



The Effect of Economic Growth, Population and Unemployment on HDI

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Abstract

East Java Province is a province in Indonesia, which has the potential to develop. Provincial HDI has increased every year, but the HDI of East Java Province is quite low compared to the HDI of other provinces in Java. The rate of economic growth that occurred in East Java Province decreased. The existence of the unemployment rate causes the prosperity of the community to be not optimal, while the purpose of human development is to create community welfare. The data used in this research is using secondary data. This study uses the ordinary least square method with multiple regression analysis. This study uses a combination of time series data from 2014-2018 and a cross section of 38 districts or cities in East Java Province. The variables used are Economic Growth Rate, Population and Open Unemployment Rate. Based on the research results, it can be concluded that the population has a significant effect on the human development index (HDI) and the rate of economic growth and the open unemployment rate does not significantly affect the Human Development Index (HDI).

Keywords: Economic, Growth, Rate, HDI, Total Population, Open Unemployment

Abstrak

Provinsi Jawa Timur merupakan Provinsi di Indonesia tepatnya di Pulau Jawa yang mempunyai potensi untuk berkembang. IPM Provinsi mengalami peningkatan setiap tahunnya, namun IPM Provinsi Jawa Timur cukup rendah dibandingkan dengan IPM Provinsi lain yang ada di Pulau Jawa. Laju pertumbuhan ekonomi yang terjadi pada Provinsi Jawa Timur terjadi penurunan. Adanya Tingkat pengangguran menyebabkan kemakmuran masyarakat tidak maksimal sedangkan tujuan adanya pembangunan manusia adalah untuk menciptakan kesejahteraan masyarakat. Data yang digunakan dalam penelitian ini adalah menggunakan data sekunder. Penelitian ini menggunakan metode *ordinary least square* dengan analisis regresi berganda. Penelitian ini menggunakan gabungan antar data *time series* yaitu dari tahun 2014-2018 dan *cross section* 38 kabupaten atau kota di Provinsi Jawa Timur. Variabel yang digunakan adalah Laju Pertumbuhan Ekonomi, Jumlah Penduduk dan Tingkat Pengangguran Terbuka. Berdasarkan hasil penelitian, dapat diambil kesimpulan bahwa Jumlah Penduduk memiliki pengaruh signifikan terhadap indeks pembangunan manusia (IPM) dan laju pertumbuhan ekonomi dan tingkat pengangguran terbuka tidak berpengaruh secara signifikan terhadap Indeks Pembangunan Manusia (IPM).

Kata Kunci: Tingkat, Pertumbuhan, Ekonomi, IPM, Jumlah Penduduk, Pengangguran Terbuka

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INTRODUCTION

At the opening of the Constitution (UUD) of the Republic of Indonesia in 1945, the Indonesian nation's main objectives are to advance the general welfare and educate the country's life. As one of the main objectives should be all policies and activities designed by the government, be it local government to the central government, should have the same goal: to prosper people's lives. Increasing the community's welfare is a core of national development, the level of community welfare reflects the quality of life of a family.

Increasing economic growth is the main target in the development process because economic growth is often related to the increase in the price of goods and services produced by Indonesia's people. Therefore, the government that implements development certainly needs good Human Resources (HR) as capital to run Indonesia's development process. Indonesia has indicators to measure success in building human quality of life, as seen from the Human Development Index (HDI).

The Millennium Development Goals (MDGs) are global development paradigms that must be agreed upon internationally by the 189 member states of the United Nations (UN). MDGs place human development as the main focus in development so that the value of HDI becomes one of the indicator factors of success of a region of the country. HDI is used to assess the quality of human development in terms of its impact on human health (welfare and harmony) and non-physical (education). According to the Central Bureau of Statistics (2015), human development is a development process that aims to have more options, especially income, health and education. The

current paradigm is economic growth itself measured by human development as seen from the human quality of life itself.

To know the extent of human development's success, the United Nations Development Programme (UNDP) issued an indicator, the Human Development Index (HDI). HDI measures the human development achievements of several basic components of quality of life. As a measure of the quality of life, HDI is built through 3 approaches: longevity/health, knowledge, and a decent life. These three dimensions have a very broad understanding because they are related to many factors. Human development must also be the most important part of development, which is sometimes only seen from an economic and material perspective (Rosyadah, 2021).

To measure the dimensions of health using life expectancy figures at birth, measure the dimension of knowledge used to measure literacy figures and average school length indicators. To calculate the dimensions of life worth using hands of people's purchasing power ability to several basic needs seen from the average amount of expenditure per capita as an income approach that represents the achievement of development for a decent life. When the human development index is high, then the society is more prosperous, and vice versa.

If the index number is low, then it can be said that the level of welfare of the community is also lower (Zainuddin, 2015). The methods used to calculate HDI requires four variables from three dimensions, namely, Number of Life Expectancy at Birth (NLEB) as a reflection of the health dimension, the Old Expectations of the School (OES) and the Average Old School (AOS) as a reflection of the dimensions of education

and expenditure per capita as a reflection of the sizes of the Standard of Living Worth (SLW).

Indonesia is trying to increase HDI in every province in Indonesia, one of which is improving the welfare of Java island, one of the highest GDP contributors. As an approach to measure the success of the economic development, it can be seen in the Central Statistics Agency of Indonesia data that East Java Province falls into the lowest category in the placement of human development index (HDI), which is still considered a mid-level HDI.

If the HDI is close to the number 100, then it has a very good human quality. Java island is still the economic center of Indonesia. Mr. Suhariyanto, as head of CSA, said that this economic growth in Java island is the region that contributes the highest GDP contribution. Still, the achievement of equitable human development does not follow economic growth.

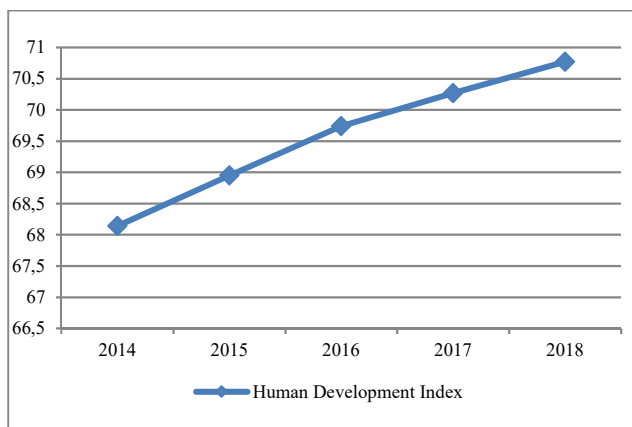


Figure 1. Human Development Index in East Java Province 2014-2018

Sources : Central Bureau of Statistics (2019), Data Processed)

Based on the Central Bureau of Statistics, from 2014-2018, the Human Development Index (HDI) in Surabaya falls into medium HDI size.

East Java province is the province with the highest area than the provinces of West Java and Central Java. The following data were presented on the average Human Development Index (HDI) of East Java Province in 2014-2018.

On figure 1 Human Development Index (HDI) in East Java Province from 2014-2018 continues to increase, increasing HDI every year; it is interpreted that people in East Java have begun to experience improved welfare and improved quality of life. Although East Java HDI always rises every year, the amount has not reached the national human development index (HDI) average of 71.40 in 2018.

Based on data from the Central Bureau of Statistics (BPS), from 2014 to 2018, the number of HDI-owned by districts/cities in East Java province has increased each year. Surabaya is the city that has the highest HDI figure compared to all districts in East Java Province. However, the government has not been able to equalize the level of welfare in east Java Province, thus causing the unevenness of HDI between districts forcing the HDI of East Java Province not to map other provinces in Java Island and is a medium size.

The factor that influences the development of HDI is economic growth. According to Nurbaeti (2013), economic growth is strongly related to the increase in goods and services. When it is more in production, then the community's welfare and its human resources will increase. The pace of economic growth in East Java Province decreased in 2015, rose in 2016, decreased in 2017 and rose again in 2018. Where this increase is followed by Human Development Index in Java Province.

But the following year, the pace of economic growth recorded the lowest economic

growth compared to previous years. This is reinforced by Todaro's theory that the high GDP growth rate will change people's consumption patterns to meet the needs. People's purchasing power to consume an item has a close relationship with HDI because purchasing power is one of the indicators in HDI, namely income.

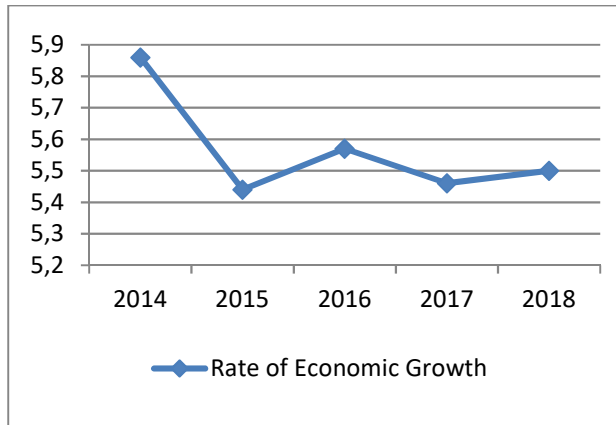


Figure 2. Economic Growth Rate of East Java Province in 2014-2018

Source : Central Bureau of Statistics, 2019 (Data Processed)

But in fact, the GDP growth rate data in 2016-2018 is not following the theory put forward by Todaro. The table above that occurred that 2015-2018 showed the growth rate of GDP decreased but in the HDI data table increased every year and did not decrease. Regarding welfare, it is not separated from the population.

According to the Central Statistics Agency (BPS), a resident is a person who is domiciled in the Republic of Indonesia's geographical area for six months or even more and domiciled for less than six months but has a purpose settling. Population growth has the meaning of increasing resources or economic potential because the population is one factor of production.

With the increase in the population, Human Resources (HR) will increase, which is intended that the capital or strength in developing an area will also increase (Suandi et al.,2014). So with the growth of the population is often considered as a driving factor of a country's economy. Still, the country's economy can be developed if the human resources owned by a government has a very good quality and will decrease if the population growth does not have good quality that will hinder the economy.

East Java province is an area that has a fairly dense population, so that cause human development does not take place optimally. It is said to be a problem to be recalculated because of success indicators in the implementation of economic growth, namely by the existence of a financial system that can absorb and utilize the addition of labour force in a region.

The problem of population growth is not just a matter of numbers; the population's issue also concerns the interests of development and the community's overall welfare. In the context of development, the population's view divided into two. Some considered obstacles to growth, and some regard them as a boost to development.

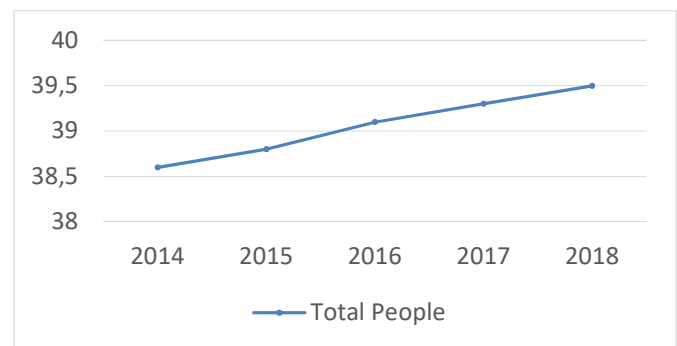


Figure 3. Number of People in East Java District or City in 2014-2018

Source: Central Bureau of Statistics, 2019 (Data Processed)

Figure 3 shows that the population annually increases, where the increase in the population is followed by the rise in HDI each year. In general, the population growth in some developing countries is very large. The problem arising from the increase in the population is a problem that concerns several interests in the community's development and welfare.

In the context of development, the population's view is divided into two, some of which consider that a high population will hinder the course of action. Some believe that there is an increased number of residents as the driver of the development process. In the current decentralization era, with the delegation of authority from the central government to the autonomous regional government (Law No. 23 of 2004), explains the government is so expected to encourage or explore the potential in the area to improve the welfare of the community in the surrounding area.

Therefore, the central and local governments have a role in terms of allocation, distribution, and stabilization. In its regional autonomy, the Regional Government has great authority so that the local government must be able to develop or create a large allocation for its people's welfare.

Another factor affecting HDI is the unemployment rate. Development of the employment sector as part of human resource development efforts. Unemployment causes the community's level of prosperity to be not maximal, while the ultimate goal of development is to create the community's prosperity and welfare.

In this case, unemployment also influences human development, which can reduce people's income and reduce the level of community

welfare that has been achieved (Sukirno, 2004:14). If the unemployment rate in an area is high, it will hinder economic development goals. People's income is reduced so that the community's purchasing power decreases, education, and health, which is a basic need to improve prosperity (Baeti, 2013).

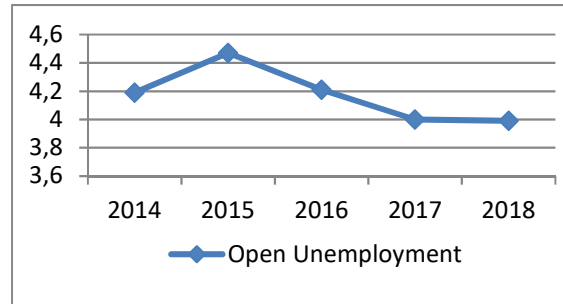


Figure 4. Open Unemployment Rate in East Java District or City in 2014-2018

Source: Central Statistics Agency, 2019 (Data Processed)

Figure 4 shows that open unemployment tends to be volatile. In 2014-2015 there was an increase but followed by an increase in HDI in the same year, namely in 2014-2015. Then there was the decline again in 2016, and in 2017-2018 the level of unemployment in east Java province again decreased. This is reinforced by Sadono Sukirno's theory that unemployment will reduce public income and reduce the level of prosperity and welfare of the people that has been achieved. The lower the story of one's well-being, the higher the chances of getting stuck in a low HDI.

RESEARCH METHODS

This study's type of research is quantitative research to find the influence between dependent and independent variables expressed in numbers and explain by comparing existing

theories and using data analysis techniques following variables in this study. The study also used secondary data obtained from a variety of valid sources.

This research data collection uses a documentation method to collect valid data related to research topics from various sources through official websites, articles, and books published by economists. The collection of these data is done by obtaining through the Website of the Central Statistics Agency (BPS) articles and journals that connect with the problems of this study.

This study uses a type of data: the data panel in question to combine time series data and cross-section data. The number of observations used in this study is 190, consisting of time-running data in 2014-2018 and cross data as many as 38 districts or cities in East Java Province. The data used in this study came from the Central Statistics Agency of East Java Province. Variables in this study there are two parts, namely independent variables or free variables (X), that have the properties of influencing other variables. And bound or variabel dependent (Y) variables that have properties are affected by free variables.

The bound/dependent variables used in this study are the Development Index Human (HDI) used to measure the community's welfare from 2014-2018 in 38 in the District/City of East Java Province in a single unit of value, namely the Human Development Index (HDI) number. At the same time, the free variables used in this study are 1. Economic Growth Rate (X_1), The rate of economic growth is a measure in the form of a percentage used to measure a change in the economy from one period to another.

The rate of economic growth used in this study is the GDP growth rate based on constant

price (ADHK) in 38 Districts or Cities of East Java Province from the period 2014-2018 in percentage units; 2. Population (X_2) population plays an important role in providing a necessary workforce to create an area's economic activity. The population is also one of the important elements to develop an economic activity to increase production.

This study used the population in 38 districts or cities in East Java province from 2014-2018 in the thousand; and 3. Open Unemployment Rate (X_3) unemployment is the number of workers in a vibrant economy or even looking for a job but has not gotten the job. Open unemployment is included in the working-age population for a certain period not working, so is willing to accept a job and is looking for a job. This study will use the number of open unemployment rates in 3 districts or cities in East Java province from the period 2014-2018 in percentage units.

This study using a quantitative research method using panel data. Estimating the data panel can make three approaches : Common Effect, Fixed Effect and Random Effect (Widarjono, 2009). This study used panel regression analysis using the panel data method and was used to determine the effect of the population growth, population and unemployment rate are open to the Human Development Index (HDI) in 39 regencies or cities in East Java Province. It is written on the equation model below.

The model of the equation below explains that the Human Development Index (HDI) in districts or cities in East Java province is influenced by the growth of the economy (LPE), the number of residents (JP) and the open unemployment rate (TPT). However, other variables outside the model

are considered fixed or unchanged (*ceteris paribus*). Testing to achieve actual values in this regression analysis test can use good fit measurements; this test consists of adjusted R², individual parameter significance test (t-test), and significant simultaneous test (F test).

Determination coefficients (adjusted R²) is conducted to measure how far the model can go in explaining variations independent variables (bound variables); the more small adjusted-R² values will be, the more limited the ability of independent variables in describing dependent variables (Ghozali, 2009:15).

$$IPMit = \beta_0 + \beta_1 LPEit + \beta_2 JPit + \beta_3 TPTit + \epsilon it \dots \dots \dots (1)$$

Information :

- HDI : Human Development Index
- LPE : Economic Growth Rate
- JP : Population
- TPT : Open Unemployment Rate
- β : Regression Coefficient
- i : 38 Regencies/Cities
- t : Year
- ϵ : error

If the value appears close to one or one hundred percents, independent variables provide almost all the information needed to predict the variation of dependent variables. Then, test t shows how far the influence of one independent variable (free variable) to dependent variable (bound variable) by assuming the other variable is a constant. This test is conducted by means of compare t-count with t-table. According to Ghozali (2009, 17), with testing criteria at the following levels : $\alpha = 5 \%$.

RESULTS AND DISCUSSION

This study's variable descriptions are Economic Growth Rate, Population, Number of Open Unemployment Rate and Human Development Index (HDI). This overview can be average value data, minimum values, maximum values and standard deviations. Descriptive statistical test results can be seen on the table 1.

Table 1. Descriptive Statistics

	IPM	LPE	JP	TPT
Mean	69.78	5.45	13.59	3.97
Median	69.45	5.37	13.81	3.89
Maximum	81.74	21.95	14.88	8.46
Minimum	56.98	-2.66	11.73	0.85
Std. Dev.	5.37	1.87	0.79	1.46
Skewness	0.27	4.27	-0.86	0.34
Kurtosis	2.45	43.42	3.05	3.07
Jarque-Bera	4.82	13515.94	23.79	3.76
Probability	0.08	0.00	0.00	0.15
Sum	13259.30	1036.66	2582.98	755.98
Sum Sq. Dev.	5459.80	666.29	118.76	403.89
Observations	190	190	190	190

Source : Data Processed Using E-Views 9

Based on the test results, it can be known that the minimum rate of the Human Development Index is 56.98, and the maximum value of the Human Development Index is 81.74. This shows the magnitude of the Human Development Index value in the research sample ranged from 56.98 to 81.74 with an average value (mean) of 69.78 and a standard deviation of 5.37.

Comparison of intermediate values (mean) Human Development Index is greater than the standard deviations that indicate the distribution of well-distributed Human

Development Index data. The value of the Human Development Index (Maximum) owned by Surabaya in 2018 amounted to 81.74, and the Value of Human Development Index (Minimum) owned by the Sampang Regency in 2014 amounted to 56.98.

The minimum value of the Economic Growth rate is -2.66, and the maximum LPE value is 21.95. This indicates that the magnitude of the research sample's economic growth rate ranges from -2.66 to 21.95, with an average value (mean) of 5.45 and a standard deviation of 1.87. The ratio of the average value (mean) of the Economic Growth Rate is greater than the standard deviation, indicating that the distribution of Economic Growth Rate data has been well distributed. The Value of Economic Growth Rate (Maximum) owned by Bojonegoro Regency in 2016 is 21.95, and Bangkalan Regency owns the lowest Economic Growth Rate (Minimum) in 2015 -2.66.

The minimum value of The Number of Residents in 38 Districts/Cities in 2014-2018 is 11.73, and the maximum value is 14.88. This indicates that the research sample's population size ranges from 11.73 to 14.88, with an average value (mean) of 13.59 and a standard deviation of 0.793. Comparing the average value (mean) of the Population is greater than the standard deviation indicates that the distribution of population data has been distributed well.

The Maximum Population Value (Maximum) owned by the City of Surabaya in 2018 is 14.99, and the Value of Population (Minimum) is Mojokerto District in 2014 which is 11.73. The minimum value of the Open Unemployment Rate at 38 District/City Year 2014-2018 as much as 0.85 and a maximum value of 8.46. This indicates that the Open Unemployment Rate's magnitude in the research

sample ranges from 0.85 to 8.46 with an average value (mean) of 3.98 and a standard deviation of 1.46.

The average value comparison (mean) of the Open Unemployment Rate is greater than the standard deviation, indicating that the spread of Open Unemployment Rate data has been well distributed. The Value of Open Unemployment Rate (Maximum) owned by The City of Kediri in 2016 is 8.46, and the Open Unemployment Rate (Minimum) is Pacitan district in 2016, which is 0.85. The panel regression model of this study, as follows :

$$\text{HDI} : -986.1856 - 0.004727\text{LPE} + 77.7146\text{JP} + 0.126774\text{TPT} + e \dots \dots \dots (2)$$

Based on the results of the tests that have been conducted thoroughly, it can be known that the best model selection in this study is the fixed effect model (FEM). This model's approach differs from the path to the random effect model (REM), namely on the REM approach using the difference of two components, namely between time and between individuals through accommodation error.

The method of analysis of panel data with a fixed-effect model (FEM) is a model that has different intercepts in each cross-section, but the slope of each subject does not change over time (Gujarati, 2012). In determining the difference in each cross-section with other cross-sections in FEM is used dummy variables; therefore, FEM is also called the model least square dummy variables (LSDV). The existence of dummy variables is a weakness in using fixed-effect models (Widarjono, 2009).

Using fixed effect or LSDV has consequences. With the variable in the model, there will be problems at the degree of freedom;

both individually and in interaction will always appear problems making it difficult to estimate the model accurately. In this model, specific intercepts of individuals can occur heterogeneity on each variable.

The meaning of the regression equation of the panel data in this study is if the determinant value of Index Human Development in East Java Province or the value of economic growth rate, population and the open unemployment rate is the value of the Human Development Index in all Districts/Cities in East Java Province is -986.1856 judging by the magnitude of constants (intercept).

Based on the results of the chow test is known to show that the fixed effect model is the most appropriate. While Hausman test also shows fixed effect model is the most suitable model. The three test panel data models can be known that the fixed effect model is a more appropriate model to use in this study.

This coefficient of determination test was conducted to measure how much independent variable capability is described in this research model. The interpretation states that the smaller the adjusted-R² value, the more limited the ability of independent variables to explain variations in dependent variables which is also the opposite (Ghozali, 2009:15). If the value that appears close to one or one hundred percent means that independent variables provide all the information needed to predict variations in dependent variables.

The result of adjusted R-squared amounted to 0.974556 which means that the rate of economic growth, population and open unemployment rate has an influence on the human development index (HDI) of 97.54% and the remaining 2.55% which is influenced by

other factors outside the independent variables in this study.

The t test actually shows how far one independent variable affects dependent variables by assuming the other variable is constant. This test is done by comparing the t-count result with t-table or probability value with alpha value. T test criteria at the level $\alpha = 5\%$ (Ghozali, 2013) is if $t\text{-count} < t\text{-table}$ then H_0 is accepted and H_a is rejected, meaning that one of the independent variables has no significant effect on dependent variables (H_0). But if $t\text{-count} > t\text{-table}$ then H_0 is rejected and H_a is accepted, meaning that one of the independent variables significantly affects dependent variables (H_a).

The t-table value can be seen in the static t table with $df = n-k-1$ or $190-3-1 = 186$, with a significance rate of 0.05 and a 1-sided test that obtained the result of the t-table value of 1.973/-1.973.

Table 2. T Test (Partial Significance)

	t-statistics	t-table	Prob.
Economic Growth	-0.09575	1.973	0.9238
Population	10.4690	1.973	0.0000
Unemployment	-1.38101	1.973	0.1693

Source : Data Processed Using E-Views 9

The variable rate of partial economic growth has no significant effect on the Human Development Index (HDI). This is because the t-count value is less than t-table where the value is $-0.09575 < 1.973$, which means that H_0 is accepted and H_a is rejected, the rate of economic growth has no significant effect on HDI. The effect of economic growth rate has a positive impact on HDI and when the rate of economic growth increases but not significantly.

The Population Variable partially has a significant influence on the Human Development Index (HDI). This is because the t-count value is greater than the t-table where the value is $10.4690 > 1.973$, meaning that H_0 is rejected and H_a is accepted, the population variable partially positively and significantly affects the HDI. The results of the regression analysis of panel data on partial population variables have a significant influence on HDI with a regression coefficient of 0.05.

The Variable Open Unemployment Rate (TPT) partially has a significant influence on the Human Development Index (HDI). This is because t count is smaller than t table where the value is $-1.3810 < 1.973$, which means that H_0 is accepted and H_a rejected, the open unemployment rate has no significant effect on the Human Development Index (HDI).

The first hypothesis presented in this study is that the rate of economic growth has a significant positive influence on the Human Development Index (HDI) in Regency/East Java City. Based on the result of t test is the partial variable rate of economic growth with HDI indicates a t-statistical value of -0.09575 smaller than the t-table of 1,973. The results of the panel regression analysis for variable economic growth rate as measured by the constant value of GDP obtained a coefficient value of -0.005 , which means that an increase in the economic growth rate of 1% can decrease HDI by 0.005 assuming *ceteris paribus*.

The results of the panel data regression analysis on the variable rate of partial economic growth had no significant effect on HDI. The rate of economic growth is a measure of growth from one period to another using percentages. This finding shows that the percentage rate of economic growth is not able to have an impact

on the increase in the human development index in East Java. This means that the growth of GDP in districts/cities in East Java is not followed by the growth of HDI.

The absence of this influence can be due to the data on the rate of economic growth there is a decline, but the data Human Development Index has increased every year and does not decrease. That condition causes the data to decrease in the rate of economic growth obtained is not followed by a decrease in the human development index.

So, this result is not in line with the theory put forward by Todaro who stated that the high rate of gdp growth will change the consumption patterns of the community to meet the needs. The purchasing power of people to consume an item has a close relationship with HDI because purchasing power is one of the indicators in HDI, namely income.

However, the results of this test are in line with the findings in oviatamara research (2019), which stated that the rate of economic growth had no significant effect on HDI. The effect of economic growth rate on HDI because of the data is known the magnitude and increase of GDP in each district/city is not followed by the magnitude of the increase in the value of HDI or vice versa.

The second hypothesis proposed in this study is that the population has a significant positive influence on the Human Development Index (HDI) in Province Regency/City of East Java. This means that the increasing number of population in East Java Province is followed by an increase in the human development index. The results of the regression analysis of panel data on population variables partially have a significant positive influence on the Human Development Index (HDI).

Based on the results of the t test, the partial test result between the population variable and the human development index (HDI) showed a t-statistical value of 10.4690 greater than the t-table of 1,973. The results of the panel regression analysis for variable population obtained a coefficient value of 77.71 which means that an increase in the population of 1 person can increase the human development index (HDI) by 0.005 assuming *ceteris paribus*.

The positive influence of the population on the human development index supports the theory presented by Todaro and Smith that the population as a development booster because the larger population is actually a potential market that becomes a source of demand for various goods and services that will then drive a variety of economic activities so as to create economies of scale in production that will benefit all parties, lower production costs and create a source of supply/supply of cheap labor in sufficient quantities so that it will stimulate the welfare of the community, meaning poverty will decrease.

In general, the population growth in some developing countries is very large. The problem of the increase in the population is a problem that concerns some interests in development and also the welfare of people in the area. From these results it can be said that the high population is the driving force for the development process. The existence of the influence that the population has on the increase in the human development index is also supported by previous research, namely in the research of Jasasila (2020), Arisman (2018) which states that the population has an effect on the human development index.

The third hypothesis in this study is that the open unemployment rate has no significant effect on the Human Development Index in the District/City of East Java Province. These findings suggest that increasing or decreasing the number of open unemployment is unable to have an impact on the increase in the human development index. This means that the decline in the open unemployment rate in east Java province is not followed by an increase in the human development index (HDI). The results of the panel's data regression analysis on partially open unemployment rate variables had no significant effect on the Human Development Index.

Based on the results of the t test, the partial test result between the pure participation rate variable and the HDI showed a t-statistical value of -1.38101 smaller than the t-table of 1,973. The results of the panel's regression analysis for variable open unemployment rates in districts/cities in East Java province were not followed by an increase in the human development index. Then the results of the panel's regression analysis for the variable open unemployment rate are obtained from a coefficient of -0.127, which means that an increase in the open unemployment rate of 1% can lower the human development index by 0.127 assuming *ceteris paribus*.

No influence of the open unemployment rate to the Human Development Index can be seen from the data on the magnitude of the open unemployment rate in each District/City that is not followed by the magnitude of the decrease in the value of HDI or vice versa. So, this finding does not support the opinion of Sukirno, who stated that rising unemployment will result in

reduced public income, reducing the level of prosperity and welfare of the people that have been achieved. The lower the level of one's well-being, the lower the Human Development Index.

It is also not in line with the theory presented by Todaro and Abdullah (1991), that there is a close relationship between high unemployment, underemployment, poverty and inequality of income distribution. If the unemployment rate in an area is high it will hinder the achievement of economic development goals. However, the results of this study support the findings of Noviatamara (2019) and Nurhaini (2016) research, which stated that the open unemployment rate has no significant effect on the Human Development Index (HDI).

CONCLUSION

Based on the results of testing and discussion on the influence of population growth rate, population and unemployment rate is open to human development index in 38 districts or cities in East Java province in the period 2014-2018 using regression panel data can be obtained conclusions as follows : (1) The Rate of Economic Growth has no significant influence on the Human Development Index (HDI). (2) Population has a significant positive influence on the Human Development Index (HDI). (3) The Open Unemployment Rate has no significant effect on the Human Development Index (HDI).

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