta 3\,\text{Umr} + \beta 3\,\text{invnonfis} + \beta 4\,\text{invfis} + \varepsilon$$

4. Result and Discussion

After performing estimation using Fixed Effect Models (FEM) and Pooled Least Square (PLS), the next stage is to choose between Fixed Effect Models (FEM) and Pooled Least Square (PLS). The test is performed using the Chow test. The null hypothesis (H0) of Test Chow stated that there was no difference between FEM and PLS estimators, and the alternative hypothesis (H1) for the Chow test states that there are differences in the estimator FEM and PLS. Criteria for determining the Chow test is if the p-value $<\alpha$ (0.05), the null hypothesis (H0) will be rejected, which means that there is adifference between FEM and PLS estimators and the right model to be used is PLS (Gujarati, 2003). Chow Test Results in this study showed a p-value of 0.000 and smaller than α (0.05) so that the null hypothesis (H0).

Table 2. PLS estimation results.

	PDB
constants	1495730
tng	.6277 (0.0022)
invfis	20252 (0.031)
UMR	549.81 (0.080)
invnonfis	-39465 (0.000)
Obs	100
R-square	0.952

In Table 2 shows the estimation results Pooled least Square for a variable amount of labor (tng) has a coefficient 0.6277 which means that each increase in total employment rose 1 unit will increase the GDP amounted to 0.6277. Variable physical investment (INVFIS) has a coefficient value 20 522 which means that every increase

in physical investment rose by 1 unit will increase the GDP by 20522. Variable non-physical investments -39 465 has a coefficient value which means each increase in non-physical investments rose by 1 unit will lower the GDP amounted to 39465. variable minimum wage has the coefficient of 549.81, which means any increase in minimum wages rose by 1 unit will increase the GDP amounted to549.81.

Based on Pooled Least Square estimation value obtained Proba> F or F test is worth 0.0000 which means that overall the independent variables which include the development index genderberpengaruh the dependent variable that simultaneously affect economic growth. Based on estimates Pooled Least Square obtained the value t test, to variable gender development index of 0.009 significant effect on economic growth. The variable amount of labor has a significant influence amounted to 0.0022 to the GDP of East Java. Physical investment variables have significant influence amounted to 0,031 to the GDP of East Java. Variables of minimum wages have significant effect 0.080 to GDP in East Java. Non-physical investment variables have significant negative effect of 0.000 to GDP in East Java.

Based on estimates Pooled Least Square show that women's productivity negatively affects economic growth by a significant 600 700 with 0,000. the result of the analysis is supported by Nayef (2017) research, which shows thatdespite government policy that supports the movement of emancipation of women but does not support in the field of work because, according to research results contributions productivity of female workers are not counted as output but include the output male labor or contribution from amale.

Research conducted by Joshua (2018) shows the level of gender development in Muslim countries in the Middle East is still low due to the lack of government support so that the rank of the empowerment of women in Middle Eastern countries is still low category. Low levels of gender empowerment push down economic growth because in the Middle East countries rely on oil exports so that the majority of women. The results of research by the author in accordance with the study conducted by Joshua (2018) who shows the Gender Empowerment Index of 34 provinces in Indonesia adverse affect on economic growth in Indonesia as seen from Gross Regional DomesticProduct.

Research conducted by Fahimi (2018) showed a positive influence between the Human Development Index in East Asian countries (Japan, South Korea) on the growth of East Asian economies. This research has a consistent result or the same result with research made by Fahimi (2018). Theoretically consumptionstate that there is a relationship between consumption expenditures with a country's national income. If there is an increasing consumption; it will increase national income that can boost economic growth. The Results of the research shows that the level of household consumption of 34 provinces in Indonesia to positively influence on economic growth as seen from the Gross Domestic Product. Based on consumption theory according to Keynes that there is a relationship between consumption expenditures with a country's national income; increasing consumption means national income is increasing that can boost economic growth.

Research conducted by Piros and Pinto (2013) showed that in China which is one of the most populous country in the world is proving increasing economic growth in China. Results of the author shows every population growth occurred in 34 provinces in Indonesia affects positively to economic growth in Indonesia as seen from the Gross Domestic Product. The population of Indonesia are categorized into four largest in the world makes the amount of labor required more and more automated in terms of per capita income increase and boost economic growthoutput.

5. Conclusions

Based on the discussion above it can be concluded from that simultaneous regression deal with the R-square, independent variables which include physical investment variables, the number of workers, minimum wage dependent variable or variables affect on the GDP by 60 percent in East Java. Variable non-physical investment decrease the GDP amounted to 34945 units in East Java. So, all independent variables partially significant affect the dependent variable. On the contrary, it is because not too many non-physical investments in Indonesia, especially in East Java, so there is no positive influence between intangible investments and theGDP.

From the conclusions above, it can be suggested that the result does not correspond with the theory, namely variable non-physical investment that does not affect the GDP.It is necessary to program or government policies that lead to non-physical investments in the form of informal education including skills training of the community.on the other hand, the physical investment in the form of advanced technology machines also offset by technicians who master the technology. It will create a good productivity with maximum output, so it will boost the economy of the GDP.

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