DETERMINANT FACTORS OF POVERTY IN JAVA

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By :

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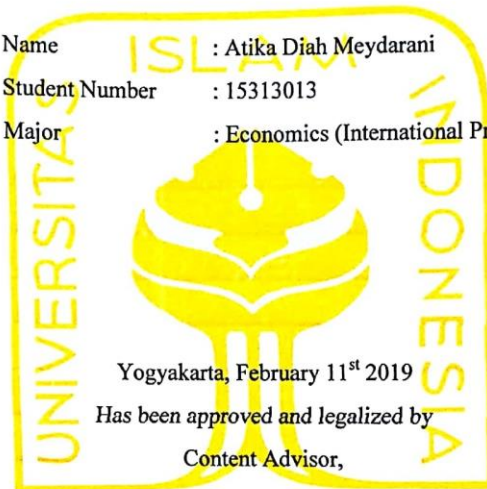Student Number: 15313013

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Determinant Factors of Poverty in Java

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The objective of the study is to analyze the determinant factors of poverty in Java. Those factors are Human Development Index (HDI), Gross Regional Domestic Product (GRDP), inflation and unemployment population. The sample data is the data from 6 Provinces of Java (DKI Jakarta, Banten, DI Yogyakarta, East Java, West Java and Central Java) in the period of 2010-2016. The data used in this research is secondary data from central bureau of statistics (BPS) and World Bank. This research used panel data regression with Fixed Effect Model. The result of the analysis shows Human Development Index (HDI), inflation and unemployment population have significant effect to poverty in Java. Meanwhile Gross Regional Domestic Product (GRDP) does not significantly affect the poverty in Java. Both HDI and inflation have negative relationship with poverty while unemployment has positive relationship with poverty in Java.

Keywords: Poverty, Human development index, Gross regional domestic product, inflation, unemployment.

Determinant Factors of Poverty in Java

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Tujuan dari penelitian ini adalah untuk menganalisis faktor-faktor penentu kemiskinan di Jawa. Faktor-faktor tersebut adalah Indeks Pembangunan Manusia (IPM), Produk Domestik Regional Bruto (PDRB), inflasi dan populasi pengangguran. Data sampel adalah data dari 6 provinsi Jawa (DKI Jakarta, Banten, DI Yogyakarta, Jawa Timur, Jawa Barat dan Jawa Tengah) pada periode tahun 2010-2016. Data yang digunakan dalam penelitian ini adalah data sekunder dari biro pusat statistik (BPS) dan Bank Dunia. Penelitian ini menggunakan regresi data panel dengan model Fixed Effect. Hasil analisis menunjukan Indeks Pembangunan Manusia (IPM), inflasi dan pengangguran memiliki pengaruh yang signifikan terhadap kemiskinan di Jawa. Sementara Produk Domestik Regional Bruto (PDRB) tidak berpengaruh signifikan terhadap kemiskinan di Pulau Jawa. Baik IPM maupun inflasi, memiliki hubungan negatif terhadap kemiskinan sementara pengangguran memiliki hubungan positif terhadap kemiskinan di Jawa.


Kata Kunci: Kemiskinan, Indeks pembangunan manusia, Produk domestik regional bruto, inflasi, pengangguran.

INTRODUCTION

The objectives of economic are to promote the growth and increase people's welfare which supported by the sustainable economic growth, powerful economic sector, inclusive, equality of economic development and macroeconomic and financial stability. Sustainable economic growth becomes the main point of the process of changing a country's condition. Economic growth itself is a development process in economic activities that cause increasing goods and services. Economic growth can be measured by determining the Gross Domestic Product.

GDP is a measurement of a nation's whole economic activities. It includes all private and public consumption, government expenditures, investments and balance of trade (export and import). In determining the economic growth in 6 provinces of Java, the researcher use GRDP as a data. GRDP or Gross Regional Domestic Product is one of the indicators to supervise economic condition in a province during period of time, whether using actual price or constant price.

As developing country, Indonesia still suffers from inequality. It proven by the condition of economic growth is in a good rate, while the poverty population is high as well. Especially in Java, the real existence of inequality is occurring. In Java, the condition having high number of GRDP and high number of poverty at same time. The real existence of inequality can be seen in Gini Ratio of Indonesia below.
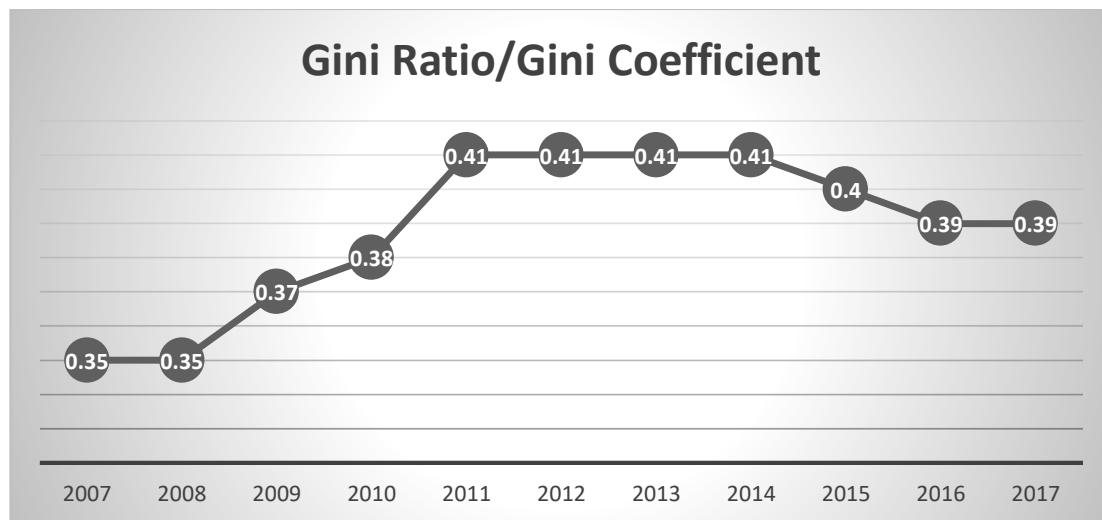
Source: BPS

According to the table, in 2017 Indonesia's Gini Ratio is on 0.39. Normally, Gini ratio starts from 0 to 1, the closer to 0 means perfectly equal while the closer to 1 means perfectly unequal.

Since the main purpose of economic development is no longer increasing GDP, but it will focus to elimination of inequality and reduction of poverty (Susanto, 2014). According to BPS, in determining the poverty, BPS used the ability to fulfill basic need approach concept. In this approach, poverty can be define as inability in economics sides to fulfill basic needs (food and non-food) which measure by spending sides.

Economic development problem such as poverty and inequality, reminds the government about the development which not always about the welfare but concern in development goal that considered about human beings and human rights (Kuncoro, 1997). Thus, the meaning of development as the upward movement of the entire social system. In other word, target of economic development is no longer about GRDP but also quality of the development process. Therefore, human development as the main goals of development that can reduce the poverty.

Human development consider several indicators, such as the quality of human resources. It includes healthy life, education and skills so the people can participate in economic activities. The increasing of human development will tend to poverty reduction. One of the measurement of the quality of human development is HDI (Human Development Index) which have three fundamental component namely health, education, and purchasing power.

Inflation is one of the essential variables in macroeconomics. Inflation happen when excess money happens due to excessive total demand which triggered by liquidity in the market. The consequences are high demand in market and change in price level. The increasing of medium exchange volume with high demand for goods and services resulting the increasing of production demand. Because of the increasing demand of production, it will lead increasing of prices. While price is rise, the purchasing power will decrease. Inflation can bring bad influence on production cost and level of welfare. A decreasing of consumption show a lower welfare and an increasing number of people living below the poverty. Also affect the economic growth and unemployment level.

The decreasing of purchasing power parity to goods and demand will decline the production capacity which will be labor cut off in to reduce the cost. Unemployment level will get higher and poverty levels also increase (Sulistiawati, 2012). The increase of unemployment will decrease the society's income as well.

The researcher want to investigate whether factors that already mentioned such as GRDP, inflation, unemployment population and HDI or Human Development Index are having influence in poverty. This research's objectiveis to analyze the effectof Human Development Index or HDI, Gross Regional Domestic Product or GRDP, inflation and unemployment to the povertyin 6 provinces of Java in the period 2010 – 2016.

LITERATURE REVIEW

In finding the variables and analysis in this research, it is important to refer to previous research that discussed about the factors that determine poverty, Human Development Index or HDI, Gross Regional Domestic Product or GRDP, inflation and unemployment.

Subanidja and Suharto (2014) conducted research entitled *"The dominant Factors in The Causes of Poverty Level in Indonesia"* to find the main factors for eradicating the poverty in Indonesia. It also determines the effect of education level, human development index, small business loans, unemployment, gross regional domestic product and local minimum wage on a level of poverty in the period of 2009-2012 in 33 provinces in Indonesia by using panel data. Variable small business loans, HDI, wage, GRDP, unemployment, and education level have a significant effect on the level of poverty in Indonesia. All of the independent variables except unemployment rate have a negative effect on the level of poverty. It means small business loans, HDI, wage, GRDP, and increasing education level will decrease poverty levels.

The research conducted by Giovanni (2018) entitled *"Analysis of Gross Regional Domestic Product, Unemployment and Education Effects to Poverty Rate in Java Island in 2009-2016",* have aim to analyze the effect of Gross Regional Domestic Product, unemployment and education to poverty rate in Java island in period 2009-2016 using panel data regression. Result for unemployment variable is not significant to poverty in West Java, Central Java, East Java, and DIY provinces, because not all of the population in unemployment are categorized in poor people if in his/her family there is a worker with high salary. Thus if there is one unemployment in a family, it will not indicate this family are poor. The result of GRDP variable is significant to poverty in West Java, Central Java, East Java and DIY provinces, because if GRDP value is increase yearly, it will decrease the poverty rate in West Java, Central Java, East Java and DIY provinces.

Afandi et al. (2017) conducted *"Policies to Eliminate Poverty Rate in Indonesia"*. The aim is to analyze the factors which influence the poverty rate in Indonesia in period of 1981 – 2013. The researcher used Error Correction Model or ECM as an empirical poverty model. The study has 160 observations. The Dependent variable is poverty rate and the independent variables are Gross Domestic Product or GDP, Inflation, Foreign Direct Investment or FDI and Gini Ratio. Based on the analysis result, all the variables have probability P value greater than confidence level (0.05). This means, in the long run there is no correlation between GDP, inflation, FDI, gini ratio and poverty. Otherwise, in short run there is a positive correlation between inflation and poverty. It fits with the theoretical expected; the result approves the impact of price increase on lower purchasing power. It can be concluded, this relationship may turns into two ways. First, in stable income, the increasing price will

lead to rises the poverty rate. Second, the significant reduced in real income by inflation, does not affect poverty alleviation.

Poverty

According to World Bank, poverty is a situation when someone has no option or opportunity to increase his/her standard of living to get healthy life of decent life. According to Rank, 2004 in Yolanda (2017), the roots of poverty can be divided into three main factors namely, individual factors, cultural and environmental factors and structural factors. In addition, less motivation becomes the individual failure of individual poverty.

According to Kuncoro 2010 and Nasikh 2013(Marinda et al., 2017)stated one of the reasons why poverty happens is poverty will arise because of a low quality of human resource. In the same journal, Tambunan(2008) add some point about economic growth. Economic growth is one of the requirements to develop and improve society's prosperity in an area. It becomes the benchmarks of economic performances since economic growth is a factor to reduce the poverty level.

Poverty reduction is one of the fundamental challenges to the Indonesians Government. The process of poverty reduction still needs the government involvement through some proper public policies, especially in local area Indonesia already conducted programs such as a subsidy for gasoline and rice, and commonly they give in lower price. However these programs not really contribute in reducing poverty in Indonesia. Indonesia needs programs that already succeed in a developed country.

The Factors that Influence Poverty

Human Development Index (HDI)

Human Development Index is a benchmark to achieve of good quality of human development in term of a physical condition such as health and welfare, and non-physical such as education (Yolanda,2017).In the same journal, according to BPS, there are three basic dimensions of Human Development Index measurement. It includes long life and healthy life, education, and decent standard living. There is a general equation of HDI:

$$HDI = 1/3 \ (X1 + X2 + X3)$$

X1: long life index

X2: education index

X3: decent standard living index

The Human Development Index will reduce poverty. It will happen if there is a program of increasing the quality of the Human Development Index. Thus it will have negative relationship. If the HDI is higher, it will reduce the poverty population.

Gross Regional Domestic Product

Gross Regional Domestic Product or GRDP in concept is same with Gross Domestic Product or GDP which measure lately created value through production by local production in the domestic economy, while GRDP measure lately created value through production by regional production in a regional economy such as a province or a district(Viet, 2010).GRDP is one of the indicators to supervise economic condition in a province in a period of time, whether using actual price or constant price. GRDP based on actual price shows the additional value of goods and services calculated using the price in the current year, while GRDP based on constant price shows the additional values of goods and services using the applicable price as a basis price. (Department of Economic and Monetary Statistics).

The growth of Gross Regional Domestic Product is expected to reduce poverty. The higher GRDP in a region will help to reduce poverty population. Thus, the relationship is negative because the higher GRDP, will drive the lower poverty population.

Inflation

The impact of inflation as an economic phenomenon to economic activities, usually have a negative effect on the purchasing power of money will be lower and affect the builder of quality of life (Yolanda, 2017). Indicator for measuring the quality of human quality is Human Development Index or HDI. Inflation affecting poverty through an impact on real wages, because of nominal wages does not increase as fast as the rising of inflation rates. Higher inflation drives a lower purchasing power. The decreasing of purchasing power parity or consumption because of the decreasing demand for goods and services tend to decline the production capacity which causes the labor cut off to reduce production cost. Therefore, the unemployment level will rise and poverty level rises as well according to Sulistiawati 2013 (Marinda, et al., 2017, p.128).

Unemployment

In Todaro (2000) in Puspadjuita (2018) stated unemployment is usually regarded as an unadjusted condition rather than a temporary supply demand of supply, in addition, unemployment can be seen from demand and supply side.Subanidja and Suharto (2014) agree with Cameron (2000) that unemployment affects the poverty level. The reduction of poverty in the Island of Java, related with income levels of educated labor.

A factor which influences the poverty is unemployment, because the higher unemployment rate in a region will be given an impact to poverty in that region. The unemployment in society will suffer difficulty in fulfilling their daily basic needs; it drives the rise of poverty rate (Giovanni, 2018).

TYPE OF STUDY

The type of study conducted by the researcher is quantitative research. This research uses quantitative method by generating numerical data or data that can be transformed into useable statistics. The researcher using secondary data because it is accessible and more efficient to collect. Secondary data is data that obtained directly from many sources, such as a quote from the books, literature, scientific journal, an article which support to the theme of the research. In this research, the secondary data was obtained through the central bureau of statistics, website (https://www.bps.go.id/) and World Bank, website (https://data.worldbank.org/).

Data used in this research are:

  a. Poverty population of Java in Indonesia by districts 2010 – 2016
  b. Human Development Index or HDI ofJava in Indonesia by districts 2010 – 2016
  c. Gross Regional Domestic Product or GRDP of Java in Indonesia by districts 2010 – 2016
  d. Inflation of Java in Indonesia by districts 2010 – 2016
  e. Unemployment population of Java in Indonesia by districts 2010 – 2016

Data Collection Method

Method of collecting data is the study of the literature. The step to gain the data are finding and analyzing from literature books and processed data. The collection of data in this study are planned to collect related and accurate materials. The data used secondary data by using a data collection method from internet sources from the BPS and World Bank.

Research Variable

This research contains independent variable and dependent variable. The dependent variable in this research is Poverty population of Java consists of DKI Jakarta, Daerah Istimewa Yogyakarta, Banten, East Java, West Java and South Java. Independent variables in this research are Human Development Index (HDI), Gross Regional Domestic Product (GRDP), Inflation, and Unemployment population in Java.

Analysis Technique

The processing of secondary data is using Microsoft Excel 2013 and Eviews 9.0. In processing the data, the researcher used Microsoft Excel 2013 to create the tables

and to analysis the data. While using Eviews 9.0 to the processing of the regression data panel.

According to Gujarati and Porter (2012) in Rahmah (n.d.) data panel regression has three estimation models, namely Fixed Effect Model (Least Square Dummy Variable), Random Effect Model and Polled Regression Common Effect Model.

Selection Panel Data Estimation Model

a. Chow test

The aim of Chow test is to choose whether data regression technique panel with a fixed effect regression model of panel data without a dummy variable and to see the residual sum of squares. If the statistic value greater than the significance level, reject a null hypotheses. Then, the data is better using a fixed effect model than common effect model.

H_0: Choose Common Effect

H_1: Choose Fixed Effect

b. Hausman test

The aim of Hausman test is the test to choose whether Fixed Effect or Random Effect is the best estimation. Null hypotheses is rejected, if the value of the Hausman statistic is greater than the critical value. Otherwise, a null hypotheses is accepted Hausman statistic is greater than the critical value.

H_0: Choose Random Effect

H_1: Choose Fixed Effect

Classical Assumption Test

Before conducting data analyze, the data should be tested by classical assumption test. If there is a problem on a classical assumption, non-parametric statistical testing should be conducted. Classical assumption test is needed depends on the results of the estimation method selection. In estimate model estimation for Random Effect model using GLS or Generalized Least Square, while estimate model for Fixed Effect Model and Common Effect model using OLS or Ordinary Least Square. Classical assumption is suit for Common Effect Model or Fixed Effect Model than Random Effect Model.

Rahmah (n.d.) was agreed with Gujarati and Porter (2012) that the collinearty between each variable is less, thus the existence of multicollinearity have small possibility. Therefore, the classical assumption test that will be use are heteroscedasticity test and autocorellation test.

a. Heteroscedasticity test

Heteroscedasticity test analyze is there any inequality variance of the residual's observation to another observation. Heteroscedasticity problem can be done by using Glejser test. The hypothesesheteroscedasticity are:

H_0: There is no heteroscedasticity

H_1: There is heteroscedasticity

If the p-value of the probability is greater than α, accept H_0 which means free from heteroscedasticity. If the p-value less than α, reject H_0 which means there is heteroscedasticity.

b. Autocorrelation test

Autocorrelation is a condition when there is a correlation or relationship between each residual in time series or cross section. This test wants to find out whether there is a correlation between each residual. In determining the autocorrelation, Durbin-Watson test can be the alternative test. There is some autocorrelation decision in Durbin-Watson test:

    a. If dw< dl, suffer positive autocorrelation
    b. If dw> (4-dl), suffer negative autocorrelation
    c. If du <dw< (4-dl), there is no autocorrelation

Hypotheses Testing

Hypotheses testing are useful for testing whether the regression coefficient achieved significant or not. The intent of this significant is a regression coefficient value which is not significantly equal to zero. If the coefficient is equal to zero, the evidence to state the independent variables had the effect on the dependent variable was not enough. Thus, all the regression coefficient should be tested.

1. T-test

T-test is an individual coefficient test. This test used to know the effect of each significance of independent variables.

Hypotheses in T-test are:
$H_0 : \beta i = 0$
$H_1 : \beta i \neq 0$

If the probability t value $< \alpha = 0.05$ so reject H0, means independent variable partially significance influenced dependent variable.

2. Coefficient Determinants (R^2)

A coefficient determination is an important measurement in the regression, because it determines whether the regression model estimation is good. The value of R^2 reflects the extent of the variation of the dependent that can be explained by the independent variables X or how large diversity of the dependent variables that are able to be explained by the model.

If $R^2 = 0$, the variation of the Y cannot be explained by X overall

If $R^2 = 1$, a variation of Y can be described by the X.

3. F-test

F-test is used to perform a test of the hypotheses of the regression coefficient at the same time. F-test shows independent variables affect the dependent variable at the same time.

The hypotheses in F-test are:

$H_0 : \beta_1 = \beta_2 = \ldots = 0$

$H_1 : \beta_1 \neq \beta_2 \neq \ldots = 0$

It F-test is greater than F critical H_0 is rejected. Rejected H_0 means there is at least one independent variable that influenced the dependent variable.

Model

The influence of independent variables to dependent variables systematically can be described in the following formula:

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

Where:

Y	: Poverty Population
X_1, X_2, X_3, X_4	: Human Development Index (X_1), Gross Regional Domestic Product (X_2), Inflation (X_3), Unemployment Population (X_4)
β_0	: Constanta
$\beta_1, \beta_2, \ldots, \beta_n$	: The magnitude of the influence of independent variable toward the dependent variables
i	: Java
t	: Series 2010 – 2016
e_{it}	: error term

RESULT AND DISCUSSION

Panel Data Result

Panel data regression has three standard estimation models, i.e. Common Effect Model, Fixed Effect Model and Random Effect Model. In estimating the best model for this research, the researcher uses two kinds of test, they are Chow testand Hausman test. The result of Chow test and Hausman test calculation using Eviews 9 are concluded as follow.

CHOW TEST

Redundant Fixed Effects Tests			
Equation: FIXED			
Test cross-section fixed effects			
Effects Test	Statistic	d.f.	Prob.
Cross-section F	445.607882	(5,32)	0.0000
Cross-section Chi-square	178.810868	5	0.0000

Source: Eviews 9

The result of Chow test shows the probability value of Chi-square is 0.0000 or smaller than $\alpha = 0.05$, it means reject H_0. If H_0 is rejected, thus the researcher should choose Fixed Effect Model, because it is better than Common Effect Model.

HAUSMAN TEST

Correlated Random Effects - Hausman Test			
Equation: RANDOM			
Test cross-section random effects			
Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	300.781872	4	0.0000

Source: Eviews9

From the result above, the probability of Cross-section random is 0.0000, which smaller than $\alpha = 0.05$. Thus, the researcher rejects H_0 then choose Fixed Effect Model as the best model rather than Random Effect Model. From three test that already conducts, the best model being used is Fixed Effect Model.

FIXED EFFECT

```
Dependent Variable: POV
Method: Panel Least Squares
Date: 11/02/18   Time: 22:45
Sample: 2010 2016
Periods included: 7
Cross-sections included: 6
Total panel (balanced) observations: 42
```

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	15661.11	2329.516	6.722902	0.0000
HDI	-192.0823	30.54794	-6.287898	0.0000
GRDP	0.016691	0.006042	2.762583	0.0094
INF	-17.74241	12.35036	-1.436591	0.1605
UNEMP	2.72E-05	0.000417	0.065240	0.9484

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.995955	Mean dependent var		2619.989
Adjusted R-squared	0.994817	S.D. dependent var		2136.445
S.E. of regression	153.8105	Akaike info criterion		13.11358
Sum squared resid	757045.2	Schwarz criterion		13.52731
Log likelihood	-265.3851	Hannan-Quinn criter.		13.26522
F-statistic	875.3717	Durbin-Watson stat		1.184186
Prob(F-statistic)	0.000000			

Source: Eviews 9

Classical Assumption Test

In classical assumption testing there are two tests namely heteroscedasticity test and autocorrelation test.

Heteroscedasticity Test – Glejser Test

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	6755.599	3096.101	2.181970	0.0366
HDI	-77.57529	41.11502	-1.886787	0.0683
GRDP	-0.001495	0.008484	-0.176208	0.8612
INF	-43.60097	24.25461	-1.797637	0.0817
UNEMP	-5.94E-05	0.000928	-0.064043	0.9493

Heteroscedasticityhypotheses is H_0, if the p-value is greater than $\alpha = 0.05$ which means there is no heteroscedasticity, while H_1, if the p-value is less than $\alpha = 0.05$, which means suffer the heteroscedasticity.According to this table, all of the independent variables p-value are greater than $\alpha = 0.05$. It can be concluded that HDI, GRDP, Inflation and Unemployment variable are free from heteroscedasticity problem.

Autocorrelation Test – Durbin Watson Test

R-squared	0.714293	Mean dependent var	2619.989
Adjusted R-squared	0.683406	S.D. dependent var	2136.445
S.E. of regression	1202.107	Akaike info criterion	17.13288
Sum squared resid	53467247	Schwarz criterion	17.33975
Log likelihood	-354.7905	Hannan-Quinn criter.	17.20871
F-statistic	23.12585	Durbin-Watson stat	0.071681
Prob(F-statistic)	0.000000		

This table shows the Durbin-Watson stat or dw is 0.071681. From Durbin-Watson table, du=1.7202 and dl=1.3064. Also calculate 4-du= 2.2798 and 4-dl= 2.6936. The autocorrelation decision are:

      a. dw< dl
          0.0716 < 1.3064
          Suffer from positive autocorrelation
      b. dw> (4-dl)
          0.0716 < 2.6936
          Does not suffer from negative autocorrelation

From the result above, first autocorrelation result suffers from positive autocorrelation. The problem of autocorrelation can be solved by using Cross-section SUR model.

Autocorrelation Test – Durbin Watson Test (Cross-Section Sur Model)

R-squared	0.989634	Mean dependent var	1.473436
Adjusted R-squared	0.988513	S.D. dependent var	11.27122
S.E. of regression	1.045000	Sum squared resid	40.40495
F-statistic	883.0940	Durbin-Watson stat	2.022048
Prob(F-statistic)	0.000000		

This table shows the Durbin-Watson stat or dw is 2.022048. From Durbin-Watson table, du=1.7202 and dl=1.3064. Also calculate 4-du= 2.2798 and 4-dl= 2.6936. The autocorrelation decision are:

    a. dw< dl
       2.022048 > 1.3064
       Does not from positive autocorrelation
    b. dw> (4-dl)
       2.022048 < 2.6936
       Does not suffer from negative autocorrelation
    c. du <dw< (4-dl)
       1.7202 < 2.022048 < 2.6936
       There is no autocorrelation

From the second autocorrelation test, the result shows there is no autocorrelation in regression model.

Hypotheses Testing

Based on regression of Common Effect, Fixed Effect, and Random Effect result, the researcher chose the Fixed Effect Model as the most suitable model for this research. After through the classical assumption test (heteroscedasticity test and autocorrelation test), the result shows at first autocorrelation test is suffer from positive autocorrelation but in second autocorrelation test using cross-section SUR model, there is no autocorrelation. The last autocorrelation result becomes a suitable model to analyze this research. The hypotheses testing of Autocorrelation result can be seen below.

Dependent Variable: POV
Method: Panel EGLS (Cross-section SUR)
Date: 11/03/18   Time: 01:41
Sample: 2010 2016
Periods included: 7
Cross-sections included: 6
Total panel (balanced) observations: 42
Linear estimation after one-step weighting matrix

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	20956.65	547.1073	38.30446	0.0000
HDI	-266.3495	7.282155	-36.57564	0.0000
GRDP	0.000413	0.001104	0.373927	0.7106
INF	-84.32639	9.513518	-8.863849	0.0000
UNEMP	0.001354	2.78E-05	48.75444	0.0000

Weighted Statistics			
R-squared	0.989634	Mean dependent var	1.473436
Adjusted R-squared	0.988513	S.D. dependent var	11.27122
S.E. of regression	1.045000	Sum squared resid	40.40495
F-statistic	883.0940	Durbin-Watson stat	2.022048
Prob(F-statistic)	0.000000		
Unweighted Statistics			
R-squared	0.713678	Mean dependent var	2619.989
Sum squared resid	53582317	Durbin-Watson stat	0.062703

Source: Eviews 9

Discussion

The result of T-Test

Human Development Index or HDI

According to regression data panel model, the probability of human development index is 0.0000 which smaller than $\alpha = 0.05$, thus human development index is significantly affecting the poverty population in Java. In regression estimation panel data model, it gain the human development index coefficient is -266.3495. It means, increasing 1 point of human development index will reduce 266.3 thousand poor people in Java. Thus, human development index and poverty population in Java had negative significant relationship.

This result support by first hypotheses that assume human development index have negative relationship with poverty population, because when the human development index of Java is increase, many people will get a job easily than before. It will decrease the number of unemployment and increase the economic growth. At the end, the conditions will drive to the decreasing of poverty population in Java.

Gross Regional Domestic Product

The panel data regression showed the gross regional domestic product had no impact to poverty population in Java with p-value is 0.7106 which greater than $\alpha = 0.05$. It means, gross regional domestic product do not significantly affect the poverty population.

This condition happen because of the inequality existences or uneven distribution of GRDP itself. The welfare only enjoyed by some society in Java, but not all of society in region of Java. Thus, poverty in Java not reduce yet.

Inflation

According to regression data result, p-value of inflation is 0.0000 which smaller than $\alpha = 0.05$. Thus, inflation had significant effect toward poverty population in Java. The regression estimation panel data model also obtained the coefficient of inflation is -84.32639, which means the increasing of inflation by 1 percent will reduce the poverty population by 84,3 thousand poor people in Java. In short, inflation and poverty population in java had significant and negative relationship.

The result above have different result with the hypotheses which is inflation has positive relationship with poverty. But this result had supported by Mustamin et al. (2015) research entitled *"Pengaruh Variabel Ekonomi Makro Terhadap Kemiskinan di Kota Makassar Provinsi Sulawesi Selatan"*. In this research stated the reason why inflation had negative relationship with poverty. First reason is, the fluctuation of inflation rate in Makassar will not influence the reducing of poverty population. The other reason is the differentiation of purchasing power of some society or heterogenic.

Unemployment

Based on regression data panel model, the probability of unemployment is 0.0000, less than $\alpha = 0.05$, then unemployment is significantly affecting the number of poverty population in Java. In addition, the regression estimation panel data model achieved the coefficient of unemployment is 0.001354 which means the increasing of 1 people of unemployment will increase 0.001354 thousand poor people in Java. Thus, unemployment have significant and positive relationship to poverty in Java.

This result is supported by Marinda et al. (2017) in a research *"The Analysis of the Economic Growth, Minimum Wage and Unemployment Rate to the Poverty level in East Java"* state that unemployment rate affects poverty level of East java positively which means when the unemployment rate getting higher, the number of poor family increase as well.

Coefficient Determination R^2

Coefficient determination (R^2) result is to see the level of fitness of estimation model that is formed. In table autocorrelation test result, it shows the value of R^2 is 0.989634. This result means variable Poverty is explained by variable Human Development Index (X1), Gross Regional Domestic Product (X2), Inflation (X3) and Unemployment (X4) by 98.96% and the residual 1.04% described by the other variables outside the model.

F-Test

F-test used to prove whether the influence of all independent variables together against the dependent variable. The result of probability of f-test is 0.000000 in α

0.05, which means reject H_0. It can be conclude that the Human Development Index, Gross Regional Domestic Product, Inflation and Unemployment are all together have significant effect toward the Poverty population in Java 2010-2016.

Therefore, it can be conclude the result of regression equation model are as follows:

$$POV_{it} = 20956.65 - 266.3495HDI_{it} + 0.000413GRDP_{it} - 84.32639INF_{it} + 0.001354UNEMP_{it} + e_{it}$$

POV   : Poverty Population

HDI   : Human Development Index

GRDP   : Gross Regional Domestic Product

INF   : Inflation

UNEMP   : Unemployment

i   : Java

t   : Series 2010-2016

e_{it} : Error term

CONCLUSION AND RECCOMENDATION

According to empirical results and discussion of determinant factors of poverty in Java from 2010-2016, it can be concluded as follows:

1. Factors that have significant effect to poverty population of Java in 2010-2016 are human development index (HDI), inflation and unemployment.
2. Human development index has negative relationship to poverty, thus increasing of human development index would have reducing effect in poverty population of Java in 2010-2016.
3. Inflation has negative relationship with poverty, then increasing of inflation rate would have reducing effect in poverty population of Java in 2010-2016.
4. Unemployment has positive relationship with poverty, thus increasing of unemployment would have increasing effect in poverty population of Java in 2010-2016.
5. Gross regional domestic product has no significant effect towards poverty population of Java in 2010-2016.

Based on the conclusions of the results study, the researcher give some recommendation given is as follows:

1. Human development index is one of the influential variable to poverty in term of reducing poverty program. Government of Java should concern in

increasing the human development index, because not only poverty problem can be solved, but the other variable such as unemployment level will reduce as well.

2. Gross Regional Domestic Program is one and only variable that did not give significant effect to poverty in Java. Thus, government of Java should have prioritize to more concern in omit the inequality among provinces of Java.

3. Inflation is the variable that gives significant effect to poverty in Java. Therefore, Java government should maintain the fluctuation of inflation in term of keeping the stability of economy especially in Java.

4. Unemployment is the influential variable to poverty in Java. Consequently, in term of reducing the unemployment and poverty, Java government should provide more training to increase the skill of ability of unemployment people. In addition, giving the information about the job vacancy is needed to encourage people to get a job.

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