ANALYSIS OF THE INFLUENCE OF GDP AND OPEN UNEMPLOYMENT RATE ON POVERTY LEVELS IN CENTRAL JAVA PROVINCE" (YEAR 2001-2020)

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Abstract

The high level of poverty in Central Java shows that the process of economic development has not been able to increase the welfare of society equally. Thus, an analysis is needed to determine the factors that influence poverty in order to overcome poverty. The purpose of this study is to analyze the gross regional domestic product (GRDP), the poverty level, the unemployment rate in the Central Java region. This study uses data from BPS with data on dependent and independent variables in the years 2001-2020. The analytical tool used in estimating the regression model is using the eviews application. The results showed that the GNP variable is negative and has a significant effect on poverty in Central Java, and the employment rate effect is positive and significant on poverty in Central Java.

Keywords: GDP, Unemployment Rate, Poverty Rate.

INTRODUCTION

One of Indonesia's national development goals based on the Preamble to the 1945 Constitution is to promote public welfare. General welfare is a condition of fulfilling the material, spiritual and social needs of the country's population so that they can live properly and be able to develop themselves, so that they can carry out their social and economic functions. General welfare in Indonesia can be described based on the level of poverty. There is a negative relationship between general welfare and poverty levels in Indonesia. The lower the poverty level, the higher the welfare of the population.

The problem of poverty is a complex and multidimensional problem, therefore poverty alleviation efforts must be carried out comprehensively, covering various aspects of people's lives, and carried out in an integrated manner (Nasir, 2008). Efforts to reduce poverty in Central Java are carried out through five pillars called the "Grand Strategy". First, the expansion of employment opportunities, is aimed at creating economic, political and social conditions and environment that enable the poor to have opportunities to fulfill their basic rights and increase their standard of living in a sustainable manner. Second, community empowerment is carried out to accelerate social, political, economic, institutional and culture of society and expand the participation of the poor in making public policy decisions that guarantee the respect, protection and fulfillment of basic rights. Third, capacity building, carried out to develop basic skills and business abilities of the poor so they can take advantage of environmental developments. Fourth, social protection, carried out to provide protection and a sense of security for vulnerable groups and the poor, both men and women, caused among others by natural disasters, the negative impact of the economic crisis, and social conflict.

RESEARCH METHODS

The type of research in this research is explanatory research. Meanwhile, according to the level of explanation, associative or relationship research aims to determine the relationship between two or more variables. Then used multiple regression analysis (multiple regression analysis). The research design describes the natural variables of a study so that the author's mindset can be understood by readers. The research plan used can be described as follows:

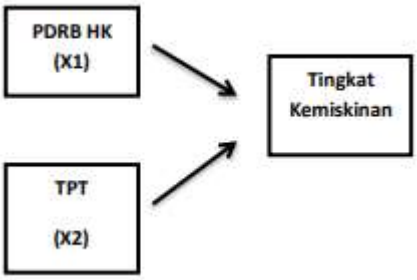

Figure 1 Conseptual matrix

In this research, the independent variables are HK GDP (X1) and the Open Unemployment Rate (X2) in Central Java Province in 2001-2020. Meanwhile, the dependent variable is the Poverty Rate (Y) 2001-2020.

Samples were taken in this study, including research on HK PDRB, Open Unemployment Rate, Poverty Rate 2001-2020.

The data collection technique is documentation data, namely data sought by looking for secondary data obtained from relevant sources as input material, especially for analysis and discussion. The secondary data obtained is in the form of documents, namely BPS data.

In this study, the data analysis technique used was multiple linear regression using the OLS (ordinary least squares) method, which is often used to estimate the sample regression function. The classical assumption test includes the normality test, heterosdisity test, autocorrelation test, multicholinearity test and multiple regression test.

The multiple regression formula used is as follows:

Y=α+Q$\mathbf{1}\boldsymbol{X}\mathbf{1}$+Q$\mathbf{2}\boldsymbol{X}\mathbf{2}$+$\boldsymbol{\mu i}$

Where:

Y = Poverty Rate

α= constant

X1 = GRDP HK

X2 = Open Unemployment Rate (TPT)

$\beta 1 \beta 2$ = Regression Coefficient

μi= Residual/er

RESULTS AND DISCUSSION

ANALYSIS RESULTS

Regression Analysis

This study aims to determine the effect of HK GRDP and the Open Unemployment Rate on the Poverty Rate in Central Java in 2001-2020. In research, the analysis technique used is multiple regression analysis technique. Multiple regression analysis is an analysis that is used to determine the possible form of relationship between variables, namely the independent variable and the dependent variable together with the Eviews 5 program, the following results are obtained

Regression Coefficient

Dependent Variable: LEVEL_POVERTY
Method: Least Squares

Table 1 Regression Result

Date: 05/15/21 Time: 08:56
Sample (adjusted): 2001 2020
Included observations: 20 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	42.00369	3.388125	12.39733	0.0000
PDRB_HK	-6.400295	0.414071	-15.45699	0.0000
TINGKAT_PENGAGURAN_TERBUKA	1.596387	0.448738	3.557501	0.0024

R-squared	0.937495	Mean dependent var	19.83850
Adjusted R-squared	0.930141	S.D. dependent var	12.86119
S.E. of regression	3.399322	Akaike info criterion	5.422510
Sum squared resid	196.4416	Schwarz criterion	5.571870
Log likelihood	-51.22510	Hannan-Quinn criter.	5.451667
F-statistic	127.4882	Durbin-Watson stat	1.603789
Prob(F-statistic)	0.000000		

From the equation above, the results can be explained as follows;

a) A constant value of 42.00369 means that if the HK GRDP value and the Open Unemployment Rate are 0, then the poverty rate decreases by 42%.
b) b1 = -6.400295, meaning that if the HK GDP variable increases by 1%, the poverty rate will decrease by 6.400295 assuming the other independent variables are constant. The coefficient is negative, meaning that there is a relationship between HK GDP and the poverty rate, the higher the HK GDP, the lower the poverty rate.
c) b2 = 1.596387 means that if the Open Unemployment Rate variable increases by 1%, the poverty rate decreases by 1.596387 assuming the other independent variables are constant. The coefficient is positive, meaning that there is a relationship between the Open Unemployment Rate and the Poverty Rate, the higher the Open Unemployment Rate, the higher the Poverty Level.

In order to get maximum results in using multiple regression analysis techniques, you must meet the requirements or pass the classic assumption test, namely the normality test, multicollinearity test, autocorrelation test, and heterodisity test.
Classic assumption test

Normality test
The normality test is a test that is intended to test whether the regression residual value has a normal distribution or not.

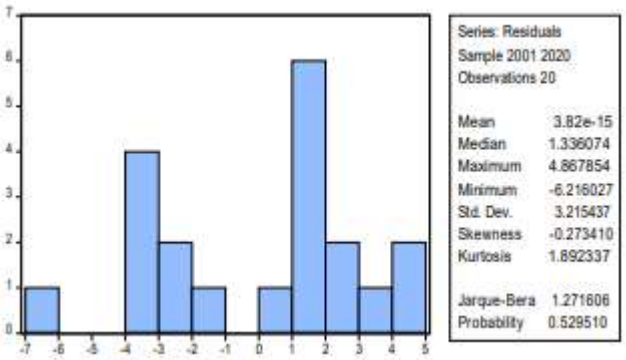

Figure 2 Normality test

From the test results above, data with a prob value is obtained. Obs. R2(X2) >αor 0.529510 > 0.05. so it can be concluded that the data has a normal distribution and passes the normality test.

Multicollinearity Test

Shows the multicol relationship between the independent variables. The multicollinearity relationship can be seen from the correlation coefficient between the independent variables.

Table 2 Multicollinearity test

Variance Inflation Factors
Date: 05/15/21 Time: 09:22
Sample: 2000 2020
Included observations: 20

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
C	11.47939	19.86846	NA
PDRB_HK	0.171455	8.073637	1.000841
TINGKAT_PENGAGURAN_TERBUKA	0.201366	12.27871	1.000841

After conducting data processing tests using the eviews program, the Centered VIF results were obtained, namely the independent variable HK PDRB was 1.000841 < 10. Due to the multicollinearity test results on both variables the centered value was <10, so the multicollinearity test passed the test. And can continue the next test.

Heteroscedasticity

Heteroscedasticity is a condition where the interference factors do not have the same variance

Table 3 Heterokedasticity test

F-statistic	2.055495	Prob. F(2,17)	0.1587
Obs*R-squared	3.894644	Prob. Chi-Square(2)	0.1427
Scaled explained SS	1.255465	Prob. Chi-Square(2)	0.5338

After testing the data processing using the evews program, the estimated probability value of obs*R-Squared is (0.1427) > 5% alpha. Because of the Pro value. Obs. R2 >degree of error (α) = 5% (0.05), then there is no heteroscedasticity so that it can be continued to the next test.

Autocorrelation

Autocorrelation is a condition where the interfering factors are related to one another.

Table 4 Autocoreelation test

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	1.082128	Prob. F(2,15)	0.3639
Obs*R-squared	2.521818	Prob. Chi-Square(2)	0.2834

After testing the data processing using the eviews program, the Chi Squared prob value is 0.2834. With a significant value of 5%. This shows that the estimation results are significant autocorrelation. Thus, according to the serial correlation test (LM test) that there is no autocorrelation in the estimation so that further testing can be continued.

Statistical Test Results

a. Determination Coefficient Test ($\boldsymbol{R2}$)

Model feasibility test or test$R2$ is this to see the ability of the independent variables in explaining the dependent variable. Mark ($R2$) obtained from the estimation results is 0.937495. This means that the independent variables HK GRDP and Open Unemployment Rate are able to explain the dependent variable Poverty Rate of 93% while the rest is explained by other variables.

b. Partial Regression Coefficient Test (t-test) In conducting the t-test the thing that must be done is to compare the t-statistic values with the t-table. Where if the t-statistic value > t-table value then the independent variable has a significant influence on the dependent variable. Meanwhile, if the t-statistic value < t-table value, it can be said that the independent variable has no significant effect on the dependent variable. Formulation/Statement of the Hypothesis

- Initial Hypothesis (H_0)

H_0:β_1= 0 the independent variable HK GRDP has no effect on the Poverty Level variable

H_0:β_1= 0 independent variable Unemployment Rate has no effect on the Level variable Poverty

- Final Hypothesis (H_1)

H_1:β_2= 0 the independent variable HK GRDP has an influence on the Level variable Poverty

H_1:β_2= 0 the independent variable of the Open Unemployment Rate has an influence on the Poverty Level variable

In this study the error rate used (α)is 5% or 0.05, with the number of observations (n) = 20. And the test that will be used is a two-way test. Then calculate the degree of freedom value as follows:

df = 20-3 = 17
So that the t-table value is 1.73961 By comparing the statistical t-value that has been obtained in the previous estimation model with the t-table value that has been searched, the results obtained are as follows:
HK GRDP Variable to Poverty Level Based on the results of the previous estimation, it is known that the HK GRDP variable has a t-statistical value of -15.45699 while the t-table value is 1.73961. this means that the t-statistic < t-table value (-15.45699 < 1.73961), and a significant level of 0.0000 < 0.05 so it can be concluded that the GRDP value has no significant effect on the poverty level. In$H0$ received and$H1$rejected.
Open Unemployment Rate Variable to Poverty Rate
Based on the results of the previous estimation, it is known that the Open Unemployment Rate variable has a statistical value of 3.557501 while the ttable value is 1.73961. this means t-statistic > t-table value (3.557501>1.73961), and a significant level of 0.0024>0.05 so it can be concluded that the value of the Open Unemployment Rate has a significant influence on the poverty rate. In$H1$ accepted and$H0$rejected.
c. Simultaneous Regression Coefficient Test (F-Test)
Initial Hypothesis$\boldsymbol{H0}$= 0 independent variables HK GRDP and poverty level together have no effect on the dependent variable Poverty Level.
Final Hypothesis$\boldsymbol{H1}$≠ 0 = independent variable HK GRDP and poverty rate together have an influence on the dependent variable Poverty Level.
Based on the estimation results above, it is known that F-Statistics / F-Calculation = 127.4882, while the level of confidence usedα= 0.05. Define F-Table:
DF1 = K-1 = 3-1 =2
DF2 = NK = 20-3 = 17
F-table is in (2;17) then F-table = 3.59
So that the value of F-statistics > F-Count or 127.4882 > 3.59.
From these results, the statement H0 is rejected and H1 is accepted or the independent variables HK GRDP and the Open Unemployment Rate together have an influence on the dependent variable.

DISCUSSION

The Effect of GRDP on Poverty Levels in Central Java

The estimation results using the OLS (Ordinary Least Square) method show that the HK GDP variable has a negative and significant relationship to the poverty level. In Central Java Provision Based on the regression results, the HK GDP coefficient is -6.400295. meaning that the level of GRDP in HK increases, the poverty rate will decrease. High and sustainable economic growth is a major condition for the continuity of economic development and increased prosperity in a region.
Economic growth without employment opportunities will result in inequality in the distribution of additional income (ceteries paribus) which will then create conditions for economic growth with increased poverty.
According to Koncoro, the traditional development approach is more interpreted as development that focuses more on increasing the GRDP of a province, district or city. So that the decrease or increase in GRDP of an area is based on the quality of household consumption. As the results of Van Indra Wiguna's research (2013) "The Influence of GRDP, Education and Unemployment on Poverty Levels in Central Java Province 2005-2010" show a negative relationship and have a significant effect on poverty rates in Central Java. According

to Kuznezt in sincere tambunan (2001), growth and poverty have a strong correlation, because at the early stages of the development process poverty tends to increase at the end of development, the poor gradually decrease.

As a result of Ridho Andykha's research, et al. (2018) "The effect of GRDP, Open Unemployment Rate, and HDI on Poverty Rates in Central Java Province.". The regression results show that the open unemployment rate has a unidirectional or positive and significant relationship to the poverty rate. This study uses multiple linear regression analysis. This result can be interpreted that when the open unemployment rate decreases, the poverty rate will also increase.

The Effect of Open Unemployment Rate on Poverty Rate in Central Java

The estimation results above show that there is a direct relationship between the open unemployment rate and the poverty rate in Central Java Province. Based on the regression results, the unemployment coefficient is 1.596387, meaning that the open unemployment rate increases, the poverty rate will be high.

Unemployment has a very pronounced impact on society. If the unemployed people have families and dependents that must be met. A lot of unemployment if it lasts a long time will have an impact, further muddy the economy. The unemployed do not have the income to meet their needs. And the state of poverty caused by unemployment raises many problems such as criminal behavior. Insufficient employment conditions coupled with a person's lack of motivation to do business and open their own jobs or are called entrepreneurs result in unemployment.

The percentage of poor people in each district/city decreases from year to year. 2019, the percentage of poor people in Central Java province is 10.80%. the highest percentage of poor people was in 2020 at 11.41 this was influenced by the impact of the co-19 pandemic. This number experienced a significant increase.

As a result of Ridho Andykha's research, et al. (2018): the effect of GRDP, Open Unemployment Rate, and HDI on Poverty Rates in Central Java Province.". The regression results show that the open unemployment rate has a unidirectional or positive and significant relationship to the poverty rate. This study uses multiple linear regression analysis. This result can be interpreted that when the open unemployment rate decreases, the poverty rate will also increase.

CONCLUSIONS AND RECOMMENDATIONS

A. Conclusion

This study aims to examine the effect of the HK GDP variable, the Open Unemployment Rate on the Poverty Rate in Central Java in 2001-2020. Based on the results of the data analysis that has been carried out in chapter Iv, it can be concluded as follows:

1. The GRDP HK variable has a negative and significant effect on the poverty rate. This is because the increase in HK GRDP that occurred in Central Java was followed by a decrease in poverty in Central Java.
2. The Open Unemployment Variable (TPT) has a positive and significant influence on the level of poverty. This is because the increase in unemployment in Central Java is followed by an increase in poverty.

B. Suggestion

Based on the results of the discussion and conclusions, suggestions can be given, namely as

follows:

1. From the results of the study, economic growth affects the level of poverty, so it is hoped that the Government can carry out economic development that is oriented towards increasing people's income so that economic growth increases.
2. Based on the research results, the unemployment rate affects the level of poverty in a region. So based on research results the Central Java provincial government can increase the economic sector through SMEs so that they can absorb wider employment opportunities and reduce poverty rates.

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