Analysis of the Effect of Population, Open Unemployment Rate, and Economic Growth on Poverty Rates in Lamongan Regency

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Abstract

The poverty rate in Kabupaten Lamongan in 2022 is still high, above the average poverty rate in East Java. Poverty levels can certainly be an obstacle to development, and several factors cause high poverty rates in Lamongan Regency, namely population, open unemployment rates, and economic growth. This study aims to analyze the independent variables, including population, open unemployment rate, and economic growth, that affect the poverty rate in Lamongan Regency. This research uses quantitative methods with time series data over 15 years, from 2008 to 2022. The technique used is multiple linear regression. The results show that the population and open unemployment rate variables affect the poverty rate in Lamongan Regency. In contrast, the economic growth variable has no effect on the poverty rate in Lamongan Regency.

Keywords: Population, Open Unemployment Rate, Economic Growth, Poverty Rate

Introduction

The problem of poverty in Indonesia has long existed, and poverty alleviation efforts carried out by the Indonesian government every year have always been unsuccessful. So, poverty alleviation has been the focus of government work so far. Because the government realizes that poverty that cannot be overcome causes social, economic, and political problems in society (Siti Walida, 2015). Poverty also prevents the peace and progress of the people because one of them is due to the low level of community income. Many factors can also cause problems that lead to high or low poverty rates, such as a large population in an area, slow economic growth, and increasing unemployment.

The poverty rate in Kabupaten Lamongan is relatively high compared to other East Java regencies. According to the East Java Central Bureau of Statistics, in 2022, the poverty rate in Kabupaten Lamongan reached 12.53%, which is still high above the average poverty rate in East Java of 10.38%.

The population is a development asset that can be optimally empowered. However, a population can become a "burden" in development if its empowerment is not accompanied by adequate population quality (Marito et al., 2023). According to Sukirno, Population can be a factor driving and inhibiting development. Population can be a driving factor because it can increase the number of workers and expand market conditions. On the contrary, it is an inhibiting factor because population growth will reduce productivity, leading to unemployment and poverty. Poverty will get worse if the population increases.

Another factor that also affects poverty is unemployment; unemployment can cause a high poverty rate because, with a large number of unemployed, the population does not have an income, which increases the poverty rate. According to Sukirno (2006:87), unemployment will reduce people's income and the level of prosperity achieved. In contrast, the decline in the level of prosperity will lead to other problems, namely poverty. The results can be allocated to meet their daily needs if the community has a job and earns income. When their basic needs are met, people do not become poor, and the unemployment rate is low, so the poverty rate remains low.

Rapid and sustained economic growth is an essential prerequisite for sustained economic development and peace—population growth without additional employment results in unequal income, resulting in economic growth and increased poverty. If the economy grows faster than at the beginning, then the economy can be said to improve or develop (Kuncoro, 2003). Economic growth determines a region's welfare, security, and progress. Thus, the increase in Population in Kabupaten Lamongan needs to be supported by the expansion of employment opportunities to improve the community's quality of life.

From some of the descriptions above, it can be concluded that the population, unemployment rate, and economic growth influence poverty alleviation efforts in Lamongan Regency. Therefore, this study aims to determine and analyze the effect of population, open unemployment rate, and economic development on poverty levels in Lamongan Regency.

Literature Review

Poverty

According to the poverty cycle theory proposed by Ragnar Nurkse, Nurkse argues that poor countries are trapped in a poverty cycle that makes it difficult to get out of poverty. Nurkse argues that low human resources and limited capital will cause low productivity and economic growth. Limited capital also causes less than optimal job creation, increasing unemployment in the community and causing poverty (Mukhtar et al., 2019).

Total Population

According to the Central Bureau of Statistics, the population is all people who live in an area for 6 months or more or those who live less than 6 months but aim to settle. According to the population theory by Malthus, which describes a country's population as a severe problem, Malthus argues that the population, if not prevented, will multiply. At the same time, the supply

of natural resources, land, and other factors of production begins to decrease, so there is a scarcity of resources that causes poverty (Todaro & Smith, 2011).

Open Unemployment Rate

According to the Central Bureau of Statistics, unemployment in the employment index includes people who are not working but are still looking for work or are preparing a new business, people who do not have a job and are not looking for work because they feel it is impossible to get a job, or people who are not looking for work because they have been accepted but have not started working. Keynesian theory explains that one of the causes of poverty is unemployment. A high unemployment rate in a society tends to increase the poverty rate. This is because unemployment reduces individual and family income, limiting their access to basic needs such as food, education, and health (Sukirno, 2006). According to Keynes' theory, unemployment occurs when labor supply and demand are unbalanced. This theory emphasizes the importance of creating jobs and developing economic policies to encourage economic growth and create more jobs. Therefore, reducing unemployment is considered one of the most effective methods to reduce poverty. Policies to overcome poverty are not enough to create jobs; but they also need to pay attention to the quality and sustainability of these jobs.

Economic Growth

According to the neo-classical growth theory proposed by Robert Solow and Trevor Swan who argue that economic growth depends on progress in the fulfillment of factors of production such as capital accumulation, labor, population, and technological progress. According to this theory, the economic system can indirectly determine the combination of capital and labor to achieve a specific output level. In addition, Solow also argues that the savings rate affects capital and output. If the savings rate is high, capital and production will also increase.

Research Method

This research was conducted using a quantitative approach. The quantitative method is a research method used to examine and look for relationships between one variable and another using statistical assistance to determine the extent of the relationship between one variable and another (Adiputra et al., 2021). This study was conducted to analyze the effect of population, open unemployment rate, and economic growth on the poverty rate in Lamongan Regency in the period 2008-2022. The data obtained was analyzed using multiple linear regression analysis.

Result

Normality Test

Table 1 Kolmogorov-Smirnov Normality Test Results

Variable	Unstandardized Residual
Asymp. Sig.(2-tailed)	0,090

Source: Data processed, 2024

Based on the SPSS output, the Kolmogorov-Smirnov significant value of all residual data values used in this study is 0.090. Because the Kolmogorov-Smirnov result value is greater than the considerable value of 0.05 or 5%, it can be concluded that all research data used is normally distributed and the normality assumption has been met.

Multicollinearity Test

The multicollinearity test is used to know a regression model where it can find a correlation in independent variables. With this, you can read from the Varian Inflation Factor (VIF) value; it will be seen if the tolerance value is more than> 0.1 and VIF is less than <10, where it does not experience multicollinearity.

Table 2 Multicollinearity Test Results

Variables	Tolerance	VIF
Total Population (X1)	0,465	2,151
Open Unemployment Rate (X2)	0,825	1,212
Economic Growth (X3)	0,532	1,880

Source: Data processed, 2024

From Table 2, it can be concluded that the regression compiled in this study does not have symptoms of multicollinearity.

Heteroscedasticity Test

A heteroscedasticity test is conducted to test whether there is an inequality of variance from the residuals of one observation to another in a regression model.

Table 3 Heteroscedasticity Test Results

Variables	Sig
Total Population (X1)	0,191
Open Unemployment Rate (X2)	0,869
Economic Growth (X3)	0,648

Source: Data processed, 2024

It can be seen from Table 3 by using the Glesjer test that the Sig value of the Total Population, Open Unemployment Rate, and Economic Growth variables is more significant than 0.05. So, the regression model in this study is free from Heteroscedasticity symptoms.

Autocorrelation Test

An autocorrelation test is conducted to determine whether there is a relationship between a period t and t-1 (previous period t). In the autocorrelation test in this study using Durbin-Watson with the conditions of this test, if there is no autocorrelation problem, it is as follows:

Table 4 Durbin-Watson Test Criteria

Criteria	Decision
DW is below -2	Positive Autocorrelation
DW is between -2 and +2	No Autocorrelation
DW is above +2	Negative Autocorrelation

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The following are the results of the autocorrelation test in this study:

Table 5 Autocorrelation Test Result

Model	Durbin-Watson
1.	1,340

Source: Data processed, 2024

Based on Table 5, the Durbin-Watson value is 1.340 through the tests carried out. In the criteria described in Table 4.8, the test results are between -2 and +2, so it is concluded that the research conducted does not have Autocorrelation symptoms (Ghozali, 2018).

Coefficient of Determination (R^2)

The coefficient of determination is obtained in the model test analysis, which shows how much explanation can be given between the x and y variables.

Table 6 Results of the Coefficient of Determination

Model Summary	
Model	R²
1.	0,584

Source: Data processed, 2024

It can be seen from Table 5 that the conclusion is drawn; namely, the R Square coefficient value is 0.584; this means that 58.4% of the independent variable affects the dependent variable, of which the remaining 41.6% is influenced by other factors or variables not contained in this study.

F Test (Simultaneous)

The F test is used to determine whether the independent variables (X1, X2, X3) affect the dependent variable (Y).

Table 7 Results of f Test

	ANOVAa					
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	64.353	3	21.451	5.143	.018b
	Residual	45.880	11	4.171		
	Total	110.233	14			

a. Dependent Variable: Kemiskinan

b. Predictors: (Constant), PertumbuhanEkonomi, TingkatPengangguran, JumlahPenduduk

Source: SPSS Output

Based on Table 6 above, it can be seen that the magnitude of the F-count value is 5.143 with Sig of 0.018, while the F-table is 3.59, which can be found in the distribution table f level

0.05, so with this, it is concluded that the F-count 5.143> F-table 3.59, with a significance of 0.018 <0.05, so with this it is concluded that the variables of Population (X1), Open Unemployment Rate (X2) and Economic Growth (X3) are simultaneously or together able to influence the Poverty Level variable (Y).

Multiple Linear Regression Analysis

Multiple linear regression analysis is an analysis conducted to determine the direction and how much influence the independent variables of more than one or more have on the dependent variable.

Table 8 Multiple Linear Regression Results

Model	*Unstandardized Coefficients B*
(Constant)	46,143
Total Population (X1)	-3,113
Unemployment Rate (X2)	1,788
Economic Growth (X3)	0,096

Source: Data processed, 2024

Based on Table 7 above, a linear regression equation model can be obtained as follows:

Y = 46,143 – 3,113 JP + 1,788 TPT + 0,096 PE + e

From the linear regression equation model arranged above, it can be explained as follows:

1. **Constant (β0) = 46.14**
   Indicates that if the variable Population (X1), Open Unemployment Rate (X2), and Economic Growth (X3) is 0 or constant, then the Poverty Rate variable (Y) is 46.143%.
2. **β1: Regression Coefficient of Population (X1) = -3.113**
   This shows that the Total Population (X1) hurts the Poverty Level (Y), which means that if the Total Population increases by 1 million people, the Poverty Level will decrease by 3.113%.
3. **β1: Coefficient of Open Unemployment Rate (X2) = 1.788**
   This indicates that the open unemployment rate (X2) positively affects the poverty level (Y), which means that if the open unemployment rate increases by 1%, the poverty level will increase by 1.788%.
4. **β3: Economic Growth Coefficient (X3) = 0.096**
   This shows that Economic Growth (X3) positively affects the Poverty Level (Y), which means that if there is a 1% increase in Economic Growth, the Poverty Level will increase by 0.096%.

T Test (Partial)

Partial tests are used to prove the effect of each independent variable, namely Population (X1), Open Unemployment Rate (X2), and Economic Growth (X3), on the dependent variable (Y), namely the Poverty Level.

Table 9 Results of t-test

Variables	t-hitung	t-tabel	Sig.
Total Population (X1)	-2,775	2,201	0,018
Open Unemployment Rate (X2)	2,900	2,201	0,014
Economic Growth (X3)	-0,082	2,201	0,765

Source: Data processed, 2024

Based on the results in Table 8, it can be interpreted as follows:

1. Total Population Variable (X1)
   The population variable gets a t-count of -2.775 and a t-table of 2.201. From these results, it can be concluded that the t-count -2.775> t-table 2.201 with a significance of 0.018 <0.05, it can be concluded that the variable Population (X1) partially has a negative and significant effect on the Poverty Level variable (Y).

2. Open Unemployment Rate Variable (X2)
   The open unemployment rate variable obtained a t-count of 2.900 and a t-table 2.201. From these results, it can be concluded that the t-count result is 2.900> t-table 2.201 with a significance of 0.014 <0.05, so it can be concluded that the Open Unemployment Rate variable (X2) partially has a positive and significant effect on the Kamiskinan Level (Y).

3. Economic Growth Variable (X3)
   The economic growth variable gets a t-count of -0.082 and a t-table of 2.201. From the results, it can be concluded that the t-count -0.082 < t-table 2.201 with a significance of 0.765> 0.05, it can be concluded that the Economic Growth variable (X3) partially has no significant effect on the Poverty Level (Y).

Discussion

Based on the study's results, it can be concluded that the Total Population variable has a negative and significant effect on the Poverty Level variable in Lamongan Regency. These results indicate an unidirectional or inverse relationship between the total population variable and the poverty rate variable. If the Population in Lamongan Regency increases, the poverty rate decreases. Because the population in the Lamongan Regency is dominated by productive age, it can increase the productivity of the Lamongan community. Thus, when productivity increases, it will impact the high level of community welfare and can reduce the existing poverty rate.

The results of this study are also in line with research (Putra & Setiawati, 2023) that population has a negative and significant effect on poverty in Gresik Regency because the Population in Gresik Regency is dominated by productive age, so employment opportunities to improve welfare are still wide open. With the increase in population as a spur to development, various kinds of economic activities will be mobilized. They will ultimately improve the community's welfare and decrease the poverty rate. This research does not follow research (Saputra, 2011), which reveals that population in the economic development of a

region is a fundamental problem because uncontrolled population growth can result in not achieving the goal of economic development, namely the welfare of the people, which causes poverty.

Based on the research results, it can be concluded that the Open Unemployment Rate variable has a positive and significant effect on the Poverty Level variable in Lamongan Regency. These results indicate a unidirectional relationship between the unemployment rate variable and the poverty rate variable. This means that when the unemployment rate increases, the poverty rate also increases. One of the various factors causing the low standard of living of the Population in Lamongan Regency is the inefficient use of labor. Some residents who work do not have the appropriate skills, so the results achieved are not maximized. People with low levels of education and skills, who usually do not have permanent jobs, are also characterized by low-income levels. This makes it difficult for people to fulfill their daily needs, leading to increased poverty.

This research follows research (Budianto, 2019) explaining that the unemployment rate has a significant positive effect on poverty in nine cities in East Java Province; this problem is caused by low income can affect people's welfare through unemployment and lack of income certainly increases the likelihood of falling into a poverty trap. Meanwhile, according to research (Cahyani, 2022), it was found that the unemployment rate had no significant effect on poverty in Gresik Regency, which does not mean that residents of Gresik Regency will immediately become poor without work or lack in terms of their needs. This is because as long as family members still have enough income for their basic needs, they can maintain their status above the poverty line.

Based on the research results, it can be concluded that the Economic Growth variable has no significant effect on the Poverty Level in Lamongan Regency. If economic growth in Lamongan Regency increases, the poverty rate remains relatively stable or unchanged. This is because economic growth has increased, and it is not necessarily able to overcome the increase in poverty that has occurred and has not been spread across each income group, including people experiencing poverty. Economic growth is also able to increase regional income, which is used for budgeting government expenditures such as public facilities and infrastructure that can be utilized by the community and government policies when economic growth occurs so rapidly but is not balanced by government policies that prioritize poverty alleviation such as programs intended for the poor, but rather prioritize other things that are considered more meaningful and sustainable such as development, then within a certain period economic growth has not been able to affect the poverty rate in Lamongan Regency.

The results of this study are also in line with research (Nainggolan, 2020) that shows that economic growth has no significant effect on the poverty rate in North Sumatra. There are years when economic growth increases, the poverty rate decreases, while there are also circumstances where when economic growth decreases, the poverty rate also decreases. The absence of the effect of financial development on the poverty rate in North Sumatra is also common in developing countries that experience high economic growth but provide less benefit to people experiencing poverty.

Conclusion

The following conclusions are based on the analysis of the effect of population, open unemployment rate, and economic growth on the poverty rate in Lamongan Regency in

2008-2022:

1. The total population has a negative and significant effect on the Poverty Level in Lamongan Regency, as shown by the results of the statistical t-test of -2.775 and a t-table of 2.201. This means that if the population increases, the poverty rate in Lamongan Regency will decrease.
2. The Open Unemployment Rate has a positive and significant effect on the Poverty Level in Lamongan Regency, as shown by the results of the statistical t-test of 2.900 and the t-table of 2.201. This means that if the unemployment rate increases, the poverty rate in Lamongan Regency will also increase.
3. Economic growth has no significant effect on the poverty level in Lamongan Regency, as shown by the results of the statistical t-test of 0.082 and the t-table of 2.201. If economic growth in Lamongan Regency increases, the poverty rate remains relatively stable or unchanged.

Suggestion

Based on the results of the research and the conclusions above, the researcher conveyed suggestions for the local government of Lamongan Regency and further research as follows:

1. The local government of Lamongan Regency is expected to make policies to control high population growth by encouraging transmigration programs, reducing population growth with ideal programs, and imposing high quotas for migrants.
2. The local government of Lamongan Regency is expected to make policies to overcome the problem of unemployment by providing employment opportunities and skills so that people can do a good job. Because the community has qualified abilities for the work they are interested in, it will have no difficulty finding work. Thus, unemployment and poverty can be resolved in Lamongan Regency.
3. The regional government of Lamongan Regency is expected to make policies that can increase economic growth by optimizing the available potential. So, with this, it is hoped that it will be able to distribute economic results to all groups of society, especially people experiencing poverty, to increase the community's welfare level. Also, it can reduce the poverty problem in Lamongan Regency.
4. For further research with the same theme, it is hoped that it can use other independent variables and a longer time span to produce better research and the latest research and better explain the phenomena that occur in the area.

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