



Absorption of Labor in the Surakarta Residency

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Abstract. Labor absorption can be defined as the number of jobs that have been filled, seen from the number of working people. Every year the labor force continues to experience fluctuations, but the jobs created tend to be small. As a result of the imbalance between the growth of the labor force and employment, it causes disparities in development between regions. Gross Regional Domestic Product and Human Development Index. The data used in this study is secondary data from 6 regencies and one city in the Surakarta Residency for the 2017–2021 period. The data analysis method used in this research is panel data using Eviews-10 software. The results of this research analysis show that the district/city minimum wage variable positively and significantly affects employment absorption in the Surakarta residency area. Meanwhile, the variables of population and gross regional domestic product (GDP) have a positive but not significant effect on employment absorption. In contrast, the Human Development Index (HDI) variable shows no effect on employment absorption in the Surakarta residency from 2017 to 2021. It is hoped that it will increase the number of samples and be able to carry out tests in various regions for the study population.

Keywords: Labor Absorption · District/City Minimum Wage · Gross Regional Domestic Product · Human Development Index

1 Introduction

Labor issues are an important issue for developing countries like Indonesia. Employment can be interpreted as a part that has a very important value in driving economic success. One of the efforts to achieve economic success is to carry out development activities. According to [1], one of the objectives of economic development is to ensure sufficient employment opportunities to deal with the growth of the labor force, which grows faster than the growth of employment opportunities. High economic growth is necessary for the continuity of economic development and increased welfare. The level of welfare of the population is said to be achieved if the total output grows faster than population growth [2].

The problem of employment absorption is one part of the problem of employment. According to [3], employment is essentially how to use the labor force, which grows every year with an increasing growth rate, which leads to balance in the labor market. Every year the labor force continues to experience a fluctuating increase; however,

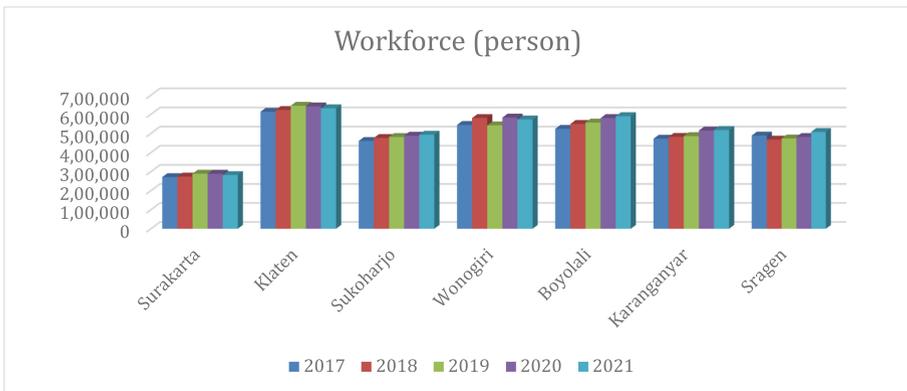
the job opportunities created tend to be small. As a result of the imbalance between the growth of the labor force and employment opportunities, it causes an imbalance in development between regions. One way to reduce inter-regional disparities is to increase human resources to increase their income in the future[4]. The absorption of labor in the Surakarta residency area from 2017 to 2021 continues to fluctuate. However, in 2021 the number of labor absorption rates in the Surakarta residency has decreased. One of the reasons for the decline in the employment rate that occurred in 2021 was the impact of the Covid-19 pandemic which caused many companies to reduce their workers due to global economic instability. The number of the workforce in the Surakarta residency for 2017–2021 can be seen in the following graph (Graph 1):

Source: Central Java Statistics Agency 2022.

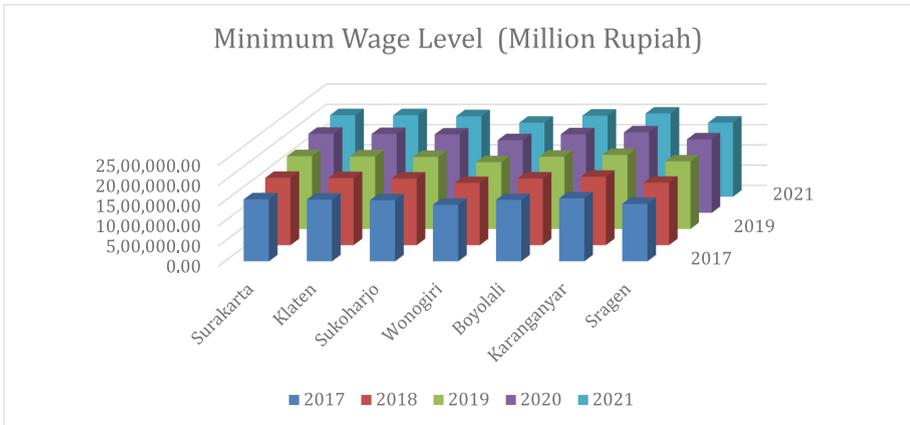
Wages have a big influence on employment. The wage rate is one of the factors that can influence whether or not a person is said to be entering the labor market. A high wage rate causes more people to enter the labor market and can automatically increase the labor force participation rate. Law no. 13 of 2003 concerning employment states that the Regency/City Minimum Wage is a minimum wage set based on district/city regional policies to protect labor wages and is directed towards achieving a decent life. So wages are often used as a benchmark for social welfare. The minimum wage rate in the Surakarta residency has increased every year. This minimum wage increase is one of the effects of government regulations to ensure wages ensure a decent life for workers. The increase in wage rates in the Surakarta Residency for 2017–2021 can be seen from the following graph (Graph 2):

Source: Central Java Statistics Agency 2022.

The population growth in the Surakarta residency continues to increase every year. The total population in the Surakarta Residency in 2017 was 6,247,880 people; in 2021, it increased to 6,743,591 people. So it can be concluded that the population growth in Surakarta residency increases yearly. With the increase in population each year, it is hoped that the government will be able to improve the quality of human resources so that it can increase production output which will have an impact on increasing economic growth. By increasing economic growth, the unemployment rate will decrease due to



Graph. 1. Total workforce in the Surakarta residency area in 2017–2021



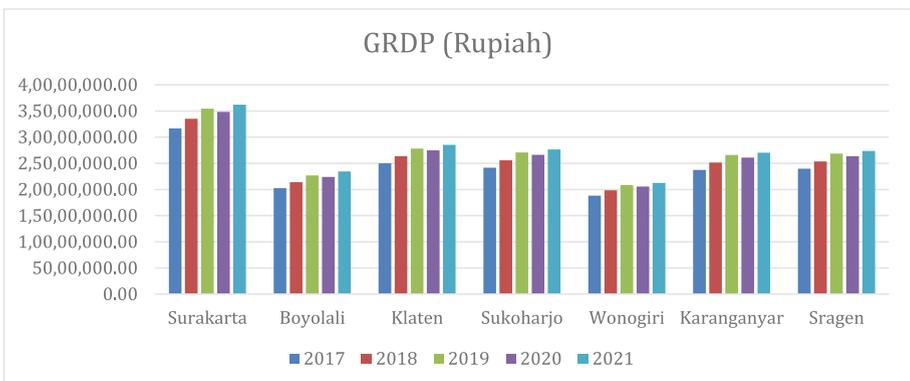
Graph. 2. Minimum Wage Level in Surakarta Residency in 2017–2021.

the wider number of available jobs, increasing the workforce [5]. Population data for the Surakarta residency from 2017 to 2021 can be seen in the following graph:

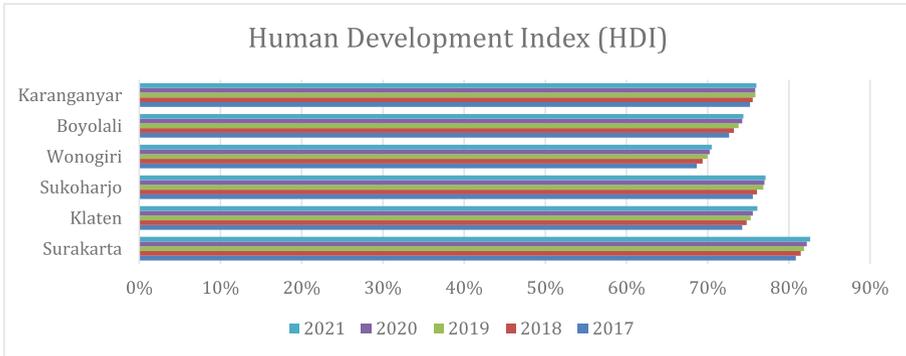
GRDP is an indicator that is considered important for measuring the success of regional development and determining the direction of further development. The growth of gross regional domestic product can directly affect the acceleration of regional or country economic growth expressed in development activities. When GRDP of a region increases, it will be followed by an increase in the number of requests for the labor force. Increasing GRDP will provide opportunities for companies to increase employment to provide employment opportunities for the community. Data on the total GRDP in the Surakarta Residency in 2017–2021 can be seen in the following graph (Graph 3):

Source: Central Java Statistics Agency 2022.

According to the graph above, GRDP in the Surakarta residency area has fluctuated. It can be seen that in 2020 the GRDP in all regions in the Surakarta residency has decreased. This decline occurred due to the impact of the Covid-19 pandemic, which hit



Graph. 3. Total GRDP in the Surakarta Residency for 2017–2021



Graph. 4. The Human Development Index (HDI) for the Surakarta residency area for 2017–2021.

all countries worldwide, causing a decline in the Gross Regional Domestic Product in all regions. In 2021, along with the economic conditions improving after the Covid-19 pandemic, the GRDP in the Surakarta residency has increased.

The Human Development Index (HDI) is a useful tool for measuring the attainment of human development goals based on the main components of quality of life that can affect the level of productivity produced by society[6]. The main components of the Human Development Index are skills and health, which can affect a person's quality of life. The higher the people's quality of life, the higher the productivity of goods and services produced, so the higher the Human Development Index (HDI) will affect the workforce when looking for work. In the Surakarta residency, the Human Development Index (HDI) tends to increase yearly, although the increase is not too high. However, in 2021 all regions in the Surakarta residency will show a relatively high level of Human Development Index with an HDI value of more than 70%. The level of Human Development Index (HDI) in the Surakarta residency in 2017–2021 can be seen from the following graph (Graph 4):

Source: Central Java Statistics Agency 2022.

2 Theoretical Background and Hypothesis Development

2.1 Definition of Labor Absorption

Labor can be defined as all people who are willing to work. According to Article 13 of the 2003 Manpower Law, labor is any person who can work to produce goods or services to satisfy society's needs. To be able to define that the labor force is the population of working age or 15 years of age. Labor absorption is defined as the number of workers who can integrate into the world of work and work in a business unit.

Job absorption is also defined as the number of jobs filled reflected in the growth of the working population. The absorption of the working population is due to the demand for work. Absorption of labor occurs because labor requires a workforce and expertise to carry out economic activities to create output that reduces unemployment in companies. According to [7], employment opportunities can be seen by the working-age

population, but in reality, it is quite difficult to obtain because employment opportunities in the regions are still limited.

2.2 Definition of District/City Minimum Wage

In the regulation of the Minister of Manpower and Migration no. Article 7 of 2013 states that the minimum wage is the lowest monthly wage set by the regional governor. The Minimum wage is also defined as the lowest wage that employers standardize for workers or laborers who work in their company. In other words, the wages paid by business owners cannot be lower than the minimum wage set by the local government. The main objective of wage-setting policies is to protect workers from low wage rates, especially when the number of workers is high, so that wage rates do not decrease, affecting employment [8]. An increase in the minimum wage will reduce labor demand, which will reduce employment. Because for companies, changes in wage rates will increase company costs and can affect industry creation costs.

2.3 Definition of Number of Population

The total population is the number of people who live or are domiciled in a certain area and have a permanent livelihood. The population is the main factor in employment. Because there is a direct relationship between population and employment, the greater the population, the greater the number of workers. A large population, followed by an adequate population, will drive economic growth. New problems arise due to the increasing working-age population without adequate population quality. [9] stated that if the population increases but no new jobs are created in the economic sector, it will cause unemployment problems. It is due to the absorption of work that is not optimal.

The greater the population growth in an area, the greater the number of people who are unemployed or do not have a job because the jobs created cannot meet the increasing population each year. The population, which continues to increase every year, provides sufficient capital for the availability of employment to drive the wheels of development. It can encourage the opening of new jobs and the entry of new investors to the region to set up companies because an abundance of natural resources also supports it. Therefore, it can be concluded that when the population increases, labor absorption also increases [5].

2.4 Definition of Gross Regional Domestic Product

Gross Regional Domestic Product is the amount of income generated by a region or the ability of a region to allocate production factor costs over a certain period to generate added value. Gross regional domestic product (GRDP) is one of the most important things to consider when dealing with labor issues. Gross regional domestic product (GDP) can affect the number of workers because when the gross domestic product increases, the added value of production or sales of all regional economic units increases. The higher the company's production or sales, the more it motivates the company to increase production to achieve increased sales. According to [10], the Gross Regional Domestic Product is an

important indicator of regional economic development. An increase in Gross Regional Domestic Product supports economic growth. It can affect a region's employment, so the Gross Regional Domestic Product has a positive relationship with employment. It means that when the Gross Regional Domestic Product increases, the level of employment will also increase, which will cause the unemployment rate to decrease. [11].

An increase in the gross regional domestic product will lead to economic performance resulting in economic growth, which will affect people's purchasing power. It will trigger an increase in employment to meet the increasing purchasing power of the people. One effort to increase productivity is to increase the number of workers. It is because the work sector dominates the economic sector in Indonesia. With the increase in labor demand, the absorbed labor force will also increase so that the unemployment rate can decrease [12].

2.5 Definition of Human Development Index

The Human Development Index (HDI) is a number that states that the act of achieving human development is seen from various fundamental components of the quality of life that can affect the level of productivity produced by an individual [13]. The Human Development Index (HDI) is useful as a benchmark for human development based on key quality-of-life components that can affect a person's level of productivity [14]. The main components of the Human Development Index are skills and health. Both of these can affect a person's quality of life. The higher the people's quality of life, the higher the productivity of goods and services produced, so the Human Development Index (HDI) can influence the workforce in finding work.

According to [15], human resources are one of the factors responsible for seeking employment opportunities. Human skills and qualities are needed in the world of work. In addition, human resources are a key factor in creating a skilled workforce with diverse skills to participate in global job competition. For companies, human resources are an important resource because human resources influence whether or not the company is going forward. The higher the quality of human resources, the higher the quality of human resources advances the company so that it increases production and benefits the company by opening new offices and getting workers.

3 Research Methods

This research is a study to examine the effect of several variables such as minimum wage, population, gross regional domestic product, and the Human Development Index. The method used in this study is a quantitative method with secondary data obtained from the website of the Central Statistics Agency (BPS). According to [16], quantitative research is a research method that involves the collection and analysis of quantitative data and uses statistical testing methods. This study uses panel data regression, a combination of time series data and cross-section data. The Eviews-10 application is used as a data processing tool with panel data regression analysis using a significance value approach of 0.01. Systematically, the formulation of the econometric model or the estimator model is as follows:

$$PTK_{it} = \beta_0 + \beta_1UMK_{it} + \beta_2JP_{it} + \beta_3PDRB_{it} + \beta_4IPM_{it} + e_{it}$$

Remarks:

PTK: Labor Absorption.

β_0 : Constant.

$\beta_1 \beta_2 \beta_3$: Regression Coefficient.

UMK: City/District Minimum Wage (Rupiah).

JP: Total population (Jiwa).

PDRB: Gross Regional Domestic Product (Rupiah).

IPM: Human Development Index (%).

i: Regencies/Cities in Surakarta Residency (6 Regencies and 1 City).

t: Year t (2017–2021).

e: Error items.

4 Results and Discussion

The estimation results of the econometric model using the Pooled Least Square (PLS)/(CEM) approach, Fixed Effect Model (FEM), and Random Effect Model (REM), along with the results of the model selection test, are summarized in Table 1.

Table 1. Shows that the chow test has a probability value of $0.0000 < 0.05$, so H_o is rejected. Hausman test shows a probability value of $0.0017 < 0.05$, so H_o is rejected. So it can be concluded from the Chow test and Hausman test that have been carried out, the best model in this study is using the Fixed Effect Model (FEM). Table 2. shows the complete estimation results of the Fixed Effect Model (FEM) estimation model.

Variable	Regression Coefficient		
	CEM	FEM	REM
<i>C</i>	252975.0	1632834.	625893.3
<i>UMK</i>	0.030930	0.088298	0.028587
<i>JP</i>	0.445368	0.154065	0.411659
<i>PDRB</i>	-0.003898	0.003129	-0.000143
<i>IPM</i>	-1564.220	-20115.60	-7355.060
R^2	0.978770	0.991403	0.924927
<i>Adjusted. R²</i>	0.975939	0.987821	0.914917
Statistic <i>F</i>	345.7657	276.7711	92.40300
Prob. Statistic <i>F</i>	0.000000	0.000000	0.000000

Model Selection Test

Chow

Cross- Section $F(6,24) = 5.878227$; Prob. $F(6,24) = 0,0000$

Hausman

Cross-Section random $\chi^2(4) = 17.295923$; Prob. $\chi^2 = 0.0017$

Table 2. Fixed Effect Model Estimation (FEM)

$PTK_{it} = 1632834 + 0,088298UMK_{it} + 0,154065JP_{it} + 0,003129PDRB_{it} - 20115,60IPM_{it}$				
	(0,083)***	(0,2009)	(0,5713)	(0,1314)
$R^2 = 0,987821 ; DW-Stat. = 2,368419 ; F-Stat. = 276,7711 ; Prob. F-Stat. = 0,000$				

Table 2 Shows that the probability value of the F-Stat is $0.000 < 0.05$; then, H_o is rejected. It also shows the value of the coefficient of determination R^2 is 0.987821, thus indicating that 98.78% of the labor absorption variable is influenced by the City/District Minimum Wage (UMK) variable, Population, Gross Regional Domestic Product (GRDP) and Index Human Development (HDI). Meanwhile, the remaining 1.22% is influenced by variables or factors not included in this research model.

Based on the effect validity test, the independent variable City/Regency Minimum Wage (UMK) positively and significantly affects the Labor Absorption variable (PTK). Meanwhile, the Gross Regional Domestic Product (GRDP) and Population (JP) variables have a positive but not significant effect on the Labor Absorption (PTK) variable, and the Human Development Index (HDI) variable has a negative effect on employment in the Surakarta residency.

4.1 The Effect of District/City Minimum Wage on Labor Absorption

Based on the results of the regression research above, the district/city minimum wage has a positive effect with a regression coefficient of 0.088298, and the probability t-statistic value is $0.083 < 0.10$. In other words, the district/city minimum wage positively and significantly affects employment absorption in the Surakarta residency. It shows that every 1% of the district/city minimum wage will increase employment by 0.083%. It follows research conducted by [17] and [9], which states that district/city minimum wages positively affect employment growth. It means that if the minimum wage rises, it has the potential to increase employment. Meanwhile, this study is inversely proportional to research conducted by [18], which states that the wage rate negatively affects employment. This argument says that raising the minimum wage will reduce labor demand, which in turn reduces employment. In the same situation, according to the company, an increase in the minimum wage will increase production costs.

4.2 Effect of Total Population on Labor Absorption

Based on the regression results of the research above, the Population Variable has a regression coefficient of 0.154065, with a probability value of t-statistic $0.2009 > 0.10$. This means that the number of residents positively but not significantly affects employment in the Surakarta residency. This means that for every 1% increase in population, employment will increase by 0.2009%. This study follows the results of research conducted by [5], which states that population has a positive and significant effect on employment. This is because the yearly population growth is sufficient capital for better development. While [19] also argues that the population positively and significantly influences employment. When the population increases, employment absorption also

increases. Meanwhile, this study is inversely proportional to the results of research conducted by [20] and [21], which found that population size had a negative effect. This is because a large number of residents not followed by a sufficient number of job vacancies in an area will have a negative impact on employment in that area.

4.3 Effect of Gross Regional Domestic Product on Labor Absorption

Based on the research results above, the Gross Regional Domestic Product (GRDP) variable has a regression coefficient of 0.003129, with a t-statistic probability value of $0.5173 > 0.10$. This shows that the Gross Regional Domestic Product (GRDP) has a positive but insignificant effect on employment in the Surakarta residency. The results of this study are supported by research conducted by [22, 23], and [23], which state that the Gross Regional Domestic Product (GRDP) has a positive influence on employment. This is because there is always a relationship when the Gross Regional Domestic Product is high, a decrease will follow it in the unemployment rate. It means that the level of employment will be higher. However, this study is inversely proportional to research conducted [24], which states that the Gross Regional Domestic Product (GDP) negatively affects employment. This means that the higher the economic growth, the lower the absorption of labor.

4.4 Effect of the Human Development Index on Labor Absorption

Based on the regression results above, the Human Development Index (HDI) has a regression coefficient of -20115.60 with a t-statistical probability of $0.1314 > 0.10$. This shows that the HDI variable does not significantly affect employment absorption in the Surakarta Residency. This is based on the assumption that a high Human Development Index (HDI) owned by human resources does not necessarily guarantee maximum employment because a high HDI does not necessarily match the qualifications set by job providers. This resulted in the available workforce being unable to meet the existing opportunities. Thus, the Human Development Index (HDI) does not affect employment [25]. However, this study contradicts research conducted by [26], which found that the Human Development Index (HDI) has a positive employment relationship. In addition, [27] also argues that the Human Development Index has a positive relationship with employment because the Human Development Index is an important indicator in improving the quality of life of a decent society. Improving the quality of life can increase labor productivity, so the HDI affects labor absorption.

5 Conclusion

Based on the analysis above, the results of this study include: Regency/City Minimum Wage has a positive and significant impact on employment in the Surakarta residency. The total population positively but not significantly impacts employment in the Surakarta residency. Gross Regional Domestic Product positively but not significantly impacts employment in the Surakarta residency. Meanwhile, the Human Development Index has a negative impact, so it does not affect employment in the Surakarta residency.

The results of this study indicate that the Regency/City Minimum Wage, Total Population, and Gross Regional Domestic Product positively influence the level of employment in the Surakarta residency. Meanwhile, the Human Development Index does not affect the level of employment in the Surakarta residency. A high Human Development Index in an area does not necessarily guarantee labor absorption. After all, there is a discrepancy in the qualifications required by companies where companies tend to look for workers whose wages are not too high.

The author suggests that the local and regional governments strive to optimize and improve workforce quality. For example, by carrying out job training activities and empowering small and medium industries to encourage the development of other sectors that are still small in their contribution to the Gross Regional Domestic Product in the Surakarta residency area, to increase the productivity of the workforce. In addition, local governments in the Surakarta residency area should be wise in setting the Regency/City Minimum Wage following the considerations of setting a decent standard of living for the people in the Surakarta residency so that there is no income inequality between regions within which will affect employment.

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