



The Factors of Affecting Labor Absorption in Java Island

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Abstract

This study aims to determine the Gross Regional Domestic Product, the Human Development Index, the provincial minimum wage, and the unemployment rate of labor absorption in Java in 2010-2019. This study uses a panel data regression method consisting of six provinces in Java for the period 2010-2019. Tests in the study using multiple regression analysis method with analysis tools using Eviews 9. Based on these results, HDI and GRDP have a significant and positive effect. While the minimum wage and the unemployment rate have a negative and significant contribution. The suggestion that can be given is that the Government plays an important role in increasing the human development index. The government must be able to improve the quality of human resources (HR). The government must encourage and spur an increase in gross regional domestic product in every sector of the economy. The government must develop a wage policy that is mutually beneficial between workers and companies so that it does not benefit only one party. The government must create a lot of jobs, with increasing employment, unemployment will decrease, and employment will increase.

Keywords: HDI, GDP, Unemployment, Labor Absorption, Minimum Wage

Abstrak

Penelitian ini bertujuan untuk mengetahui Produk Domestik Regional Bruto, Indeks Pembangunan Manusia, Upah Minimum Provinsi, dan tingkat pengangguran penyerapan tenaga kerja di Pulau Jawa tahun 2010-2019. Penelitian ini menggunakan metode regresi data panel dari enam provinsi di Pulau Jawa dengan periode 2010-2019. Pengujian menggunakan metode analisis regresi berganda dengan alat analisis menggunakan Eviews 9. Berdasarkan hasil tersebut, IPM dan PDRB berpengaruh signifikan dan positif. Sedangkan upah minimum dan tingkat pengangguran memiliki kontribusi negatif dan signifikan. Saran yang dapat diberikan adalah Pemerintah berperan penting dalam meningkatkan indeks pembangunan manusia. Pemerintah harus mampu meningkatkan kualitas sumber daya manusia (SDM). Pemerintah harus mendorong dan memacu peningkatan produk domestik regional bruto di setiap sektor perekonomian. Pemerintah harus mengembangkan kebijakan pengupahan yang saling menguntungkan antara pekerja dan perusahaan sehingga tidak menguntungkan satu pihak saja. Pemerintah harus menciptakan banyak lapangan pekerjaan, dengan bertambahnya lapangan kerja, pengangguran akan berkurang, dan penyerapan tenaga kerja akan meningkat.

Kata Kunci: IPM, PDB, Pengangguran, Penyerapan Tenaga Kerja, Upah Minimum

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INTRODUCTION

Development is one form of multidimensional originating from various kinds of fundamental changes. Economic development has three main characteristics: increasing the availability and expansion of the distribution of goods from the necessities of life, raising living standards, and expanding economic choices and social values (Todaro, 2001).

The growth of the young population is one of the important factors in expanding the absorption of labor to enter the labor market. One of the important roles in establishing a company is the existence of a workforce. Every

company will face problems regarding the workforce. The essential part of every individual is talent, skill, and creativity that can support the industry.

Many large and modern companies have used automatic tools or machines to streamline time in a production process, but humans run and manage all the running of these tools and machines (Rakhmawati & Boedirochminarni, 2018). The workforce is the population who are of working age. In-Law no. 13 of 2003 Chapter 1 article 1 paragraph 2 explains that workers can work to produce goods or services.

Table 1. Number of Labor Force in Java in 2010-2019

Year	Work	Unemployment	Number of Labor Force
2010	62,497,993	5,243,585	67,741,578
2011	62,438,410	5,561,032	67,999,442
2012	65,878,421	4,778,165	70,656,586
2013	65,997,749	4,819,218	70,817,067
2014	66,535,537	4,595,611	71,128,148
2015	66,035,108	4,523,379	70,558,487
2016	66,820,466	4,387,113	71,207,579
2017	69,477,208	4,432,389	73,909,597
2018	70,653,052	4,397,978	75,051,030
2019	72,303,956	3,450,727	76,979,802

Source: BPS processed, 2021

Labor absorption is the amount of labor used in a particular business unit. Labor absorption can be interpreted as a balance between demand and supply of work together to determine the balance wage and a compensation of labor (Prawoto, 2018). The Indonesia Human Development Report (2004) explains that human development is a process by which people can expand their choices.

Income is one of the choices, but not all the necessities of life. There are three primary indicators in the human development index: education, health, and human living standards (Judge, 2020). This standard is also confirmed in the Indonesia Human Development Report (2004) that human development is very concerned with human capabilities, including improvements in health and education.

Based on BPS data in Figure 1, the human development index from 2010-2019 on the island of Java has increased every year except in 2019, which has the same percentage as 2018. With the

HDI trend expanding every year, it is relied upon to absorb more jobs because in calculating HDI, there are three crucial factors in it so that it can affect the absorption of labor.

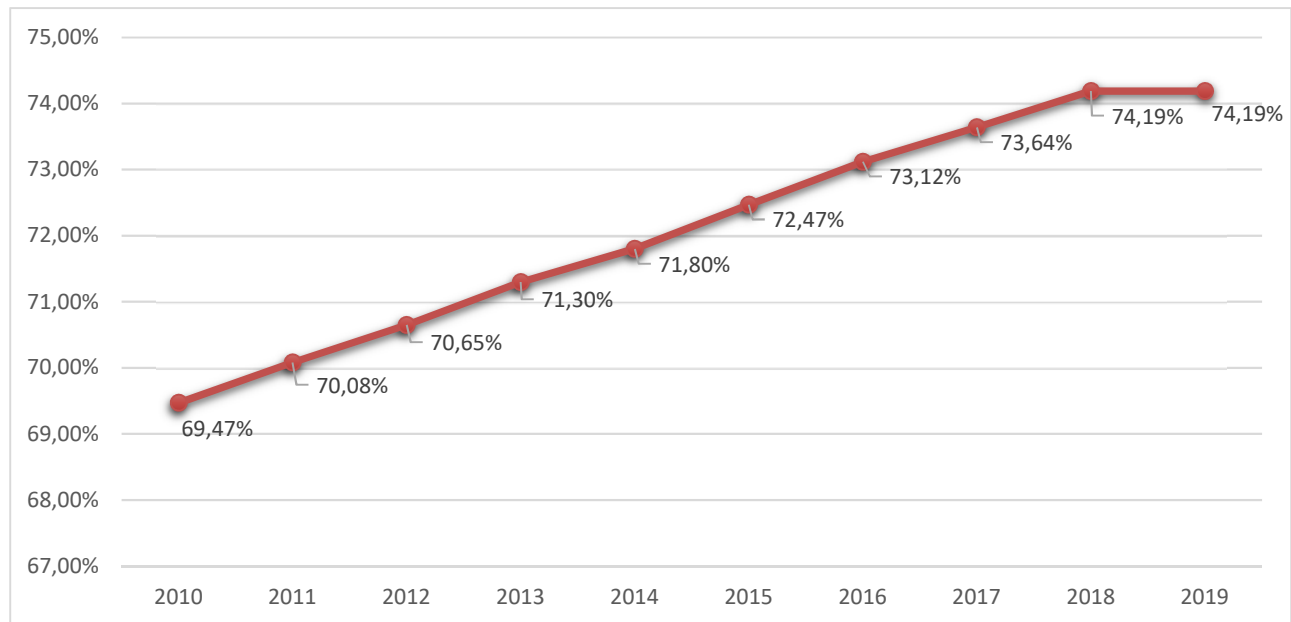


Figure 1. Graph of Human Development Index in Java Island 2010-2019

Source: Central Bureau of Statistics, 2021

Pangastuti (2015) states that Gross Regional Domestic Product (GRDP) is a macroeconomic indicator that can provide an overview of the state of the economy in a region. The amount of added value obtained from all special units in a particular area or as a complete (net) final aid and the value of an item obtained from the monetary unit, commonly called GRDP (BPS, 2013).

Domestic product calculation is more familiar with the term Gross Regional Domestic Product (GRDP). It is said to be domestic because it covers the boundaries of an area and is called gross because it includes depreciation items in the calculation. (Indradewa & Natha, 2015). Gross Regional Domestic Product (GRDP)

is a macroeconomic indicator that can provide an overview of the state of the economy in a region. High economic growth will accelerate economic development both regionally and nationally (Sari, 2021).

Based on Figure 2, the GRDP of the island of Java in 2010-2019 has increased every year. With the increase in GDP every year, it is expected to create new jobs because if an economy rises, it is inevitable that the workforce will also increase. If this is not followed by employment, it will increase the unemployed. The number of the labor force is one of the factors influenced by GRDP because the value of a GRDP increase, it will result in an increase in the number of

sales in an economic area unit will also increase and can increase the workforce because the demand for the workforce also increases. (Wasilaputri, 2016)

Neo-Classical theory suggests that to maximize profits, each entrepreneur uses the factors of production in such a way that the

factors of production are used to receive or are rewarded for the value added to the marginal product of the factors of production. This means that the entrepreneur employs some employees in such a way that the added value of a person's marginal product is equal to the wages received by that person (Simanjuntak, 2001).

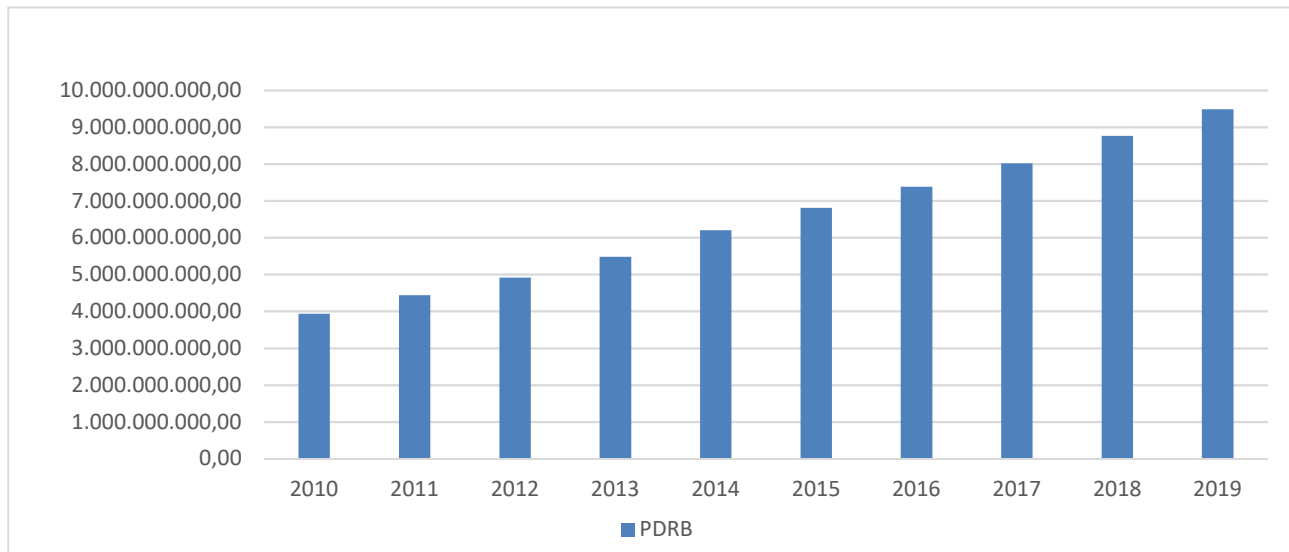


Figure 2. Distribution of GRDP on the basis of current prices in Java Island in 2010-2019

Source: Central Bureau of Statistics, 2021

According to Sudarsono (2003) in Wihastuti & Rahmatullah, (2018) Wage is one of the production costs that must be issued by producers as compensation for production activities carried out by workers. Minimum wages can be divided into regional minimum wages and sectoral minimum wages. Regional minimum wages are basic wages and benefits for workers at the lowest level and with a tenure of less than one year applicable in a certain area.

The sectoral minimum wage is the wage that applies in a province according to the ability of the sector. according to Sulistiawati, (2012), the provision of wages to workers in production activity is an

impact/remuneration from producers to workers for achievements that have been contributed in production activities.

Sukirno (2001) divides unemployment based on its characteristics, there are four groups of unemployment based on their characteristics: open unemployment is a population that has entered the labor force but does not have a job and is looking for work, preparing for a business, and already has a job but has not started working. Hidden unemployment, this unemployment occurs because of excess labor in one required unit. Reducing the number of workers to a certain amount will not reduce the amount of production.

This unemployment usually occurs in the agricultural and service sectors. Seasonal unemployment is unemployment that occurs at certain times of the year. Unemployment usually occurs in the agricultural sector. The relationship between wages and the amount of labor supplied is explained by the concept of labor supply (Santoso, 2012).

According to Mulyadi et al., (2018), the labor force is the working age population who participates or tries to participate in productive activities (i.e., the production of goods and services). Labor absorption is the number of people who can be accommodated to work in a business unit or field of work.

An increase in the number of the workforce, on the one hand, requires an arrangement of employment opportunities, and on the other hand, is something that is needed to accommodate a new workforce that increases every year, but not all of the total increase in the workforce can be absorbed by the existing economic sectors.

RESEARCH METHODS

This research belongs to the type of quantitative research with an econometric approach supported by regression analysis tools. Quantitative research is a form of research in the form of numbers whose results from the analysis are statistical in nature and aims to determine the established hypothesis.

The data used in this study were sourced from related agencies. In this study, the dependent variable used is labor absorption. There are four independent variables in this study, namely the human development index (IPM), gross regional domestic product (GRDP) at current prices, minimum wages and

unemployment rates in six provinces in Java Island in 2010-2019 obtained from the Central Agency Statistics (BPS). This regression analysis was conducted to see the effect of HDI, GRDP, minimum wage and unemployment rate on employment in six provinces in Java Island in 2010-2019, with the following equation:

$$Y(it) = \beta_{1it} + \beta_{2HDI} + \beta_{3GRDP} + \beta_{4RMW} + \beta_{5UR} + \epsilon_{it} \dots \dots \dots (1)$$

Information:

Y	: Manpower Absorption
HDI	: Labor Absorption Index
GRDP	: Gross Regional Domestic Product
RMW	: Regional Minimum Wage
UR	: Unemployment Rate
β	: Regression Coefficient
I	: Number of Observations
T	: Time
It	: Data Panel
ϵ_{it}	: Error component (interference factor) which is outside the model

RESULTS AND DISCUSSION

In regression analysis with panel data, to estimate the effect of the Human Development Index, GRDP, Regional Minimum Wage and unemployment rate on employment in Java in 2010-2019, the best model is selected first using several tests, including the Chow test and the Hausman test. Based on the table 2 results, the Chow test on this model shows the probability value of the result is less than 5%, so the fixed effect model is used.

The results of the Hausman test on table 3 model show that the chi-square value is smaller

than =5% (0.05), with a chi-square probability value of 0.0000 <0.5 so that in this test the fixed effects model is suitable. From the estimation on table 4, the estimation can be written as follows:

$$\text{Kindergarten} = -3753424 + 228327.2 (\text{HDI}) + 0.000841 (\text{GRDP}) - 0.887692 (\text{RMW}) - 1.594902 (\text{UR}) + \text{eit} \dots \dots \dots (2)$$

Table 2. Chow Test (Redundant Fixed Effect-Likelihood Ratio Test)

Effect Test	Statistics	df	Prob.
Cross-section F	450,250076	(5.50)	0.0000
Cross-section chi-square	229.751094	5	0.0000

Source: Results of data processing using Eviews 9.0, 2021

The regression coefficient value for the variable Human Development Index (HDI) produces a positive sign of 228327.2 with a probability value of 0.000000. The regression coefficient value for the GRDP variable shows a positive sign of 0.000841 with a probability value of 0.0004. The regression coefficient value for the minimum wage variable (RMW) shows a negative value of 0.887692 with a probability value of 0.0000. The regression coefficient value for the unemployment rate variable (UR) shows a negative value of 1.594902 with a probability value of 0.0098.

Table 3. Hausman Test (Correlated Random Effect-Hausman Test)

Test Summary	Chi-Sq. Statistics	Chi-Sq. df	Prob.
Cross-section random	103.344383	4	0.0000

Source: Results of data processing using Eviews 9.0, 2021

Based on the table 5, the coefficient of determination using the fixed effects model approach is 0.998830 which indicates that 99% of the variation in the dependent variable, namely employment in six provinces on Java Island, can be explained by variations in the independent variable, namely the Human Development Index (HDI), Gross Regional Domestic Product (GRDP), Regional Minimum Wage, and unemployment rate, while the remaining 1% is explained by variations of other variables outside the model.

Based on the results of the calculations on table 6, it can be seen the influence of each independent variable individually on the dependent variable. The Human Development Index variable gets a probability value of 0.0000 which means it is significant at = 5% (0.05), which means that the human development index variable has a significant effect on employment. The GRDP variable gets a probability value of 0.0004 which means it is significant at = 5% (0.05) which means that GRDP has a significant effect on employment.

The minimum wage variable gets a probability value of 0.0000 which means it is significant at = 5% (0.05), which means that the minimum wage has a significant effect on employment. The unemployment rate variable gets a probability value of 0.0098 which means it is significant to = 5% (0.05) which means that the unemployment rate has a significant effect on employment.

Based on the results obtained on table 7, the influence of the independent variables, namely the Human Development Index (HDI), Gross Regional Domestic Product (GRDP), minimum wages, and unemployment rates on the dependent variable, namely the absorption

of labor in six provinces on the island of Java in 2010-2019.

This is indicated by the value of the fixed effects model which obtains an F-statistic value of 4744.536 with a P-Value of 0.00000 and significant to = 5% (0.05), so that the F-statistic > (0.05) and P-Value < (0.05) which means that

the independent variables together have a significant effect on the dependent variable. Based on the results obtained from the regression analysis, it can be explained if the human development index variable has a positive & significant effect on the variable of employment in Java.

Table 4. Estimation Results of Fixed Effect Model with Generalized Least Square and Cross-section Weight (PCSE) Method

Variable	Coefficient	t-statistics	Probability	Results
Constant	-3753424	-1.733251	0.0892	
HDI	228327.2	7.742309	0.0000	Significant
GRDP	0.000841	3.806615	0.0006	Significant
RMW	-0.887692	-5.391278	0.0000	Significant
UR	-1.594902	-2.686834	0.0098	Significant
R-Squared (R ²)				0.998830
Adjusted R-Squared (R ²)				0.998620
Durbin Watson Stat				0.930769
F-statistics				4744.536
Prob (F-statistic)				0.000000

Source: Results of data processing using E-Views 9.0, 2021

From the regression coefficient value for the Human Development Index variable, it shows a positive sign of 228327.2 with a probability value of 0.000000. From this explanation, it can be interpreted that every Human Development Index has increased by one unit, it will increase by 228327.2 units in labor absorption. increase one's marketability in the labor market.

Table 5. Coefficient of Determination Test

Coefficient of Determination	Coefficient Value
R ²	0.998830

Source: Results of data processing using E-Views 9.0, 2021

According to research Hezbollah (2018), the Human Development Index has a significant and negative effect on employment which has a coefficient value of -70.37613 and has a probability value of 0.0003. Based on the results of the regression analysis, it can be explained that the Gross Regional Domestic Product (GRDP) variable has a significant positive effect on employment in six provinces in Java.

The regression coefficient value for the GRDP variable shows a positive sign of 0.000841 with a probability value of 0.0004. This shows that every increase in GRDP of one unit will also increase the absorption of labor by 0.000841 units. IGA Research Indradewa & Natha (2015), states that the

GRDP variable has a significant effect partially and the regression coefficient value is positive (0.0134) which means that if GRDP increases by 1%, the absorption of labor increases by 1.103%.

Table 6. T-Statistic Test

Variable	T-stats	
	t-Stats	Prob.
HDI	228327.2	0.0000
GRDP	0.000841	0.0004
RMW	-0.887692	0.0000
UR	-1.594902	0.0098

Source: Results of data processing using E-Views 9.0, 2021

Based on the results of the regression analysis, it can be explained that the minimum wage variable has a negative and significant effect on employment in six provinces on the island of Java. The regression coefficient value for the minimum wage variable shows a negative value of 0.887692 with a probability value of 0.0000.

Table 7. F-Statistic Test

Coefficient of Determination	F-statistics	P-Value	Conclusion
Mark	4744,536	0.000000	Significant

Source: Results of data processing using E-Views 9.0, 2021

This shows that for every increase in the minimum wage by one unit, the absorption of labor will decrease by 0.887692 units. Study Habanabakize et al., (2019) states that wages have a significant negative effect on employment in South Africa with the result that if wages increase by 1% it can cause employment to decrease by 0.235%.

Based on the results of the regression analysis, it can be explained that the unemployment rate variable has a negative and significant effect on employment in six provinces on the island of Java. The regression coefficient value for the unemployment rate variable shows a negative value of 1.594902 with a probability value of 0.0098.

This shows that for every increase in the unemployment rate by one unit, the absorption of labor will decrease by 1.594902 units. The unemployment rate is one of the factors that can affect employment as stated in the research Pangastuti (2015), that the unemployment rate has a positive influence on employment with a coefficient value of 2.480002, which means that when the unemployment rate is higher, the absorption of labor is also higher.

CONCLUSION

The Human Development Index variable has a positive and significant effect on employment in Java. This shows that if there is an increase in the Human Development Index, the absorption of labor will also increase. The variable Gross Regional Domestic Product (GRDP) has a positive and significant effect on employment in Java. This shows that if the GRDP increases, the absorption of labor will also increase.

The minimum wage variable has a negative and significant effect on employment in Java. This shows that if the minimum wage increases, the absorption of labor will decrease, and vice versa. The unemployment rate variable has a significant negative effect on employment in Java. This shows that if the unemployment rate increases, the absorption of labor will decrease, and vice versa.

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