THE ANALYSIS OF FACTORS AFFECTING POVERTY IN
THE SPECIAL REGION OF YOGYAKARTA PROVINCE
2009-2016

A JOURNAL

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By:
KIKILIA AMANDA
Student Number: 13313297

International Program
Business and Economics Department
Faculty of Economics
Universitas Islam Indonesia
Yogyakarta
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ABSTRACT
This study analyzes factors affecting poverty in the Special Region of Yogyakarta Province. The data used were panel data started from years 2009 - 2016. This research used poverty as the dependent variable, and human development index, gross regional domestic product, public spending, and government spending as the independent variables. The data were analyzed using panel data analysis with Fixed-Effect Model regression. The study results showed that human development index and gross regional domestic product has significantly influence poverty. Public spending and government spending did not significantly influence poverty in the Special Region of Yogyakarta Province.

Keywords: Poverty, HDI, GRDP, Public Spending, and Government Spending

Penelitian menganalisis faktor-faktor yang mempengaruhi kemiskinan di DIY. Data yang digunakan adalah panel data yang merupakan kombinasi cross-section 5 kabupaten/kota di DIY dan time-series 2009 – 2016. Kemiskinan digunakan sebagai dependen variabel, sedangkan indeks pembangunan manusia, produk domestik regional bruto, belanja publik dan belanja pemerintah merupakan independen variabel pada penelitian ini. Penelitian ini menggunakan uji Chow dan uji Hausman dan hasil uji menunjukkan metode Fixed Effect Model adalah metode yang digunakan untuk menganalisis faktor-faktor yang mempengaruhi kemiskinan di DIY. Hasil penelitian ini menunjukkan variabel IPM dan produk domestik regional bruto mempengaruhi kemiskinan di DIY, sedangkan belanja publik dan belanja pemerintah tidak mempengaruhi kemiskinan di DIY.

Kata Kunci : Kemiskinan, IPM, PDRB, Belanja Publik, dan Belanja Pemerintah.
INTRODUCTION

Poverty is one of the fundamental issues that is the center of government attention in any country. In almost all developing countries, the standard of living of most of the population tends to be very low, not only in comparison with the living standards of people in rich countries, but also with the elite in their own countries. This low standard of living manifests itself in the form of very low levels of income or poverty. (Todaro, 2004)

Poverty is the biggest problem in Indonesia with no solution to solve it. Poverty is complex because it involves various aspects such as the right to fulfill food, health, education, employment, and so forth. In order to decrease poverty in Indonesia, support and cooperation are needed from the community and the seriousness of the government in handling this issue. (BPS Jogja, 2012)

Special Region of Yogyakarta is one of the provinces in Java Island. According to BPS (2016), during the period of 2002-2016 the percentage of poor people in Dearah Istimewa Yogyakarta is higher than the percentage of poor people in Indonesia. The government's efforts to reduce poverty look very serious, so as the government of the Special Region of Yogyakarta. A variety of ways are being undertaken to reduce poverty rates such as allocating village funds, food self-sufficiency programs, micro enterprise credit programs and physical infrastructure programs. Later on, livestock support programs, subsidies for rural infrastructure development, education and health programs. From the central government, villages also get PNPM programming, BOS, health insurance to the provision of micro business credit. All of these are done to reduce the number of poor people in the Special Region of Yogyakarta.

The problem of poverty in Yogyakarta has a high percentage of poor people compared with the percentage of poor people in Indonesia. Therefore, poverty is a shared responsibility of both government and society. Especially for the government which is a buffer process of the improvement of community life to find solutions as an effort to cope poverty.

Sharp (in Kuncoro, 2010) said that there are three factors causing poverty if viewed from the economic side. First, poverty arises because of the inherent pattern of resource ownership that causes the distribution of income to be unbalanced. The poor have only limited resources and low quality. Both poverty arise due to differences in the quality of human resources. The low quality of human resources results in low productivity, and in turn low wages. The low quality of human resources is due to the low level of education, the fate of the less fortunate, the discrimination or the descendants of the three poverty arises because of differences in access to capital.

In developing countries health is an important factor for reducing poverty. According to Lanjouw, et al. (2001) human development in Indonesia is identical with poverty reduction. Investments in education and health will be more important for the poor than non-poor because for the poor the main asset is their
raw labor. The availability of affordable educational and health facilities will greatly help to increase productivity and in turn increase revenue.

Based on the above explanation, it is necessary to study and analyze poverty that happened in the Special Region of Yogyakarta Province as well as factors influencing it and planning of regional development program to reduce poverty that was done in this thesis entitled "The Analysis of Factors Affecting Poverty in the Special Region of Yogyakarta Province 2009-2016 "

Based on the study backgrounds, the research problems of the research are:

1. What is the effect of the Human Development Index on poverty in the Special Region of Yogyakarta Province from 2009-2016?
2. What is the effect of the GRDP on poverty in the Special Region of Yogyakarta Province from 2009-2016?
3. What is the effect of the Public Spending on poverty in the Special Region of Yogyakarta Province from 2009-2016?
4. What is the effect of the Government Spending on poverty in the Special Region of Yogyakarta Province from 2009-2016?

And the research objectives of this research are:

1. To analyze the influence of the Human Development Index on poverty in the Special Region of Yogyakarta Province from 2009-2016?
2. To analyze the influence of the GRDP on poverty in the Special Region of Yogyakarta Province from 2009-2016?
3. To analyze the influence of the Public Spending on poverty in the Special Region of Yogyakarta Province from 2009-2016?
4. To analyze the influence of the Government Spending on poverty in the Special Region of Yogyakarta Province from 2009-2016?

LITERATURE REVIEW

Niswati (2014) had conducted a research entitled Factors Affecting Poverty in The Special Region of Yogyakarta Year 2003-2011. The variables were the percentage of poor people as dependent variable and level of education, health level, labor productivity, inflation and wages Minimum districts as independent variables. The result of the research showed that education and inflation did not affect poverty in DIY, while health and labor productivity had negative effect on poverty and district minimum wage had positive effect on poverty in DIY.
Pratama (2014) in a research entitled Analysis of Factors Affecting Poverty in Indonesia. The variables used were poverty level as dependent variable and income per capita, inflation, education level, and human development index as independent variable. The method used in this study is a multi-linear regression, from the study it can be concluded that the variable income per capita, inflation, education level human development index (HDI) and consumption significantly affects the poverty level.

Rusdarti & Sebayang (2013), in the research entitled Factors Influencing Poverty Rate in Central Java, Central Java Province had a fairly high number of poor people and was in the position of 12 out of 33 provinces in Indonesia. This research described poverty in Central Java Province and analyzed the effect of Gross Regional Domestic Product (GRDP), unemployment, and public spending on poverty. The data was analysed using Ordinary Least Square (OLS) technique. The results showed that the decrease in unemployment rate did not significantly affect poverty. In fact, the number of poor people in the area was bigger than the city. Statistically, PDRB and other variables such as public expenditure had significant effect on poverty while unemployment influence did not have significant influence on poverty.

Saputra and Mudakir (2011) in their research analyzed the influence of population variable, GRDP, Human Development Index and unemployment to the rate of poverty in the regency capital city of Central Java. The regression model used Ordinary Least Squares Regression using a panel data of fixed effects approach. This research used dummy year as one of the variables. The use of dummy years in this research was for variations of poverty levels over the time in Central Java. This research showed that population variable had positive and significant influence on the rate of poverty in Central Java, GRDP had negative and significant influence on the rate of poverty in Central Java, Human Development Index had negative and significant influence on the rate of poverty in Central Java and unemployment had negative and insignificant influence in the rate of poverty in Central Java.

Sholikhah (2016) had conducted a research entitled Analysis of Factors Affecting Poverty Rate in the Province of the Special Region of Yogyakarta year 2009-2014. The variables were poverty rate as dependent variable and Gross Regional Domestic Product (GRDP), life expectancy (AHH), and population as independent variables. The data used in this research was secondary data obtained from the publication of the Central Bureau of Statistics various editions. The analytical method was the common effect estimation model and the fixed effect estimation model. Based on results and hypothesis testing results, GRDP and AHH were proved to have a significant negative effect on poverty in the province of the special region of Yogyakarta while the number of population did not have significant affect on the amount of poverty in the province of the special region of Yogyakarta.
Zuhdiyat and Kaluge (2015) analyzed the factors affecting poverty in Indonesia. The research used quantitative approach with regression test. It was aimed to analyze the human development index, economic growth, TPT to poverty. The research was conducted on 33 provinces in Indonesia. The result showed the influence of human development index to poverty, while economic growth and TPT had no influence on poverty.

**RESEARCH METHOD**

This research used the quantitative approach to examine the relationship between the variables of the research. The data used in this research will be secondary data. The data used in this research are qualitative data which came from the Indonesian Statistics, containing panel data from 2009 until 2016 from 5 cities in Special Region of Yogyakarta Province.

This research contains the dependent variable and independent variables. The dependent variable of this research is poverty, and the independent variables are human development index, gross regional domestic product, public spending and government spending.

**ANALYSIS TECHNIQUE**

To estimate the panel data, there are some models that can be used which are Pooled OLS model (common effect model), fixed effects model or least squares dummy variable (LSDV) model, and random effects model (REM).

There are three tests to choose between 3 models in the panel data (Sriyana, 2014). To choose between Common Effect and Fixed Effect, the researcher used F-test to test the significance of Fixed Effect. LM test were used to test the significance of Fixed Effect, and Hausman Test were used to test the significance of Random Effect. Chow Test or redundant fixed effect test is used to choose between common effect model and fixed effect model wile Hausman test is used to choose between fixed effect model and random effect model.

The relationship between the dependent variable and independent variables in this research in the theoretical model is:

\[ Y_1 = f (X_1, X_2, X_3, X_4) \]

Where:

\[ Y_1 = \text{Poverty} \]
\[ X_1 = \text{Human Development Index} \]
\[ X_2 = \text{Gross Regional Domestic Product} \]
$X_3 = $ Public Spending  \\
$X_4 = $ Government Spending  \\

To analyze the factors that influence poverty in DIY, the researcher used panel data analysis. The model can be presented as follows:

$$Y_{it} = \beta_0 + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 X_{3it} + \beta_4 X_{4it} + \epsilon_{it}$$

$i = 1,2, \ldots 7$

$t = 1,2, \ldots 6$

The tests used to estimate the regression result are:

a. T-test  
   T test is used to know the influence of the significance of the independent to the dependent variable individually.

b. F-test  
   While t-test is conducted to test the influence of each independent variable, F-test is used to test the significance of the independent variables as a whole. When the probability of F-statistics is greater than 0.05 so that $H_0$ is accepted, and when it is lower than 0.05 $H_0$ is rejected. If F-test is greater than F-critical, reject $H_0$. It means that all independent variables significantly influence the dependent variable.

c. Coefficient Determination (R²)  
   R² test measures the influence of independent variables to dependent variable in the research model used. The value are between 0 – 1. The value that is close to 1 meaning that all independent variables give all information needed to predict the dependent variable, and vice versa, when the value which is close to 0 meaning that the independent variables have low influences on the dependent variable or it means that the independent variable cannot explain the fluctuation of the dependent variable.

RESULT AND DISCUSSION

Human Development Index (HDI)  

The description of the variable regression coefficient Human Development Index ($X_1$)= -1.442899 then the human development index has a negative effect. Means when variable regression coefficient Human Development Index increased 1 percent, the poverty level will decrease 1.442899 thousand number of poverty level as the assumption the other variable are constant.

Based on the t-statistic probability of Human Development Index is 0.0000, the Human Development Index has a significant and effect on poverty due
to the probability of t-statistic (0.0000) less than a 5%. So that the statistic variable Human Development Index (X1) has a significant and negative influence on poverty (Y).

These results are similar to the hypothesis that Human Development Index has a negative effect on poverty, when the human development index rises, according to the hypothesis the amount of poverty will decrease because human development index is an indicator which influences the economic condition in a country or welfare area.

**Gross Regional Domestic Product (GRDP)**

The description of the variable regression coefficient Gross Regional Domestic Product (X2)= -4.650007 then the Gross Regional Domestic Product has a negative effect. Means when variable regression coefficient Gross Regional Domestic Product increased 1 percent, the poverty level will decrease 4.650007 thousand number of poverty level as the assumption the other variable are constant.

Based on the t-statistic probability of Gross Regional Domestic Product is 0.0000, Gross Regional Domestic Product has a significant effect on poverty due to the probability of t-statistic (0.0000) less than a 5%. So that the statistic variable Gross Regional Domestic Product (X1) has a significant and negative influence on poverty (Y).

The result is similar to the hypothesis that the Gross Regional Domestic Product negatively affects poverty, when the Gross Regional Domestic Product rises then according to the hypothesis the amount of poverty will decrease. This can happen because the Gross Regional Domestic Product is the average of total output generated by a region per unit / per capita so that if the output or yield produced per person increases income per person will also increase, if the income increases then the amount of consumption of the person will also increase including the consumption of staple goods, because when the consumption of staple goods increases then it can be said that the person's needs can be met and do not feel the lack.

**Public Spending**

The description of the variable regression coefficient Public Spending (X3)= 2.620009 then the Public Spending has no significant effect. It shows the positive relationship between public spending and poverty. Means when variable regression coefficient public spending decrease 1 percent, the poverty level will increase 2.620009 thousand number of poverty level as the assumption the other variable are constant.
Based on the t-statistic probability of public spending is 0.3343, Public Spending has no significant effect on poverty due to the probability of t-statistic (0.3343) more than a 5%, thus it does not reject H₀ which insignificantly does not influence on poverty (Y). If public spending decreased for economic competitiveness program will have an impact on poverty. Otherwise if public spending increases to an economic program will reduce the level of poverty.

**Government Spending**

The description of the variable regression coefficient Government Spending (X₄)= 8.910010 then the Government Spending has no significant effect. It shows the positive relationship between government spending and poverty. Means when variable regression coefficient government spending decrease 1 percent, the poverty level will increase 8.910010 thousand number of poverty level as the assumption the other variable are constant.

Based on the t-statistic probability of government spending is 0.6886, Government Spending has no significant effect on poverty due to the probability of t-statistic (0.6886) more than a 5%, thus it does not reject H₀ which insignificantly does not influence on poverty (Y).

Government spending is one of government expenditure budgeted annually to district / city poverty levels. if the government reduces its budget will have an impact on poverty. Government spending on health, education, economics, and community services will contribute to poverty reduction. Expenditure reflected in APBD must be in accordance with the government's need for public services so that the spending can be perceived impact by the community and in accordance with the objectives of government organizations in the process of public service is to improve the welfare of the community.

**CONCLUSIONS AND RECOMMENDATIONS**

**Conclusion**

Based on the results’ analysis, factors that influence poverty Special Region of Yogyakarta Province in 2009 – 2016, it can be concluded as follows:

1. Human Development Index had negative and significant effect on poverty level in the Special Region of Yogyakarta Province when human development index increases.
2. Economic Growth using the Gross Regional Domestic Product had negative and significant effect on poverty level in the Special Region of Yogyakarta Province. The Gross Regional Domestic Growth (GDP) variable had negative and significant effect on poverty level. In accordance with the hypothesis, the negative sign indicated that the higher the GRDP, the lower the level of poverty.
3. Public Spending had positive and no significant effect on poverty level in the Special Region of Yogyakarta Province.
4. Government Spending had positive and no significant effect on poverty level in the Special Region of Yogyakarta Province.

Recommendations

1. Indicators of HDI are the quality of human life which consists of the size of education, life expectancy and current per-capita flows adapted which are very important to increase the number of poor people in the Special Region of Yogyakarta Province. Thus, the government needs one program which continuously spur the increase of HDI through education and health for the poor people.

2. From the result of the research, it was found that PDRB had negative effect on the level poverty. Thus, in the future, the increase of this GRDP can be balanced by the equal distribution of development Income and equity of economic are resulted throughout the community, as well as efforts to increase economic growth in each Region by relying on its potentials.

3. Public spending improves budget effectiveness by sharpening measurable budget allocations. This can be done from the budget planning stage based on performance and logical. Thus, it can achieve the target properly until the implementation and supervision stage. Besides that, the goals achieved will not deviate from the original planning. For the government it is necessary to increase development expenditure and directed to projects that can absorb labor and facilitate economic activity in order to reduce poverty level in DIY.
REFERENCES


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## APPENDICES

<table>
<thead>
<tr>
<th>Districts</th>
<th>Years</th>
<th>Poverty (%)</th>
<th>HDI (%)</th>
<th>GRDP (million Rp)</th>
<th>Public spending (million Rp)</th>
<th>Gov Spending (million Rp)</th>
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Common Effect Model

Dependent Variable: POVERTY  
Method: Panel Least Squares  
Date: 11/23/17   Time: 05:07  
Sample: 2009 2016  
Periods included: 8  
Cross-sections included: 6  
Total panel (unbalanced) observations: 39

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
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</thead>
<tbody>
<tr>
<td>C</td>
<td>126.1205</td>
<td>12.49463</td>
<td>10.09398</td>
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<tr>
<td>HDI</td>
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<td>PS</td>
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<td>0.979306</td>
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<tr>
<td>GS</td>
<td>8.91E-10</td>
<td>2.21E-09</td>
<td>0.404222</td>
<td>0.6886</td>
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</tbody>
</table>

R-squared | 0.815008 | Mean dependent var | 15.78487 |
Adjusted R-squared | 0.793244 | S.D. dependent var | 5.801424 |
S.E. of regression | 2.637930 | Akaike info criterion | 4.897076 |
Sum squared resid | 236.5950 | Schwarz criterion | 5.110353 |
Log likelihood | -90.49297 | Hannan-Quinn criter. | 4.973598 |
F-statistic | 37.44795 | Durbin-Watson stat | 0.376632 |
Prob(F-statistic) | 0.000000 |

Source: Data processed E-Views 9, 2017
Fixed Effect Model

Redundant Fixed Effects Tests
Equation: COMMON_EFFECT
Test cross-section fixed effects

<table>
<thead>
<tr>
<th>Effects Test</th>
<th>Statistic</th>
<th>d.f.</th>
<th>Prob.</th>
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<tr>
<td>Cross-section F</td>
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<td>Cross-section Chi-square</td>
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Cross-section fixed effects test equation:
Dependent Variable: POVERTY
Method: Panel Least Squares
Date: 11/23/17  Time: 11:39
Sample: 2009 2016
Periods included: 8
Cross-sections included: 6
Total panel (unbalanced) observations: 39

<table>
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<th>Std. Error</th>
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<th>Prob.</th>
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<tbody>
<tr>
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<tr>
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<td>GS</td>
<td>8.91E-10</td>
<td>2.21E-09</td>
<td>0.404222</td>
<td>0.6886</td>
</tr>
</tbody>
</table>

R-squared: 0.815008  Mean dependent var: 15.78487
Adjusted R-squared: 0.793244  S.D. dependent var: 5.801424
S.E. of regression: 2.637930  Akaike info criterion: 4.897076
Sum squared resid: 236.5950  Schwarz criterion: 5.110353
Log likelihood: -90.49297  Hannan-Quinn criter.: 4.973598
F-statistic: 37.44795  Durbin-Watson stat: 0.376632
Prob(F-statistic): 0.0000

Source: Data processed E-Views 9, 2017
Random Effect Model

Dependent Variable: POVERTY
Method: Panel EGLS (Cross-section random effects)
Date: 11/22/17   Time: 06:34
Sample: 2009 2016
Periods included: 8
Cross-sections included: 6
Total panel (unbalanced) observations: 39
Swamy and Arora estimator of component variances

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<th>Variable</th>
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<th>Prob.</th>
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Effects Specification

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<tbody>
<tr>
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<td>0.1877</td>
</tr>
<tr>
<td>0.689090</td>
<td>0.8123</td>
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</table>

Weighted Statistics

<table>
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<tr>
<th>R-squared</th>
<th>Adjusted R-squared</th>
<th>S.E. of regression</th>
<th>F-statistic</th>
<th>Prob(F-statistic)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.728656</td>
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<td>2.049369</td>
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</table>

Unweighted Statistics

<table>
<thead>
<tr>
<th>R-squared</th>
<th>Sum squared resid</th>
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</thead>
<tbody>
<tr>
<td>0.801196</td>
<td>254.2598</td>
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</tbody>
</table>

Source: Data processed E-Views 9, 2017