

## **The Influence of Economic Growth, Education and Health on Poverty in East Java Province**

**Khoirul Ifa<sup>1</sup>, Firdaus Al Maidah<sup>2</sup>**

Institut Teknologi dan Bisnis Widya Gama Lumajang

Email: [khoirul.ifa@gmail.com](mailto:khoirul.ifa@gmail.com)<sup>1</sup>, [firdaus.almaidah93@gmail.com](mailto:firdaus.almaidah93@gmail.com)<sup>2</sup>

Corresponding Author: Khoirul Ifa ([khoirul.ifa@gmail.com](mailto:khoirul.ifa@gmail.com))

---

### **Article Info**

#### **Article history:**

Published: June 23, 2023

Page: 157 - 170

---

#### **Keyword:**

*Economic Growth, Education, Health, Poverty*

### **Abstract**

*The problem studied in this study is, How does economic growth, education and health influence poverty in East Java Province. The purpose of this study was to determine the effect of economic growth, education and health on poverty in East Java Province. The research method used is using Panel Data Analysis, by choosing the best model, namely comment effect, fixed effect and random effect, selecting the best regression model using the Chow test, Hausman test and LM test. The results showed that economic growth has an effect on poverty, education also has an effect on poverty and health also has an effect on poverty.*

Copyright © 2023 OECONOMICUS Journal of Economics

---

### **Introduction**

Development is a dynamic process that aims to improve people's welfare. The criteria for successful development are economic growth, economic structure, and a narrowing income gap between populations, regions and sectors. The main objective of economic development efforts apart from creating the highest possible growth, must also eliminate or reduce poverty rates, income gaps, and unemployment rates (Todaro & Smith, 2003). Therefore poverty alleviation is a top priority of development.

Poverty is a complex problem because it is associated not only with low income and low consumption problems, but also with poor levels of education. Inability to participate in health and development, and various problems related to human development. This aspect of poverty is manifested in food, water, healthy housing, poor medical care, and a lack of education.

Poverty is misused as an Index to evaluate development outcomes. Regions that can display the poverty rate of each region with a good or bad poverty rate. Traditionally, poverty refers to people who

---

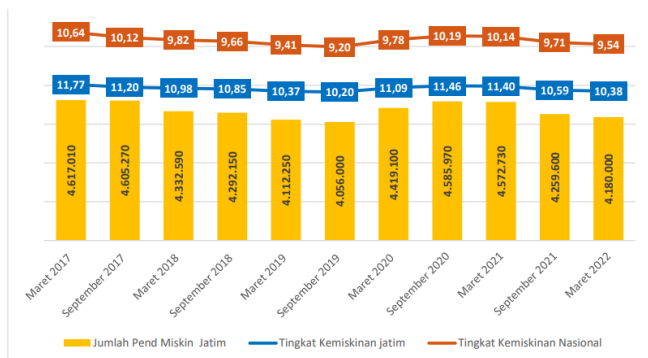
#### **Editorial Office:**

Prodi Ilmu Ekonomi Fakultas Ekonomi dan Bisnis Islam, UIN Sunan Ampel Surabaya

Jl. Ahmad Yani 117 Surabaya, Jawa Timur 60237, Indonesia.

Email: [oje@uinsby.ac.id](mailto:oje@uinsby.ac.id)

are unable to meet their needs. On the other hand, poverty concentration sees poverty as a universal group.



Sumber: BPS Provinsi Jawa Timur 2022

Figure 1. Development of the Number and Percentage of Poor People in East Java Province

The graph related to poverty rate data between the National and East Java shows that if the National poverty rate in September 2019 was 9.20 percent, it would decrease by around 0.21 percent in March 2019, while in March 2020 it would increase by around 0.58 percent to 9.78 percent and in September 2020 again experienced an increase of around 0.41 percent to 10.19 percent. In March 2021 the National poverty rate decreased by around 0.05 percent to 10.14 percent and continued to decrease in September 2021 around 0.43 percent to 9.71 percent. With the poverty rate data released by the BPS (Central Statistics Agency) showing that the pandemic has had a significant effect on the poverty rate, the beginning of the pandemic in March 2020 was able to increase the poverty rate and it increased during the pandemic. However, when it entered two years of the pandemic, policies in the health sector during the pandemic were able to be controlled so that it also had an impact on reducing the poverty

rate in the periods of March 2021 and September 2021. The East Java Province poverty rate was no different from the national poverty rate, in March 2019 was 10.37 percent and decreased in September 2019 by 0.15 percent to 10.2 percent. During the pandemic, East Java's poverty rate increased by 0.89 percent in March 2020 to 11.09 percent from September 2019 of 10.2 percent. Likewise, from March 2020 it was 11.09 percent, an increase of 0.37 percent to 11.46 percent in September 2020.

East Java's poverty rate in 2020 experienced a significant increase, in March 2021 it decreased by around 0.04 percent from September 2020 from 11.46 percent to 11.40 percent in March 2021. In the period March 2021 to September 2021, the poverty rate in East Java has again decreased by around 0.81 percentage points from 11.40 percent to 10.59 percent. The reduction in the poverty rate is a very proud achievement for the Provincial Government of East Java, because according to BPS data East Java is the province with the highest poverty reduction in all of Indonesia. In the period March - September 2021, the number of poverty reduction in East Java was 313,130 people or around 30 percent of the national total. In March 2022 the East Java poverty rate was at 10.38%, which means it has decreased by around 0.21% when compared to the previous period.

There are several factors that affect the level of poverty, one of which is economic growth. It is believed that economic growth can directly alleviate poverty in the region. In accordance with the theory of the trickle-down effect, it explains that the progress made by a group of people will

automatically trickle down thereby creating jobs and various economic opportunities which in turn will foster various conditions for the creation of an even distribution of the results of economic growth (Boediono, 2002). The theory means that economic growth is followed by an automatic vertical flow from the rich to the poor. The benefits of economic growth are first felt by the rich, and then when the rich begin to use the results of the economic growth they receive, the poor will also benefit.

The Solow growth model shows how growth in the capital stock, growth in the labor force, and advances in technology interact in the economy and how they affect the production of goods and services throughout the country. The Solow analysis then establishes the equation formula and also provides empirical evidence to draw the following conclusions. The most important factors that produce economic growth are not increases in capital and increases in the labor force. The most important factors are technological advances and increased skills and knowledge of the workforce.

Several studies have proven that there is a correlation between economic growth and poverty. (Adams Jr, 2004), (Adeleye et al., 2020), (Fosu, 2017), (Perera & Lee, 2013), (Wan, Hu, & Liu, 2021) stated that economic growth can reduce poverty. (Marrero & Servén, 2021) states that the correlation between growth and poverty is negative. (Hassan, Zaman, & Gul, 2015) states that the correlation between growth and poverty is negative.

While some other researchers actually differed in their statements, (Dollar, Kleineberg, & Kraay, 2016) stated that there

was no correlation between economic growth and poverty rates. (Chen, Wang, Wen, Fang, & Song, 2016) argues that economic growth cannot solve the problem of poverty in rural areas.

In addition to the economic growth factor, the education factor is believed to have a major influence on increasing poverty. Research conducted by (Maiyo & Bawane, 2011) concluded that the extreme poor are denied access to education due to a lack of costs to enter the world of education, causing greater poverty in Kenya. (Liu, Li, Zhang, Ngo, & Iqbal, 2021) states that education significantly reduces poverty rates, while the role of higher education seems to be more significant in alleviating poverty. (Hofmarcher, 2021) states that there is a causal relationship between education and various dimensions of poverty. (Adhitya, Prabawa, & Kencana, 2022) also revealed that education variables have a negative and significant influence on poverty in Indonesia. (Azizah, Sudarti, & Kusuma, 2018) also states that the results of his research show that education has a negative and significant effect on poverty. Education has a negative and significant effect on poverty, meaning that the higher the level of education, the less poverty it will reduce (Permana & Arianti, 2012).

In contrast to (Giovanni, 2018) which states that education has no effect on poverty in the provinces of West Java, Central Java, East Java and DIY in 2009-2016. (Suryandari, 2017) also states that education, as measured by the average length of schooling, has no effect on the poverty rate.

Another factor that affects poverty is health. Research conducted by (Maiyo & Bawane, 2011), his study concluded that poor health quality such as malnutrition, health, housing conditions, causes greater poverty in Kenya. Health has a negative and significant effect on poverty, meaning that the higher the degree of health, the lower the poverty rate (Permana & Arianti, 2012). (Suryandari, 2017) states that health, as measured by life expectancy, has a negative and significant effect on the level of poverty.

In contrast to (Adhitya et al., 2022) stating that health has no effect on poverty in Indonesia. Likewise the opinion of (Islami & Anis, 2019) which states that health has no effect on poverty in Indonesia.

The problems studied in this study are, How does economic growth influence poverty in East Java Province, How does education influence poverty in East Java province, how does health influence poverty in East Java province.

The objectives of this study were: To determine the effect of economic growth on poverty in East Java Province, To determine the Effect of Education on Poverty in East Java Province, To determine the Effect of Health on Poverty in East Java Province.

## Literature review

### Poverty

The concept of poverty used by BPS is the fulfillment of basic needs from an economic perspective (basic needs approach), including basic food and non-food needs as measured from the expenditure side. People are often malnourished and in poor health, almost or completely illiterate, live in poor

neighborhoods, are not represented politically, and strive to earn a minimum income, which are called small businesses and areas that are considered poor if they are in slums (Todaro, 2003).

Meanwhile, (Chambers, 1995) argues that the factors that cause poverty are: The entanglement of poverty is the loss of rights. Assets that are difficult to return may be due to the need for pressure above their strength threshold. Usually, the difficulty of bringing someone to the brink of poverty involves five things. Normal obligations; bad luck; physical incapacity, unproductive spending, and extortion. (Chambers, 1995) ut forward five characteristics of the disadvantages that encompass the poor and poor families. These include (a) poverty, (b) physical weakness, (c) alienation, and (d) powerlessness.

### Economic Growth

According to Sukirno (2015), economic growth is an increase in activity in the economic sector, an increase in the amount of goods and services produced by the community, which in turn brings prosperity to the community. Economic growth can also be used as a means of progress from year to year in a country's economic zone. If this increase is caused by an increase in the number and quality of factors of production, the country can increase the amount of goods and services produced in its own country. According to Arsyad (2010:27), there are several factors that influence economic growth. Examples: available capital, increase in population and labor force, improvement in technology.

### **The relationship between economic growth and poverty**

(Adams Jr, 2004) in his research entitled *Economic Growth, Inequality and Poverty: Estimating the Growth Elasticity of Poverty*. The study found that while economic growth does reduce poverty in developing countries, the rate of poverty reduction depends very much on how economic growth is defined. Controlling for changes in income inequality, when economic growth is measured by changes in average income (consumption) surveys, poverty growth elasticity (excluding Eastern Europe and Central Asia).

(Permadi, 2018) in his research entitled *Growth, Inequality, and Poverty: An Analysis of Pro-Poor Growth in Indonesia*. The results of the study explain that economic growth, inequality, has a significant effect on the incidence of poverty in Indonesia. Our empirical results also reveal that among the manufacturing, agriculture, and service sectors; it was manufacturing that succeeded in reducing the number of poor people, while agriculture unexpectedly had a negative impact on the number of poor people. Meanwhile, the service sector has not contributed to poverty alleviation. Furthermore, none of the government spending on education and health has significantly contributed to poverty alleviation.

(Dollar et al., 2016) in his research *Growth is still good for the poor*. Its findings reflect the fact that changes in the income of the bottom 20 percent and bottom 40 percent are generally small and do not correlate with economic growth.

(Marrero & Servén, 2021) in his research entitled *Growth, Inequality, and Poverty A Robust Relationship?*. The results of his research explain that the correlation between growth and poverty is consistently negative. Meanwhile, the effect of inequality on growth and poverty is very negative.

(Adeleye et al., 2020) in his research entitled *Comparative investigation of the growth-poverty-inequality trilemma in Sub-Saharan Africa and Latin American and Caribbean Countries*. The results of his research are (1) economic growth shows the nature of poverty reduction; (2) the rate of income inequality exacerbates poverty, (3) inequality exacerbates the impact of growth on poverty, and (4) the growth-poverty inequality trilemma differs between income groups and regional samples.

(Hassan et al., 2015) in his research entitled *The Relationship between Growth-Inequality-Poverty Triangle and Environmental Degradation: Unveiling the Reality*. The research results show that in the long run there is a positive relationship between GDP and income inequality and poverty.

Furthermore (Fosu, 2017) in his research *Growth, inequality, and poverty reduction in developing countries: Recent global evidence*. Growth is a driving factor for the high and low poverty rates.

In contrast to the statement (Perera & Lee, 2013) in his research *Have economic growth and institutional quality contributed to poverty and inequality reduction in Asia?*. The finding is that economic growth has no effect on income inequality, but growth actually leads to poverty reduction.

(Wan et al., 2021) in his research entitled China's poverty reduction miracle and relative poverty: Focusing on the roles of growth and inequality. PanelVAR modeling results show that growth plays a large role in poverty reduction but relative poverty continues to increase. And growth, contrary to the case of absolute poverty, has actually contributed to the trend of increasing relative poverty.

Furthermore(Chen et al., 2016) in his research The influences of aging population and economic growth on Chinese rural poverty. According to the analysis the positive impact of economic growth on rural poverty alleviation has disappeared in many places. That is, economic growth cannot solve the problem of rural poverty.

### **Education**

According to Martoyoto (2015) education is a basis for developing human resources. Sedarmayanti (2016) says that education is a long-term educational process utilizing systematic and organized procedures, where managerial personnel learn conceptual and theoretical knowledge for general purposes. According to Law no. 20 of 2003 concerning the National education system article 1 paragraph (1) explains the meaning of education is a conscious and planned effort to create a learning atmosphere and learning process so that students actively develop their potential to have religious spiritual strength, self-control, personality, intelligence, morals noble character, as well as 22 skills needed by himself, society, nation and state.

### **The Relationship between Education and Poverty**

Research conducted by (Maiyo & Bawane, 2011) entitled Education and Poverty, Relationship and Concerns. A Case For Kenya. The study concludes that extreme poor people are denied access to education due to lack of funds to enter the world of education, causing greater poverty in Kenya. (Liu et al., 2021) stated that education significantly reduces poverty rates, while the role of higher education seems to be more significant in alleviating poverty.(Hofmarcher, 2021) states that there is a causal relationship between education and various dimensions of poverty. (Adhitya et al., 2022) also revealed that the education variable has a negative and significant influence on poverty in Indonesia.(Azizah et al., 2018) also states that the results of his research show that education has a negative and significant effect on poverty. Education has a negative and significant effect on poverty, meaning that the higher the level of education, the less poverty it will reduce (Permana & Arianti, 2012).

In contrast to (Giovanni, 2018) which states that education has no effect on poverty in the provinces of West Java, Central Java, East Java and DIY in 2009-2016.(Suryandari, 2017) also states that education, as measured by the average length of schooling, has no effect on the poverty rate.

### **Health**

The health limits are inspired by the most recent WHO health limits. The current understanding of health is indeed broader and dynamic, compared to the previous

boundaries. This means that a person's health is not only measured from the physical, mental and social aspects, but also measured from his productivity in the sense of having a job or producing something economically.

Basically health is one aspect that determines the level of a person's standard of living. Therefore, a relatively good health status is needed by humans to sustain all their life activities. Each individual will try to achieve this health status by investing and or consuming a number of health goods and services. So to achieve good health conditions, good health facilities are also needed (Todaro, Smith & Putra, 2011).

### **Relationship of Health to Poverty**

Research conducted by (Maiyo & Bawane, 2011), his study concluded that poor health quality such as malnutrition, health, housing conditions, causes greater poverty in Kenya. Health has a negative and significant effect on poverty, meaning that the higher the degree of health, the lower the poverty rate (Permana & Arianti, 2012). (Suryandari, 2017) states that health, as measured by life expectancy, has a negative and significant effect on the level of poverty.

In contrast to (Adhitya et al., 2022) stating that health has no effect on poverty in Indonesia. Likewise the opinion of (Islami & Anis, 2019) which states that health has no effect on poverty in Indonesia.

### **Research Methods**

This research is a quantitative research, quantitative research is research by looking at numerical data and then statistical tests.

The purpose of this research is explanatory research where explanatory research is a type of research that explains the causal relationship between one variable and another through hypothesis testing.

The research data is secondary data in the form of documentation data or available report data. The data used includes economic growth, average length of schooling and life expectancy and the percentage of poor people. While the type of data used is panel data for 2012-2021. Source of data obtained from the Central Bureau of Statistics.

The data analysis used is Panel Data which is data consisting of time series data and cross section data, but these data are more likely to be large cross section data but the amount is very small or limited (Greene, 2012; Wardhono, 2004, Gujarati and Porter, 2013). Greene (2012) in his book entitled *Generalized Regression Model and Equation System* also explains the advantages of using panel data, namely that it can explain changes in phenomena that cannot be explained by time series data or cross section data. Besides that, the advantage of panel data is that researchers gain flexibility in modeling behavior, so that by using panel data researchers can develop estimation techniques as well as theoretical results. The basic model used in panel data regression is as follows:

$$Y_{it} = \alpha + X'_{it} \beta + \varepsilon_{it} \dots \dots \dots (1)$$

Information:

Y : Dependent variable

X : Independent variable

B : Slope coefficient with dimension Kx1 (K is the number of independent variables)

$\alpha$  : intercept coefficient

i : Observation of cross data

t : Time series

ε<sub>it</sub> : One way error (one way error)

The assumptions regarding the intercept, slope, and error used in estimating panel data are:

- a. Intercept and Slope are constant in time and individual, while the error is different between time and individual.
- b. The slope is constant, but the intercept varies between individuals.
- c. Slope is constant, and Intercept varies between times and individuals.
- d. Slope and Intercept differ between individuals
- e. Slope and Intercept differ between individuals and over time.

While the methods used to estimate panel data include:

### 1. Pooled Regression

The pooled regression method is a panel data estimation method using the Ordinary Least Square (OLS) method. For this reason, this method is also called the Panel Least Square (PLS) method. The assumptions used in this method are that each individual has a constant intercept or slope, and the OLS method provides an effective and efficient estimate of the intercept coefficient and slope vector  $\beta$  coefficient.

### 2. Fixed Effect

The fixed effect method is a method that explains that the intercept in regression varies between individuals and has its own characteristics which usually use a dummy. This indicates that there are differences both individually and over time periods in the

estimates. The assumptions used in the fixed effect method are:

- a. The intercept and slope are constant between time and individuals, and the error term includes differences between time and individual.
- b. The slope coefficient is constant, but the intercept is different between individuals.

### 3. Random Effect

The random effect method is a panel data estimation method that is different from the previous two methods. In this method the slope coefficient ( $\beta_{0i}$ ) is not constant and is considered as a random independent variable from the average value of  $\beta_1$ , so that the intercept value for each individual is expressed in

$$\beta_{0i} = \beta_0 + e_i \text{ with } i = 1, 2, \dots, N \dots \dots (2)$$

Where  $e_i$  is a random system (error term) with mean = 0 and variance  $\sigma^2$

$W_{it}$  component consists of the error term from each cross section and the error from all cross section data ( $W_{it} = e_{it} + \epsilon_{it}$ ), or this reason this method is also called the Error Component Model (ECM).

After carrying out several panel data regression tests, the next step is to conduct several tests on the panel data model, these tests include:

#### 1. Chow Test

The Chow test is a test used to determine the use of the model between the Fix Effect model and the PLS model. This can be done by comparing the results of significance in statistical tests, assuming the cross-sectional units have different behaviors, so that if the cross-sectional units have the same behavior, this is unrealistic.



While the hypothesis used in the chow test is:

H0 = Model *pooled square (restricted)*

H1 = Model *fixed effect (unrestricted)*

(H0 is rejected when F count is greater than F table)

Statistical F test that can be done with

$$F \text{ count} = \frac{\frac{RSS_1 - RSS_2}{n} - 1}{(RSS_2)/(nT - n - K)}$$

Information:

N = number of individuals

T = number of time periods

K = the number of parameters of the fixed effect model

RSS1 = Residual Sum of Square PLS

RSS2 = Residual Sum of Square fix effect

If the results of the calculation of the F statistic are greater than the F table at a certain significance level then H0 will be rejected, this means that the intercept and slope coefficients have different behavior, so that the panel data regression technique using the fixed effect is better than the PLS model, then the used is the fixed effect model.

## 2. Hausman's test

The Hausman test is a test used to select the use of the model between the fixed effect model and the random effect. This is done by comparing the Hausman statistical values with the chi-square table values. While the hypothesis used in the Hausman test is as follows.

H0= Model random effect (restricted)

H1 = Fixed effect model (unrestricted)

H0 will be accepted if the Hausman statistic value is less than the chi-square table value, then the right model to perform panel data regression is the random effect model, and if

the Hausman statistical value is greater than the chi-square table value then H0 is rejected, which means that the model more appropriate to use in conducting panel data regression, namely the fixed effect model.

## 3. Lagrange Multiplier Test (LM)

Similar to the two previous tests, the LM test is also used to choose which model is better to use for panel data regression between the Random effect model and the PLS model. This can be done by comparing the value of the LM statistic and the critical chi-square value. While the hypothesis used in the LM test is:

H0 = Model *pooled square (restricted)*

H1 = Model *random effect (unrestricted)*

If the value of the LM statistic is greater than the critical chi-square value, then H0 will be rejected, this means that the right model for conducting panel data regression is the random effect model. Conversely, if the LM statistical value is less than the chi-square value, the PLS model is the right model to perform panel data regression.

The next step is to test the significance of the independent variable on the dependent variable. The test for the significance of the variable can be carried out in three stages, namely:

- a. Partial test or individual test, partial test is carried out by conducting a statistical t-test to test the significance of each dependent variable. The hypothesis used in the partial test is:
  - H0 =  $\beta \neq 0$ , independent variables significantly influence.
  - H1 =  $\beta = 0$ , the independent variables do not have a significant effect.

H0 is rejected if the t-statistic probability is less than 0.05, which means that the independent variables do not have a significant effect, and vice versa.

- b. The F test or the overall test is carried out to test the significance of all independent variables in influencing the dependent variable. The hypothesis used in this study are:

$H_0 = \beta \neq 0$ , all independent variables have a significant influence.

$H_1 = \beta = 0$ , all independent variables do not affect significantly.

If the probability value of the t-statistic is greater than 0.05 then H0 is rejected, which means that all independent variables do not have a significant effect, and vice versa

## Results and Discussion

### Results

The estimation results of panel data regression with three methods of Comment Effect, Fixed Effect Model, Random Effect Model can be seen in Table 1.

Table 1. Regression Model Selection

Variable	Model Coefficients		
	CEM	FEM	REM
Economic growth	- 0.079704 (0.0220) *	- 0.029955 (0.0065) *	- 0.030905 (0.0037) *
Education	- 2.439937 (0.0000) *	- 1.351183 (0.0000) *	- 1.604326 (0.0000) *
Health	0.012084 (0.9012) *	- 0.731798 (0.0000) *	- 0.538215 (0.0004) *
Adj R2	0.706398	0.980856	0.554389
F-Statistic	304.9546	486.4644	155.9284
Prob (F-Statistic)	0.00000	0.00000	0.00000

Source : Output Eviews 12

The Chow test was used to select the best panel data regression model between the Comment Effect Model (CEM) and the Fixed Effect Model (FEM). Chow test results can be seen in table 2.

Table 2 Chow test

Effects Test	Statistic	d.f	Prob
Cross-section F	146.691767	(37,339)	0.0000
Cross-section Chi-Square	1076858069	37	0.0000

Source : Output Eviews 12

From Table 2 it can be seen that the -value or probability of the F-Test and ChiSquare is  $0.0000 < 0.05$ , thus  $H_a$  is accepted. In conclusion, the selected model is the Fixed Effect Method.

The Hausman test is used to determine the best model between Random Effects and Fixed Effects used in estimating panel data, the following are the results of the Hausman test:

Table 3 Hausman Test

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f	Prob
Cross-section Random	10.658020	3	0.0137

Source : Output Eviews 12

From Table 3 it can be seen that the P-value or probability of ChiSquare is  $0.0137 < 0.05$ , thus  $H_a$  is accepted. In conclusion, the selected model is the Fixed Effect Method. Based on the Chow test and Hausman test the selected model is the Fixed Effect Method.

The results of the selected model estimation regression are the Fixed Effects as follows:

Table 4 Fixed Effect Regression Model

Variable	Coefficient	t Statistic	Prob
C	74.04754	6.539780	0.0000
GROWTH	-0.029955	-2.738948	0.0065
EDU	-1.351183	-6859342	0.0000
HEALTH	-0.731798	-4.172097	0.0000
Adj R2	0.980856		
F-Statistik	486.4644		
Prob (F-Statistik)	0.00000		

Source : Output Eviews 12

The Panel Data Regression Model is:

$$POV_{it} = 74.04754 - 0.029955GROWTH_{it} - 1.351183EDU_{it} - 0.731798 HEALTH_{it} + \varepsilon_{it}$$

From Table 4 it can be seen that the probability value of the economic growth variable is 0.0065 < 0.05, so it can be interpreted that economic growth has an effect on poverty. Furthermore, the probability value of the education variable is 0.0000 < 0.05, so it can be concluded that education has an effect on poverty. This is also seen in the health variable with a probability value of 0.0000 < 0.05, so it can be interpreted that health has an effect on poverty.

## Discussion

Economic Growth has a significant positive effect on the Poverty Rate in East Java in 2012-2021. There is a relationship or influence between Economic Growth and Poverty Level because GRDP describes the ability of a region to manage its natural resources. In the process of increasing per capita output in the long term, therefore, the percentage increase in output must be higher

than the percentage increase in population and there is a long term tendency for this growth to continue. So it is hoped that with economic growth in the city it will be able to increase the income of the surrounding community and be able to alleviate poverty.

This research is in line with (Adams Jr, 2004), (Adeleye et al., 2020), (Fosu, 2017), (Perera & Lee, 2013), (Wan, Hu, & Liu, 2021) (Marrero & Servén, 2021) (Hassan, Zaman, & Gul, 2015) which states that economic growth affects poverty.

However, this is not in line with research (Dollar, Kleineberg, & Kraay, 2016) which states that there is no correlation between economic growth and poverty levels (Chen, Wang, Wen, Fang, & Song, 2016).

Education has a significant positive effect on the Poverty Rate in East Java in 2012-2021. This can be interpreted that when education in an area or province is good, it reflects the quality of human resources in that area is also getting better. The level of education attained plays a key role in building skills for a developing country in absorbing modern technology and increasing capacity to create sustainable development and growth (Todaro, 2003). It can be concluded that when a person has a high quality of education, he is expected to be able to produce optimal production output so that he will get maximum income as well. If the income in an area is high, then all needs will be met and far from the poverty gap or it can be said to reduce the poverty rate in a country. This is in line with research (Maiyo & Bawane, 2011) (Liu, Li, Zhang, Ngo, & Iqbal, 2021) (Hofmarcher, 2021), (Adhitya, Prabawa, & Kencana, 2022)

(Azizah, Sudarti, & Kusuma, 2018) (Permana & Arianti, 2012) which states that education has a significant effect on poverty levels. However, this is not in line with research (Giovanni, 2018), (Suryandari, 2017) which states that education has no effect on poverty.

Health also influences poverty in East Java Province. Health is influential because health is one of the requirements to increase one's productivity. Someone who has a poor health condition, unable to do work effectively. If someone is not effective at work, then the impact on low productivity. Then if the productivity is low, it means that the income will also be low. If a person's income level is low, it will make it difficult for the person to make ends meet so that the person will be trapped in poverty. The degree of public health in a country is influenced by how many health facilities and facilities there are. Law Number 36 of 2009 concerning Health states that a health service facility is a tool or place used to organize health service efforts, whether promotive, preventive, curative or rehabilitative, carried out by the central government, local government or the community. This is in line with research conducted by (Maiyo & Bawane, 2011), (Permana & Arianti, 2012). (Suryandari, 2017) which states that health has a negative and significant effect on the level of poverty, but this is not in line with research (Adhitya et al., 2022), (Islami & Anis, 2019) which states that health does not have an effect on poverty.

### Conclusion

Economic Growth has a significant effect on the Poverty Rate in East Java in

2012-2021. Education has a significant effect on the Poverty Rate in East Java in 2012-2021. Health has a significant effect on the Poverty Rate in East Java in 2012-2021. The suggestion of this research is that the direction of government policy in East Java province should be more focused on these three variables, namely maintaining positive economic growth, increasing the quality of education, and improving the quality of health because these variables play an important role in poverty alleviation.

### Bibliography

- Adams Jr, Richard H. "Economic Growth, Inequality and Poverty: Estimating the Growth Elasticity of Poverty." *World development* 32, no. 12 (2004): 1989-2014.
- Adeleye, Bosede Ngozi, Obindah Gershon, Adeyemi Ogundipe, Oluwarotimi Owolabi, Ifeoluwa Ogunrinola and Oluwasogo Adediran. "Comparative Investigation of the Growth-Poverty-Inequality Trilemma in Sub-Saharan Africa and Latin American and Caribbean Countries." *Heliyon* 6, no. 12 (2020): e05631.
- Adhitya, Bagus, Agus Prabawa and Heris Kencana. "Analisis Pengaruh Pendidikan, Kesehatan, Sanitasi Dan Rata-Rata Jumlah Anggota Keluarga Per Rumah Tangga Terhadap Kemiskinan Di Indonesia." *Ekonomis: Journal of Economics and Business* 6, no. 1 (2022): 288-295.
- Arsyad, Lincolin. *Ekonomi Pembangunan*. STIE YKPN. Yogyakarta (2010).

- Azizah, Elda Wahyu, Sudarti Sudarti and Hendra Kusuma. "Pengaruh Pendidikan, Pendapatan Perkapita Dan Jumlah Penduduk Terhadap Kemiskinan Di Provinsi Jawa Timur." *Jurnal Ilmu Ekonomi* 2, no. 1 (2018): 167-180.
- Badan Pusat Statistik. Statistik Provinsi Jawa Timur (2022).
- Boediono, D. Teori Pertumbuhan Ekonomi, Edisi Pertama: Yogyakarta. (2012).
- Chambers, Robert. "Poverty and Livelihoods: Whose Reality Counts?" *Environment and urbanization* 7, no. 1 (1995): 173-204.
- Chen, Jiandong, Yun Wang, Jie Wen, Fuqian Fang and Malin Song. "The Influences of Aging Population and Economic Growth on Chinese Rural Poverty." *Journal of Rural Studies* 47, (2016): 665-676.
- Dollar, David, Tatjana Kleineberg and Aart Kraay. "Growth Still Is Good for the Poor." *European Economic Review* 81, (2016): 68-85.
- Fosu, Augustin Kwasi. "Growth, Inequality, and Poverty Reduction in Developing Countries: Recent Global Evidence." *Research in Economics* 71, no. 2 (2017): 306-336.
- Giovanni, Ridzky. "Analisis Pengaruh Pdrb, Pengangguran Dan Pendidikan Terhadap Tingkat Kemiskinan Di Pulau Jawa Tahun 2009-2016." *Economics Development analysis journal* 7, no. 1 (2018): 23-31.
- Hassan, Syeda Anam, Khalid Zaman and Shah Gul. "The Relationship between Growth-Inequality-Poverty Triangle and Environmental Degradation: Unveiling the Reality." *Arab Economic and Business Journal* 10, no. 1 (2015): 57-71.
- Hofmarcher, Thomas. "The Effect of Education on Poverty: A European Perspective." *Economics of Education Review* 83, (2021): 102124.
- Islami, Nadia and Ali Anis. "Pengaruh Upah Minimum Provinsi, Pendidikan Dan Kesehatan Terhadap Kemiskinan Di Indonesia." *Jurnal kajian ekonomi dan pembangunan* 1, no. 3 (2019): 939-948.
- Liu, Fengqin, Li Li, YunQian Zhang, Quang-Thanh Ngo and Wasim Iqbal. "Role of Education in Poverty Reduction: Macroeconomic and Social Determinants Form Developing Economies." *Environmental Science and Pollution Research* 28, (2021): 63163-63177.
- Maiyo, JK and Jyoti Bawane. "Education and Poverty, Relationship and Concerns. A Case for Kenya." (2011).
- Marrero, Gustavo A and Luis Servén. "Growth, Inequality and Poverty: A Robust Relationship?" *Empirical Economics*, (2021): 1-67.
- Martoyo, S. Manajemen Sumber Daya manusia. Yogyakarta: Penerbit: BPFE. (2015).
- Perera, Liyanage Devangi H and Grace HY Lee. "Have Economic Growth and Institutional Quality Contributed to

- Poverty and Inequality Reduction in Asia?" *Journal of Asian Economics* 27, (2013): 71-86.
- Permadi, Yudistira Andi. "Growth, Inequality, and Poverty: An Analysis of Pro-Poor Growth in Indonesia." *Jurnal Ekonomi Kuantitatif Terapan* 11, no. 2 (2018): 216-233.
- Permana, Anggit Yoga and Fitri Arianti. "Analisis Pengaruh Pdrb, Pengangguran, Pendidikan, Dan Kesehatan Terhadap Kemiskinan Di Jawa Tengah Tahun 2004-2009." *Diponegoro Journal of Economics* 1, no. 1 (2012): 25-32.
- Ravallion, Martin. *Poverty Lines in Theory and Practice*. Vol. 133: World Bank Publications, 1998.
- Sachs, Jeffrey D. "Can Extreme Poverty Be Eliminated?" *Scientific American* 293, no. 3 (2005): 56-65.
- Sedarmayanti. *Manajemen Sumber Daya Manusia, Reformasi Birokrasi dan Manajemen Pegawai Negeri Sipil*. Bandung: Refika Aditama. (2016).
- Sharp, Alec and Patrick McDermott. *Workflow Modeling: Tools for Process Improvement and Applications Development*. Artech House, 2009.
- Sukirno, S. *Makro ekonomi teori pengantar edisi ketiga*. *Rajawali Pers, Jakarta*. (2015).
- Suryandari, Andri Nurmalita. "Pengaruh Pertumbuhan Ekonomi, Pendidikan, Dan Kesehatan Terhadap Tingkat Kemiskinan Di Provinsi Daerah Istimewa Yogyakarta Tahun 2004-2014." *Universitas Negeri Yogyakarta*, (2017).
- Todaro, Michael P and Stephen C Smith. "Pembangunan Ekonomi: Di Dunia Ketiga, Jilid 1." (2003).
- Undang-Undang No. 20 Tahun 2003 tentang sistem pendidikan Nasional
- Wan, Guanghua, Xiaoshan Hu and Weiqun Liu. "China's Poverty Reduction Miracle and Relative Poverty: Focusing on the Roles of Growth and Inequality." *China Economic Review* 68, (2021): 101643.