Analysis of the Effect Economic Growth, Open Unemployment Rate, Education, and PAD on Poverty Rate in Lumajang District

Indira Tunjung Putih[1*], Wiwin Priana Primandhana[2]

Universitas Pembangunan Nasional Veteran Jawa Timur, Indonesia[1]

Universitas Pembangunan Nasional Veteran Jawa Timur, Indonesia[2]

Corresponding Email: indira.tunjungputih1@gmail.com[*]

Abstract

Poverty is a global problem faced by many countries in the world, including Indonesia. In an effort to achieve the Sustainable Development Goals (SDGs), poverty reduction is the main focus. This study aims to determine the effect of economic growth, unemployment rate, education, and local revenue on the poverty rate, and analyse the factors that influence poverty in Lumajang Regency. Multiple linear regression analysis method using Eviews 10 analysis tool was used in this study, with the research period covering 2012-2021. The results show that the Local Own Revenue (PAD) and Education Index have a significant influence on the poverty rate, while economic growth and unemployment rate have no significant influence on poverty. The findings suggest that the influence of unemployment, PAD, education, and economic growth on poverty rates in Indonesia is significant.

Keywords: Keyword1, keyword2, keyword3, keyword4, keyword5. (5 words)

Introduction

Development is a series of steps with the aim of achieving public welfare through the development of the economic sector. The success of development can be measured through economic growth, economic structure, and the level of disparity between different populations, regions, and economic sectors. The main objectives of economic development involve creating maximum growth, reducing poverty, income inequality, and unemployment (Todaro & Smith, 2000).

Poverty is a global issue faced by many countries in the world including Indonesia. In the Sustainable Development Goals (SDGs), poverty reduction is an issue that receives special attention. In Indonesia, some of the factors that cause poverty are low wage levels, high unemployment rates, and a low human development index (HDI). In an effort to reduce

poverty, education is a key factor in increasing individual productivity, which in turn can increase production and the level of development in a region. Experience in several developed countries shows that improving human capital can increase productivity levels in production.

The importance of the local revenue sector is reflected in its ability to support local government and development activities. The process of identifying sources of regional own-source revenue (PAD) involves researching, determining, and determining several sources that form the basis of PAD, efforts to research, seek, and manage sources of income properly aim to provide optimal results. Poverty is a complex problem that is influenced by various related factors such as income, unemployment rate, health, education, access to goods and services, location, geography, and environment. Poverty reflects the inability to fulfil basic needs such as food, shelter, and health, and is caused by inequalities in people's economic capabilities that cause some people to be unable to participate in the development process or enjoy the fruits of development.

In Lumajang district, poverty is also a serious problem. Based on data from the Central Bureau of Statistics (BPS), in 2022, the number of poor people in Lumajang district decreased compared to the previous year. In 2021, the number of poor people reached 105,250 people, but in 2022, the figure dropped to 95,040 people or a decrease of 9.06 per cent of the total population of Lumajang. However, this decrease is inversely proportional to the number of open unemployment which has increased significantly. In 2021, the number of open unemployment in Lumajang was 19,439 people, but in 2022, the number increased to 29,158 people.

Literature Review

Poverty

According to (Mubyarto, 2004) Poverty is a problem that is rampant in various countries. It is considered a lack of income to fulfil essential needs such as clothing, food, shelter, education, and health. Poor people are those who have monthly per capita expenditure below the poverty line. According to the UNDP, a person's measure of poverty is if he or she is unable to reach (or does not have access to) basic public facilities and their own quality of life is low, not how much dollar per capita income they are able to earn. Poverty is a complex and multidimensional problem. It is divided into primary aspects, which include assets, socio-political organisation, knowledge, and skills and secondary aspects, which involve social networks, financial resources, and information (Arsyad, 2010).

Economic Growth

According to (Kuznets, 1971) Economic growth refers to the long-term increase in a country's ability to meet the various economic needs of its citizens. This increase occurs due to the development or adjustment of technology, institutions, and ideological views to deal with various existing situations. In another explanation, economic growth is said to be the ability of a country to create goods and services will continue to increase over time, because the factors used in production will continue to increase both in quantity and quality. This is due to the

growth of investment, technological development, increase in human resources, and improvement in education.

Unemployment

According to (Pujoalwanto, 2014) Unemployment or unemployment refers to someone who currently does not have a job, is actively looking for work, works less than two days a week, or is trying to get a suitable and adequate job. Unemployment is a macroeconomic problem that indirectly affects people and is the most severe problem. A reduction will result in their level of prosperity also being reduced. The absence of income will cause the unemployed to have to reduce their expenditure and will also cause a detrimental psychological impact on individuals experiencing unemployment and their families to occur.

Education

According to Law No. 20 of 2003 on the Education System defines education as a conscious and planned effort to create a learning environment and learning process that enables learners to actively develop their potential in the dimensions of spiritual, religious, self-control, personality, intelligence, noble character, and skills needed for themselves, society, nation, and state. The main objective of education is to optimise the potential of learners to become individuals of faith and devotion, noble character, healthy, knowledgeable, capable, creative, and become democratic and responsible citizens. The level of education is a continuous stage of education, which is determined based on the development of students, the level of complexity of teaching materials and how to present teaching materials. School education levels consist of primary education, secondary education and higher education.

Local Original Revenue (PAD)

Regional Original Revenue consists of the results of local taxes, local levies, the results of the management of separated regional assets, and other sources of Regional Original Revenue. These four components of Local Original Revenue will work together to generate funds used to support economic growth in the region. According to (Badrudin, 2012), it explains various types of Regional Original Revenue sources such as local taxes, local levies, the results of the management of separated regional assets, and other legitimate regional original income.

Research Method

This study uses a quantitative research approach. where the quantitative approach is carried out to determine whether there is a correlation or influence of the independent variable on the dependent variable, where in quantitative research there is a hypothesis to be tested for truth. According to (Wahidmurni, 2017: 1) quantitative research methods are a method used to answer research problems related to data in the form of numbers and statistical programs.

Data Collection Method

The object of this research is the Lumajang Regency with an area of 1,790.90 km² in the East Java Province. The type of data used in this research uses secondary data or data obtained from second parties such as from the government or related agencies that assist the research.

Operational Definition and Measurement of Research Variables

Operational Definition defines the concepts that will be operationalised in a study in the form of variables, both based on theory and empirical data with the aim of explaining and explaining several variables, both dependent variables and independent variables. The operational definitions of each variable used in this study, both for the dependent variable and the independent variable, include:

Dependent Variable (In this study, there is one dependent variable, which is the Poverty Level (Y).

Independent Variable (Independent variables are variables that influence dependent variables. In this sense, independent variables are factors that influence poverty. In this study, there are three independent variables, namely:

1. Economic Growth used in this study is the growth rate of GRDP at constant prices for the period 2012 to 2021 (in units of per cent).
2. The Open Unemployment Rate used in this research is the open unemployment rate in Lumajang Regency from 2012 to 2021 (in units of percent).
3. The level of years of education used in this study is the average years of schooling in Lumajang district from 2012 to 2021 (in units of years).
4. Regional Original Revenue (PAD) This study uses data on PAD of Lumajang district from 2012 to 2021 (in units of rupiah).

Place and Time of Research

This research was conducted in Lumajang District, East Java Province. The stages of this research are collecting data through BPS (Central Bureau of Statistics) of East Java Province. The time period taken in this research is by searching for data through BPS East Java province from 2012 to 2021.

Classic Assumption Test

In this test, it uses several tests including:

Normality test

According to (Ghozali, 2006) the normality test is used to test whether a regression model on the independent variable and the dependent variable and find out whether the two variables are normally distributed or not. The normality test is carried out to determine whether the data to be used in the hypothesis test, namely the dependent variable and the independent variable used, is normally distributed or not and to find out in this study using Kolmogorov-Smirnov requirements. The requirement used to find out is if the significant value (sig)> 0.05, and the data is said to be not normally distributed if the significant value (sig) <0.05.

Multicollinearity Test

Multicollinearity Test According to (Ghozali, 2006) the multicollinearity test is used to determine whether there is a correlation between related variables. This multicollinearity test is intended to determine whether each unrelated variable is linearly related or correlated. Multicollinearity can be known from several tests, one of which is used in this test is to calculate the VIF and Tolerane values of each independent variable. The requirements used in the multicollinearity test in this study are if the VIF value is> 10 and the Tolerance value is0.1, it can be interpreted that the data does not occur multicollinearity.

Heteroscedasticity Test

This heteroscedasticity test is conducted to determine whether the regression equation model has the same error diversity or not. The assumption of error diversity in the regression equation is also called homoscedasticity, while heteroscedasticity occurs if the diversity of error values is not constant or different. In this study according to (Ghozali, 2006)that good research is that in the classic assumption test there is no heteroscedasticity.

Autocorrelation Test

The autocorrelation test aims to test whether in a linear regression model there is a correlation between confounding errors in period t-1 (previous). If there is a correlation, it is called an autocorrelation problem. Autocorrelation arises because successive observations over time are related to each other. The method that can be used to detect the presence or absence of autocorrelation is the Durbin Watson test (DW test). The DW test is used for level one correlation and requires the presence of a constant in the regression model and no lag variables between the independent variables.

The method that can be used to detect autocorrelation problems is to use the Durbin Watson test value with the following conditions (Gujarati, 2010):

a. DW value below -2 means there is positive autocorrelation
b. DW is between -2 and +2 means there is no autocorrelation
c. DW value above +2 means negative autocorrelation occurs.

Multiple Linear Regression Analysis

Multiple linear regression test is a model in which there is more than one independent variable with one dependent variable. Multiple linear regression analysis is carried out with the aim of knowing the direction and how much influence is given by the independent variable on the dependent variable (Ghozali, 2016). Multiple linear regression analysis in this study is used to predict how the dependent variable (Poverty Level) will be, while the independent variables include (Economic Growth, Open Unemployment, Education, and PAD) as indicators. This analysis is used by involving two independent variables between the dependent variable (Y) and the independent variables as (X1, X2, X3, and X4). In addition, the research using multiple linear regression tests aims to determine whether or not the economic growth rate, open unemployment rate, and education affect the poverty rate in Lumajang Regency. The multiple linear regression equation according to Sujarweni (2015: 160) is:

$$Y = \beta0 + \beta1X1 + \beta2X2 + \beta3X3 + \beta3X4 + e$$

Description:

Y = Poverty Level

X1 = Economic Growth Rate

X2= Open Unemployment Rate

X3= Education

X4= Local Revenue

$\beta0$= constant value

β = regression coefficient

e= residual (error)

Hypothetical Test

F test

To ascertain whether the independent variables simultaneously have a significant effect on the dependent variable, the F test is used. The degree of confidence used is 0.05. The decision making for the F test is as follows:

1) If Fcount ≤ Ftable or sig value. > 0.05 then H0 is accepted or there is no significant influence between the dependent variable and the independent variable.

2) If Fcount> Ftable or sig value. <0.05, then H0 is rejected or there is a significant influence between the dependent variable and the independent variable.

T test

The partial t test is basically an interpretation of the effect of each variable on variable Y individually (Ghozali, 2016). The T test is used to assess whether the independent variable partially affects the dependent variable significantly or not. The degree of confidence used is The decision regarding the t test is based on:

1) If T count> T table or probability value (Sig.) <0.05 means that the independent variable has a significant effect on the dependent variable.

2) If T count < T table or probability value (Sig.) > 0.05 means that the independent variable has no significant effect on the dependent variable.

Coefficient of determination (R¬2)

The coefficient of determination aims to measure how far the model's ability to explain the variation in the independent variables in the study. The coefficient of determination that is close to 1 means that the independent variables almost provide the information described to predict the dependent variables (Widarjono, 2013 in Ningrum, 2020).

Result/Findings (or, this section may be combined with Discussion)

Classical Assumption Test

Normality Test

Jarque-Bera	Probabilitas
0,429549	0,806723

The test results show a significant probability of 0.806723, this result is higher than 0.05. Therefore, it can be concluded that the data in this study has a normal distribution.

Autocorrelation Test

Obs R-squared	Prob. Chi-Square
0,026318	0,9869

Based on the autocorrelation test using the LM Test with the provisions> 0.05 which does not occur autocorrelation. Probability value Prob. Chi-Square of 0.9869> 0.05, it can be concluded that there is no autocorrelation in this study.

Multicollinearity Test

	Coefficient	Centered VIF	KENTENTUAN	INFORMATION
X1 PDRB	0,122798	5,840572	< 10,0	there is no muticorrelation
X2 PENGANGGURAN	0,041375	1,008483	< 10,0	there is no muticorrelation
X3 PENDIDIKAN	1,572797	4,822804	< 10,0	there is no muticorrelation
X4 PAD	1,780028	1,486557	< 10,0	there is no muticorrelation

Based on the results of data processing using VIF requirements with the provisions, if the VIF value is less than 10.00, it can be concluded that the variable does not occur multicollinearity or passes the multico test on classical assumptions, and vice versa.

Heteroscedasticity Test

Heteroskedasticity Test: Breusch-Pagan-Godfrey			
F-statistic	0.872336	Prob. F(4,5)	0.5398

Obs*R-squared	4.110262	Prob. Chi-Square(4)	0.926
Scaled explained SS 0.886917			

Based on the heteroscedasticity test using the Breusch-Pagan-Godfrey test with the requirement that if the probability value is> 0.05 then there is no heteroscedasticity problem, and vice versa.

Multiple Linear Regression Analysis

Variable	Coefficient
C	40.90328
X1_PDRB	-0.556030
X2_PENGANGGU RAN	0.222537
X3_PENDIDIKAN	-4.513704
X4_PAD	-4.340014

Based on the results of the above analysis, the multiple linear regression equation is obtained as follows:

$Y = 40{,}90328 - 0{,}556030 + 0{,}222537 - 4{,}513704 - 4{,}340014$

From the above equation, it can be interpreted that:

β_0 : The constant value of 40.90328 indicates that if Economic Growth (X1), Open Unemployment (X2), Education (X3), and PAD (X4) are considered constant, the Level of Poor Population in Lumajang Regency (Y) will increase by 40.90328%.

β_1: the coefficient of economic growth variable (X1) is equal to (-0.556030), if variable X1 increases by 1%, the level of poor population in Lumajang district (Y) will decrease by 0.556030%.

β_2: On the coefficient of the Open Unemployment variable (X2) worth 0.222537 then, if the variable X2 has increased by 1%, the Level of Poor Population in Lumajang District (Y) has increased by 0.222537%.

β_3: On the coefficient of the variable Level of Education (X3) worth (-4.513704) then, if the variable X3 has increased by 1 year, the level of poor population in Lumajang district (Y) has decreased by 4.513704%.

β_4 : On the coefficient of PAD variable (X4) worth (-4.340014) then, if the variable X4 has increased by 1%, the level of poor population in Lumajang district (Y) has decreased by 4.340014%.

Hypothesis Test

T-test

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	40.90328	9.252921	4.420581	0.0069
X1_PDRB	-0.556030	0.350426	-1.586726	0.1734
X2_PENGANGGU RAN	0.222537	0.203410	1.094034	0.3238
X3_PENDIDIKAN	-4.513704	1.254112	-3.599123	0.0156
X4_PAD	-4.34E-14	1.33E-14	-3.254323	0.0226

The results of the t test can be described below:

In variable X1 (Economic Growth) on Y (Poverty Level), the probability value is $0.1734 > 0.05$, it can be concluded that variable X1 has no significant effect on Y. It can be interpreted that individually Economic Growth has no effect on the poverty rate.

In variable X2 (Open Unemployment Rate) against Y (Poverty Level), the probability value is $0.3238 > 0.05$, it can be concluded that variable X2 has no significant effect on Y. It means that individually the Open Unemployment Rate has no effect on the Poverty Level.

In variable X3 (Education Level) on Y (Poverty Level), the probability value is $0.0156 < 0.05$, it can be concluded that variable X3 has a significant effect on Y. It means that individually education has an effect on the Poverty Level.

In variable X4 (PAD) on Y (Poverty Level), the probability value is $0.0226 < 0.05$, it can be concluded that variable X4 has a significant effect on Y. It means that individually Regional Original Income (PAD) has an effect on the Poverty Level.

F test

Prob(F-statistic)	0.010097

From the data above, the simultaneous significance test (F test) resulted in a value of $0.010097 < 0.05$, it can be concluded that variable X (Economic Growth, Open Unemployment, Education, and PAD) has a simultaneous or joint effect on variable Y (Poverty).

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. Use graphs and tables if appropriate, but also summarize your main findings in the text. Do NOT discuss the results or speculate as to why something happened; that goes in the Discussion.

R2 test

R-squared	0,900726
Adjusted R-squared	0,821307

From the test results, a value is obtained that shows that the independent variables are strong when explaining the dependent variable, where the Adjusted R-squared result is 0.821307, which means that 82.1% of the level of poor population (Y) is influenced by the Open Unemployment Rate, Education Level, Economic Growth, and PAD of Lumajang Regency. The rest (100% - 82.1% = 18.9%) is influenced by other variables outside this study.

Discussion

As for the results of the tests that have been carried out in this study, the effect of each independent variable Economic Growth (X1), Open Unemployment Rate (X2), Education (X3), and PAD (X4) on the dependent variable Poverty Level (Y) in Lumajang Regency during the period 2007 to 2021.

Partially, economic growth has no significant effect on the poverty rate in Lumajang district in 2012-2021. From the results of the significance level of 0.1174> 0.05 is evidence that economic growth has no effect on the Poverty Level. . If based on the results of the regression equation, economic growth has increased, the level of poor people in Lumajang Regency has decreased.

Open Unemployment partially has a positive effect and does not have a real (significant) effect on Poverty in Lumajang District from 2012 to 2021, with a probability value of 0.3238 > 0.05. If, based on the results of the regression equation, Open Unemployment increases, the Poverty Level in Lumajang District also increases.

Education partially does not have a real (significant) effect on Poverty in Lumajang District from 2012 to 2021, the resulting probability value of 0.0167 <0.05 is evidence that Education affects the Poverty Level. And based on the results of the regression equation, education has increased, the level of poor people in Lumajang district has decreased.

Regional Original Revenue (PAD) partially has a significant effect on the Poverty Level in Lumajang Regency in 2012-2021. From the results of the significance level of 0.0226 <0.05, it is evident that Regional Original Revenue has no effect on the Poverty Level. If based on the results of the regression equation, the Regional Original Revenue (PAD) has increased, the level of poor people in Lumajang Regency has decreased. With an abundant amount of revenue, local governments can allocate these funds to programmes that can reduce poverty levels.

Conclusion

Economic growth in Lumajang district does not have a direct impact on the poverty rate, so in this study there is no relationship between economic growth and poverty. This is due to

the continuous fluctuation of economic growth in Lumajang district, as well as economic development that has not covered all sectors, especially the education and health sectors.

It is expected that the Lumajang district government has the capacity to reduce disparities in income distribution in the community. This can be done by increasing the income of other sectors in the Gross Regional Domestic Product (GRDP), utilising the potential of the region to improve the welfare of the community. The main focus is on underdeveloped areas in Lumajang district, with the aim of reducing social inequality and addressing poverty issues.

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