

## Poverty Conditions and Policy Solutions (Data Analysis Years 2009-2013)

Muhammad Findi<sup>1\*</sup> and Veni Lutfiani Zulia<sup>2</sup>

<sup>1,2</sup> Bogor Institute of Agriculture, Bogor, Indonesia

### *Abstract*

*The aim of this study is to describe conditions of regional poverty to analyze the factors that affect the level of poverty in Banten province from 2009 to 2013, and to formulate solutions minimizing problems of poverty in the province of Banten. A methods used in this study is regression using panel data. Variables in this study are economic growth, minimum wage, unemployment, and literacy rate. The result of this study show that that significant variables on poverty levels in province of Banten are minimum wage, unemployment, and literacy rate. While variable is not significant to level of poverty in province of Banten is economic growth.*

**JEL Classification:** I30, J30, N30

**Keywords:** Banten Province, Poverty, Regression Panel Data

### 1. INTRODUCTION

Poverty is a situation where an inability occurs for fulfilling basic needs such as food, clothing, residence, education, and health (Mardimin, 1996:20). The poverty phenomenon in Indonesia already took place since a long time, although several efforts have been implemented to solve it such as increasing economic growth that has good quality through labor intensive efforts, increasing access to basic needs such as education and health, people empowerment through national people empowerment programs. However in reality based on data in 2013, there are still more than 28 million people of the Indonesian population that live under Rp. 239,000 per month or live below the poverty line number.

The complexity and diversity of poverty in a region is different with other regions, depending on the primary condition that is faced by each region. Because of that poverty countermeasures are not only implemented by the central government, but also implemented by regional governments. Banten Province is one of the regions that still face problems in counter measuring poverty. After separating itself from West Java province in 2000, Banten province still has many problems that have to be faced, including poverty problems.

---

\* Corresponding author. Email address: [muhammadfindi73@yahoo.com](mailto:muhammadfindi73@yahoo.com)

Table 1 Number and percentage of the poor population according to regency/city in Banten province in 2013

<b>Regency/City</b>	<b>Number of Poor Populations (Persons)</b>	<b>Percentage of Poor Population (Percent)</b>
Pandeglang Regency	121,100	10.25
Lebak Regency	118,600	9.5
Tangerang Regency	183,900	5.78
Serang Regency	72,800	5.02
Tangerang City	103,100	5.26
Cilegon City	15,900	3.99
Serang City	36,700	5.92
South Tangerang City	25,400	1.75

Source: Central Body of Statistics, 2016

Based on Table 1 it shows that the highest number of the poor population is in Tangerang regency and the lowest number of the poor population is in Cilegon city. While the highest percentage of the poor population is in Pandeglang regency and the lowest percentage of the poor population is in south Tangerang city. Observed from data in 2013, the difference in number and percentage of the poor population between regencies/cities in Banten province is very striking, where there is an occurrence of imbalance between regencies/cities in Banten province.

## **2. THEORETICAL FRAMEWORK AND PREVIOUS RESEARCH**

### **Poverty**

The social democrat theory views that poverty is not an individual problem, but structural. Poverty is caused by the presence of inequality and imbalance in society because of access blockage of groups to social sources. The social democrat theory pressurizes on the importance of management and state funding in the allotment of basic social services for all citizens and influenced by the approach of management economics. This approach heavily criticizes the free market system, yet does not view the capitalist system as a system that has to be eliminated, because it is still viewed as the most effective form of economic organizing.

This approach pressurizes on equality that is an important requirement in obtaining and freedom. The achievement of freedom is only possible if every person has a source of welfare. This freedom is more than being free from outside influences, but also being free in determining choices.

### **Types of poverty**

#### **Absolute Poverty**

Absolute poverty according to the Central Body of Statistics, is determined based on the inability of a person or a group of people to fulfill their primary needs such as food, clothing, health, housing, and education. The minimum basic needs

are translated as a financial measure in the form of money and the minimum value of basic needs that is known as the poverty line term. Because of that, the population with incomes below the poverty line are categorized as the poor population.

### **Relative Poverty**

The definition of relative poverty according to the Central Body of Statistics (2016) is a poor condition because of influences from development policies that is not yet able to reach all layers of society so it causes an imbalance in income distribution. The Central Body of Statistics expresses that the minimum standard is arranged based on the living conditions of a state in a certain time and the attention is focused on the poor population group. The measure of relative poverty is very dependent on the income distribution or income spending of the population.

### **Structural Poverty**

According to Suyanto in the Central Body of Statistics (2008), structural poverty is poverty that is considered or manipulated caused from structure conditions or life order that is not prospered. Poverty in the above structure is not caused by natural factors or personal factors from poor people themselves but by causes of the social order that is unfair. This unfair order causes the society to access sources that are needed to develop themselves nor to increase their life quality.

### **Poverty Line**

The poverty line is a representation of the number of minimum rupiah that is needed for fulfilling primary food needs that is equal with 2,100 kcal/day and non-food primary necessities (Central Body of Statistics, 2016). According to the Central Body of Statistics the concept of poverty line consists of:

1. The poverty line is a total from the food poverty line and the non-food poverty line. The population that have an average monthly per capita spending below the poverty line are categorized as the poor population.
2. The food poverty line is a value of spending the minimum food necessities that is equal with 2,100 kcal/day. The commodity package of basic food needs are represented by 52 types of commodities (rice, yams, fish, meat, eggs and milk, vegetables, nuts, fruit, oil and fats, and others).
3. The non-food poverty line are the minimum necessities for housing, clothing, education and health.

### **Factors that influence poverty**

#### **Economic Growth**

The mercantilism theory states that the economic growth or economic development of a state is determined by an increase in international trade and a rise in marketing industrial output and a surplus of trade balances. An economy is stated to experience growth or develop if the level of economic activities are higher than what has been achieved before (Kuncoro, 2004). As for according to Todaro, economic growth as a steady process where the capacity of production of an economy increases over time to produce a national income level that increases more and more. According to the views of the classic economist Adam Smith, basically there are four factors that influence economic growth which are:

- Total population

- Total stock of capital
- Land area and natural wealth and
- The level of technology that is used.

### **Minimum Wage**

The productivity labor border theory that was submitted by Clark states that the level of wage has a tendency to be the same with the level of the last paid labor productivity, that is known as border labor. This means that wage given to workers is not able to exceed border labor productivity of labor. The minimum wage is a minimum standard that is used by businessmen or industry for giving wages to workers in their work or business environment. Because the fulfillment of basic needs in every province is different, it is named the provincial minimum wage.

### **Unemployment**

Unemployment is a situation where a person that is categorized as the workforce does not have a job and actively not searching for jobs (Nanga, 2005:249). In the population census of 2001 unemployment is defined as a person that does not work at all or work less than two days a week before the census and is trying to get a job (Central Body of Statistics, 2001:8). Sukirno (2000) differentiates unemployment into several types which are:

#### **Natural unemployment**

Unemployment that is implemented in a level where there is a full chance of work. A full chance of work is a situation where about 95 percent of the workforce in a timeframe works full. This five percent unemployment is known as natural unemployment.

#### **Frictional unemployment**

A type of unemployment that is caused by the action of a worker to leave his/her job and search for a better job or a job that is more suitable with his/her wants.

#### **Structural unemployment**

Unemployment that is caused by economic growth.

### **Education**

Based on the Indonesian language dictionary, education is a learning process for every individual for reaching a higher knowledge and understanding about certain and specific objects. The knowledge above that is obtained formally has an impact to every individual that has thinking, behavior, and morals that is suitable with the education that is obtained.

Other than that according to the Act of the Republic of Indonesia Number 20 Year 2003 about the national education system, education is an effort that is implemented with realization and planned for creating an atmosphere and a learning process so the learners can actively develop their inner potential to have a spiritual religious strength, a good personality, self-control, a good behavior, intelligence and skills that are needed by themselves and the society.

#### 1. Formal education

Formal education is a way of education that is structured and tiered that consists of early childhood education, basic education, middle education, and high education. Formal education consists of public formal education and private formal education

2. Non formal education

Non formal education is a way of education outside of formal education that is able to be implemented structurally and tiered. Results of non-formal education is able to be appreciated equally with the result of formal education after going through an equalization process by a body that is chosen by the government or a regional government by referring to the national education standard.

3. Informal education

Informal education is a family and environmental way of education in the form of independent learning activities. The result of informal education is recognized equally with formal and non-formal education after learners pass a test in accordance with the national education standard.

The literacy rate is the proportion of the population aged 15 and over that have the ability to read and write latin letters and other letters, without having to understand what is being read or written to the population aged 15 and over. In regional development planning, literacy rate numbers are used for observing the accomplishment of basic indicators that have already been achieved by a region, because reading is the primary basic in expanding knowledge. The literacy rate is an important indicator for observing how far a population of a region is open to knowledge.

**Previous Research**

Mallo (2011) analyzed factors that influence the level of poverty in Jakarta. This research uses a data panel analysis method. Results of this research show that the literacy rate influences poverty, the higher the literacy rate of the Jakarta population, the poverty rate will decrease. The rate of economic growth influences poverty, the higher the economic growth rate of Jakarta, the poverty rate will decrease. The Regional Gross Domestic Product of the industrial sector influences poverty, the larger the Regional Gross Domestic Product of the Jakarta industrial sector, the lower the poverty rate. Labor in the industrial sector influences poverty, the larger the absorption of labor in the Jakarta industrial sector, the lower the poverty rate.

Jonaidi (2012) analyzed economic growth and poverty in Indonesia. This research uses the two stage least squares method. Results of this research show that economic growth influences significantly to the decrease in poverty numbers, especially in rural areas that have many pockets of poverty. Through the increase of capital access, education quality (increase in literacy rate and time in education) and the degree of health (increase in life expectancy) the poor population is expected to be able to increase productivity in their work.

The level of unemployment influences significantly and negatively to Indonesian economic growth. A decrease in unemployment levels in Indonesia especially in the agricultural sector where the majority of the Indonesian population reside, causes the national income to increase because of the occurrence of an increase in economic performance. Furthermore, investments in the form of foreign and domestic influences significantly and positive to economic growth.

Hudaya (2009) analyzes factors that influence poverty levels in Indonesia. This research uses a panel data analysis method. Results of this research show factors that influence significantly to poverty levels are unemployment levels,

income, and education. These three factors above are factors that are very influential to poverty levels. This indicates that the high and low levels of poverty that occurs in Indonesia one of them depends on the income that are accepted by the people and depends on the population's spending on education and depends on the government's policy in decreasing unemployment levels. The per capita income is a factor that has a large enough influence to the poverty levels compared with the literacy rate and unemployment levels, this shows that the role of the government in unemployment is not yet maximal for decreasing poverty numbers.

Cahyono (2011) analyzes factors that influence poverty levels in North Moluccas Province in 2005-2009. This research uses a panel data analysis method. Results of this research show factors that significantly influence poverty levels in North Moluccas which are a change in domestic investment (economic growth), education levels, number of unemployment and shares of domestic investment in the agriculture sector. Economic growth, increases in education levels, and increases in domestic investment shares will decrease poverty levels, while increases in unemployment numbers will increase poverty levels.

Amelia (2012) analyzes factors that influence poverty levels in East Nusa Tenggara, this research uses a panel data analysis method. Results of this research show that what influences significantly to the poverty levels in East Nusa Tenggara are economic growth, number of the population that graduate junior high school, and life expectancy numbers have a negative influence, the number of the population have a positive influence. While the open unemployment variable is not significant to the level of poverty in East Nusa Tenggara.

This research refers to previous researches that uses variables that are obtained from previous researches such as what are used by Mallo (2011), Jonaidi (2012), Hudaya (2009), Cahyono (2011) and Amelia (2012). The advantage of this research compared with previous researches is that it enters a new variable element which is the minimum wage variable, where the minimum wage variable is an important variable in factors that influence poverty levels.

### **3. RESEARCH METHODOLOGY**

The type of data that is used in this research is secondary data, secondary data is data that is obtained in a ready-made form in the form of publications or inside digital files (Juanda, 2009). The secondary data that are used are poverty numbers, economic growth, minimum wage, and literacy rate.

The data of this research is obtained from the Central Body of Statistics Banten Province, while other information are sourced from scientific journals and textbooks. The secondary data that is used are time series data for the time period 2009-2013 and cross section data that covers 8 regencies/cities in Banten province which are: Pandeglang regency, Lebak regency, Tangerang regency, Serang regency, Tangerang city, Cilegon city, Serang city and South Tangerang City.

Table 2 Data Type, Data Unit, and Data Source

Data Type	Data Unit	Data Source
Poverty Numbers	Thousands of Persons	Central Body of Statistics Banten Province
Economic Growth	Percent	Central Body of Statistics Banten Province
Minimum Wage	Rupiah	Central Body of Statistics Banten Province
Unemployment Numbers	Persons	Central Body of Statistics Banten Province
Literacy Rate	Percent	Central Body of Statistics Banten Province

**Data Analysis Method**

The analysis method that is used is a descriptive analysis and econometric method. The econometric method that is used is the data panel regression analysis. Data processing uses Microsoft Excel 2010 and EViews 6.0 software.

**Descriptive Analysis**

Descriptive analysis is implemented for providing a picture of poverty conditions (the number of the poor population) in Banten Province. The descriptive analysis is used for implementing an analysis to quantitative data and interpretation to quantitative data such as the results of factors that impact poverty.

**Data Panel Regression Analysis**

Data panel regression analysis is a regression analysis with data structure that is panel data. Generally the prediction of the parameter in a regression analysis with a cross section data is implemented using a prediction of the Ordinary Least Square method (OLS). Panel data is a combination between cross section data and time series data where the cross section unit that is the same is measured in a different time.

The choice of a regression analysis data panel model is able to be implemented by implementing the Chow test and the Hausman test. There are three models in data panel regression analysis which are: Pooled Least Square (PLS), Fixed Effects Model (FEM) and Random Effects Model (REM).

**1. Pooled Least Square (PLS)**

Pooled Least Square is the simplest data panel model approach because it only combines time series and cross section data. In this model the time dimension nor individual is not paid attention, so it is assumed that the behavior of corporate data is the same in several time periods. This method is able to use the Ordinary Least Square (OLS) method for data panel model estimation.

**2. Fixed Effects Model (FEM)**

This model assumes that differences between individuals are able to be accommodated from their intercept. For estimating the data panel of the fixed effects model, a variable dummy for catching the intercept difference between corporations is used. A difference in intercept can occur because of the difference in work culture, managerial, and intensives. Nevertheless the slopes are the same between corporations. This estimation model is also often mentioned as the Least Squares Dummy Variable (LSDV) technique.

### 3. Random Effects Model (REM)

This model will estimate panel data where disturbing variables may be interconnected between time and between individuals. In the random effect model differences in intercept are accommodated by error terms of each corporation. The advantage of using a random effect model is the elimination of heteroscedasticity. This model is also known as the Error Component Model (ECM) or the Generalized Least Square (GLS) technique.

#### General Research Model

Where:

$$LnPOVERTY_{it} = (\beta_0 + \alpha_i + \mu_t) + \beta_1 PE_{it} + \beta_2 LnUM_{it} + \beta_3 LnU_{it} + \beta_4 AMH_{it} + u_{it} \quad (1)$$

Where:

$LnPOVERTY_{it}$  = Poor population number of regency/city-i in year-t

$PE_{it}$  = Economic growth in regency/city-i in year-t

$LnUM_{it}$  = Minimum wage of regency/city-i in year-t

$LnU_{it}$  = Unemployment number of regency/city-i in year-t

$AMH_{it}$  = Literacy rate of regency/city-i in year-t

$\beta_j$  = Parameter yang diestimasi,  $j = 0, 1, 2, 3, 4, 5, 6$ .

$\alpha_i$  = Individual effect in city-i

$\mu_t$  = Time effect in year-t

$u_{it}$  = Error Component

#### Model Choice Method in Data Processing

For the most right choice of panel data model, a row of tests need to be implemented econometrically. Generally the order of the mentioned tests are implementing a Chow test then implement a Hausman test.

#### Chow Test

The Chow test is a test for determining whether a fixed effect model or a random effect model is the most right for being used in a data panel. The hypothesis for a chow test is:

H0 : Common Effect Model or Pooled Least Square

H1 : Fixed Effect Model

The base for rejection to the above hypothesis is by comparing the count of the F-statistic with the F-table. A comparison is used if the results of the F count is larger (>) than the F table so H0 is rejected which means the most right model that is used is the Fixed Effect Model.

The count of the F statistic is obtained from the Chow test with the equation (Baltagi, 2005)

$$F = \frac{\frac{(SSE_1 - SSE_2)}{(n-1)}}{\frac{SSE_2}{(nt-n-k)}} \quad (2)$$

Where:

SSE1 : Sum Square Error from the model Pooled Least Square

SSE2 : Sum Square Error from the model Fixed Effect

N : Number of regencies/cities (cross section)

Nt : Number of cross section x number of time series

K : Number of independent variables

While the F table is obtained from

$$F - \text{table} = \{ \alpha : df(n-1, nt-n-k) \} \quad (3)$$

Where:

- $\alpha$  : Level of significance used (alfa)
- n : Number of regencies/cities (*cross section*)
- nt : Number of cross section x number of time series
- k : Number of independent variables

### **Hausman Test**

After done implementing the chow test and it is obtained that the right model is the fixed effect, so then we will test which model between the fixed effect or random effect that is the most right, this test is known as the Hausman test.

The Hausman test is able to be defined as a statistic test for choosing whether the fixed effect or the random effect model is the most right to be used. A Hausman test is implemented with the following hypothesis:

H0 : Random Effect Model

H1 : Fixed Effect Model

If the hausman statistical value is larger than its critical value H0 is rejected and the right model is the fixed effect model while vice versa, if the Hausman statistical value is less than its critical value the right model is the random effect model.

### **Statistical Test Evaluation Model**

#### **Normality assumption**

The purpose of a normality test is to observe whether residual values are distributed normally or not. A good regression model has a residual value that is normally distributed. There are two ways for identifying the presence of normality which are:

- Formal method

The normality test is implemented through the Kolomogorov-Smirnov test, Darling test, Shapiro-Wilk test and Jarque-Bera test. All the mentioned tests have a hypothesis interpretation as the following:

H<sub>0</sub> : Normally distributed residual

H<sub>1</sub> : Abnormally distributed residual

The normality assumption is fulfilled when the normality test produces a P-value larger than  $\alpha$ , with a determined  $\alpha$  value as large as 1 percent, 5 percent, 10 percent.

- Graphical method

A normality test that is implemented through normality checks with a normal output of P-P plot Q-Q plot. The normality assumption is fulfilled when the split of residual data is around the straight line latitude.

#### **Autocorrelation assumption**

The purpose of an autocorrelation test is to observe whether a correlation occurs between a t period with the previous period (t-1) or correlations between errors in the past with errors in the present. The presence of this autocorrelation causes parameters that will be estimated to become inefficient. For knowing the presence of autocorrelations, an indicator is able to be used such as: Durbin Watson (DW statistic)

The DW statistic is located on interval 4. If the value of the DW statistic approaches 2 the mentioned model does not have an autocorrelation problem. If

the DW statistic keeps away from 2 it identifies that there is a positive or negative autocorrelation. For that, the decision making whether there is an autocorrelation or not is the following by using DW statistics

Table 3 Autocorrelation Identification Frame

Durbin Watson Value	Summary
DW < DL	Autocorrelation present
DL < DW < DU	Without summary
DU < DW < 4-DU	Autocorrelation not present
4-DU < DW < 4-DL	Without summary
DW > 4-DL	Autocorrelation present

1. Breusch-Godfrey Serial Correlation LM test

In the Breusch-Godfrey serial correlation LM test using an  $\chi^2$  distribution where the hypothesis is:

$H_0$  : Autocorrelation not present

$H_1$  : Autocorrelation present

If the Obs\*R-Squared > critical value,  $H_0$  will be rejected which means there is an autocorrelation, or P-value <  $\alpha$ , means rejected which means there is an autocorrelation.

Ways for solving correlations among others:

- Adding AR variables (Auto Regressive)
- Adding an independent lag variable or a dependent lag variable
- By implementing differencing or implementing value regression derivatives

**Heteroskedacity assumption**

The heteroskedacity test has a purpose for observing whether there is a dissimilarity of variants of one residual from an observation to other observations. The regression model that fulfills the requirement is where there is a similarity of variants of one residual from an observation to other observations that are fixed or known as homoskedacity. The presence of heteroskedacity is able to be shown by probability Obs\*R-Squared in the White Heteroskedacity test.

$H_0 = \gamma = 0$

$H_1 = \gamma \neq 0$

Test criteria

Probability Obs\*R-Squared <  $\alpha$ ,  $H_0$  rejected

Probability Obs\*R-Squared >  $\alpha$ ,  $H_0$  accepted

**Multicolonearity Assumption**

The multicolonearity test is for observing the presence or non-presence of a high correlation between independent variables in a double linear regression model. If there is a high correlation between the independent variables the relation between the independent variables to the dependent variables becomes disturbed.

**4. RESULT AND DISCUSSION**

**Results**

For obtaining a picture as a whole about the economic condition of a region, it is able to be observed through its economic balance such as what is reflected in a region's domestic product. Economic development is a row of efforts and policies

which the purpose is to increase the living standards of a society, increase jobs, and equalize the distribution of the people's income. One of the ways for knowing the increase in the population's welfare is by observing the count results of the gross domestic regional product based on the 2000 constant price.

Table 4 Gross domestic regional product based on the 2000 constant price according to business fields in the years 2009-2013

Regency/City	Gross domestic regional product based on the 2000 constant price according to business fields in the years 2009-2013				
	2009	2010	2011	2012	2013
Pandeglang Regency	3,985,776	4,255,062	4,547,852	4,810,925	5,018,451
Lebak Regency	3,895,541	4,152,209	4,387,622	4,608,622	4,872,701
Tangerang Regency	17,382,091	18,483,033	19,664,496	20,804,088	21,848,671
Serang Regency	9,557,282	10,048,820	10,646,610	11,232,280	11,963,660
Tangerang City	27,562,540	29,402,850	31,417,620	33,433,900	35,411,360
Cilegon City	11,580,598	17,111,197	18,228,289	19,470,423	20,624,738
Serang City	26,707,520	28,842,260	31,105,050	33,367,350	35,674,470
South Tangerang City	49,478,668	53,666,250	58,238,330	63,034,770	68,381,670
Banten Province	150,150,015	165,961,681	178,235,869	190,762,357	203,795,720

Source: Central Body of Statistics Banten Province (2016)

Based on Table 4, it shows that the gross domestic regional product based on the 2000 constant price according to business fields, in every region that is in Banten province from the year 2009 until the Year 2013 every year experiences an increase. The largest contributor of the gross domestic regional product is South Tangerang city which is as large as 68,381,670 million rupiah in 2013. An increase in the gross domestic regional product every year signifies that the economy in the Banten region that is improving signified by an increase in prosperity and welfare, because the gross regional domestic product is a barometer for measuring results of development that have been implemented.

Poverty is a condition where a person or a group of people are unable to fulfill their basic rights for surviving and developing life that is dignified. Poverty in Banten Province also gets serious attention, where the policies of the central government nor the regional government is not yet maximal in solving the present poverty problems in Banten Province, especially in regions that are not industrial cities.

Table 5 Number of the poor population according to regency/city in Banten province years 2009-2013

Regency/City	Number of the poor population according to regency/city (Thousands of Persons)				
	2009	2010	2011	2012	2013
Pandeglang Regency	140.28	127.8	117.6	109.1	121.1
Lebak Regency	142.23	125.2	115.2	106.9	118.6
Tangerang Regency	256.15	205.1	188.6	176	<b>183.9</b>
SerangRegency	82.9	89.2	82	76.1	72.8
Tangerang City	106.1	124.3	114.3	106.5	103.1
Cilegon City	15.37	16.8	15.4	15	<b>15.9</b>
Serang City	32.76	40.7	37.4	34.7	36.7
South Tangerang City	18.65	21.9	20.1	18.7	25.4
Banten Province	<b>794.4</b>	<b>751</b>	<b>690.9</b>	<b>642.9</b>	<b>677.5</b>

Source: Banten Central Body of Statistics, 2016

Based on table 5, it is able to be observed that the number of the poor population in Banten Province is fluctuated where in the year 2009 until the year 2012 the number of the poor population Banten Province experienced a decrease from 794.4 thousands of persons to 642.9 thousands of persons, but in 2013 the number of the poor population in Banten Province experienced a return in increase becoming as large as 677.5 thousands of persons, this is caused by the cause of an increase in fuel prices in July 2013.

For observing the factors that influence poverty levels in Banten Province, an analysis is implemented by using the data panel regression analysis. The determination of the model that is used in the data panel regression analysis is implemented with the Chow test and the Hausman test, is implemented for determining the conformity of the model that is used between the pooled least square, fixed effect model, or random effect model.

Table 6 Model Conformity Test Results

Test Name	Probability	Remarks
Chow Test	0	Significant to the real tariff of 5%
Hausman Test	0	Significant to the real tariff of 5%

Source: Eviews 06

Table 7 Results of model estimation with the fixed effect model

Variable	Coefficient	Prob.
C	-6,458048	0,0824
PE	-0,00536	0,7935
LnUM	0,958524	0,0000*
LnU	0,593991	0,0000*
AMH	-0,095972	0,0208**
<i>R-squared</i>	0,993575	
<i>Durbin-Watson Stat</i>	1,757838	

Notes :\*) Significant to the real standard of 5 percent

\*\*\*) Significant to the real standard of 10 percent

From estimation results an R-squared value as large as 0.993575 is obtained which means the mentioned model is able to explain the diversity of poverty levels in Banten Province as large as 99.35 percent and the rest is explained by other variables outside of the model. After implementing an estimation of the best model approach by choosing the fixed effect model, then a classic assumption test is needed for obtaining a model that is free from classic assumption problems such as normality, heteroskedascity, autocorrelation, and multicollinearity.

The normality test is implemented by observing the Jarque-Bera value and the probability value that are able to be seen in the histogram-normality test. Based on the mentioned test, the Jarque-Bera value is observed as 0.993352, the mentioned value is more than the real standard of 5 percent. The probability value shows a value as large as 0.608550, the mentioned value is more than the real standard of 5 percent. So it is able to be summarized that there is enough proof to accept H0, so it is able to be stated that the mentioned data spreads normally.

The heteroskedascity test is able to be implemented by observing the value of the sum squared residunweighted which is larger than the sum squared resid weighted and observed from a graphical image that resembles a heartbeat. Based on the mentioned test, it is able to be observed that the value of the sum squared residunweighted is 0.791754 larger than the value of the sum squared resid weighted which is 0.714176 and the graphical image that is obtained resembles a heartbeat which means there is no heteroskedascity.

The autocorrelation test is able to be implemented by observing the Durbin Watson (DW) value. The autocorrelation test is able to be implemented by observing the manual count of the DW table. The Durbin Watson (DW) that is obtained is as large as 1.757838 the DL value as large as 1.2848 and the DU value as large as 1.7209. The DW value that is obtained is in between the DU (1.7209) < DW (1.757838) < 4-DU (2.2791), that shows that there is no autocorrelation.

The multicollinearity test is able to be implemented by observing the coefficient correlation value between variables. The model estimation results from the multicollinearity test shows that there are no correlations between variables, that

is showed by the non-presence of the correlation values that is more than the R-squared value as large as 99.35 percent.

Based on the results of data processing, a prediction model for the best research for factors that influence poverty in Banten Province is as the following:

$$\text{LnPOVERTYit} = -6,458048 - 0,00536 \text{ PEit} + 0,958524 \text{ LnUMit} + 0,593991 \text{ LnUit} - 0,095972 \text{ AMHit} + \text{uit} \quad (4)$$

Based on estimation results, it is obtained that variables that influence significantly to the poverty level in Banten province are minimum wage, unemployment, and literacy rate. While variables that is not significant to the poverty level in Banten province is the economic growth variable.

### **Discussion**

#### **Economic Growth**

Economic growth has a negative influence to poverty levels. The probability value of economic growth as large as 0.7935 shows that economic growth does not have a significant influence to poverty levels in Banten province. The coefficient of economic growth as large as -0.00536, means that if economic growth increases by 1 percent, so the poverty level will decrease by 0.00536 percent (Catrius paribus)

#### **Minimum Wage**

The minimum wage has a positive influence to poverty levels. The probability value of minimum wage as large as 0.0000 shows that minimum wage has a significant influence to poverty levels in Banten province in the real standard of 5 percent. The coefficient of minimum wage as large as 0.958524 means that if the minimum wage increases 1 percent, so the poverty level will increase by 0.958524 percent (Catrius paribus). This is not in accordance with the earlier hypothesis.

#### **Unemployment Number**

The unemployment number has a positive influence to poverty levels. The probability value of the unemployment number as large as 0.0000 shows that the unemployment number has a significant influence to poverty levels in Banten province in the real standard of 5 percent. The coefficient of the unemployment number as large as 0.593991 means that if the unemployment number increases 1 percent, so the poverty level will increase by 0.593991 percent (Catrius paribus).

#### **Literacy Rate**

The literacy rate has a negative influence to poverty levels. The probability value of the literacy rate as large as 0.0208 shows that the literacy rate has a significant influence to poverty levels in Banten province in the real standard of 10 percent. The coefficient of the literacy rate as large as -0.095972 means that if the literacy rate increases 1 percent, so the poverty level will decrease by -0.095972 percent (Catrius paribus).

#### **Policy Solutions that are implemented by the Regional Government of Banten Province**

The body of development planning, economic bureau and development administration, and the governmental bureau of Banten province implements programs in sparking economic growth through regional development, covering: planning and financing regional development programs, regional development control programs, and regional development cooperation programs.

The agency of cooperation and small businesses of Banten province implements programs in aiding people that are unemployed by forming a cooperation and small businesses, covering: business development programs and access to cooperation capital and small businesses, programs for increasing competitiveness, capacity of organization and cooperation human resources and small businesses.

The education agency of Banten province implements programs in the field of education, covering: early childhood education programs, the compulsory basic education learning for 9 years program, the compulsory middle education learning program for 12 years, programs increasing the quality, welfare and protection of educators and education staff, higher education programs, non-formal and informal education programs, and programs for increasing the quality, management and image of education.

### **Policy Solutions For Minimalizing Poverty Problems in Banten Province**

Solutions are analyzed based on data processing results using a regression analysis data panel regarding the factors that influence poverty in Banten province. Factors that significantly influence poverty levels in this research are: minimum wage, unemployment numbers, and literacy rate.

Minimum wage has a significant influence to poverty levels in Banten province, when the minimum wage increases, the poverty will increase in Banten province. This is inversely proportional with the early hypothesis where the minimum wage has a negative relation with poverty which means when the minimum wage increases, poverty will decrease.

Unemployment numbers have a significant influence to poverty in Banten province, when unemployment numbers increase, poverty will also increase. The unemployment problem is there because the available potential is not fully optimized, whether it is the natural resource and the human resource. The policy that is able to be implemented by the regional government of Banten Province for decreasing unemployment numbers is by providing entrepreneurial training to be able to educate and motivate the people to produce a product and/or a service.

Literacy rate has a significant influence to poverty levels in Banten province, when the literacy rate increases, the level of poverty will decrease. The solution for increasing literacy rate is by increasing development in education. The regional government of Banten province is able to provide a policy for increasing, expanding and equalizing education in formal and non-formal ways.

In increasing the education system, education funding is also an important aspect in increasing the length of school expectation. Subsidized facilities or scholarships from basic education up to a university level have to be provided by the regional government so the education funding problem does not decrease the length of school expectation in Banten province.

## **5. SUMMARY**

From the results of panel data regression, the economic growth variable does not have a significant influence to poverty levels in Banten province. Variables that have significant influences to poverty in Banten province are the minimum wage

variable, unemployment numbers and literacy rate. Economic growth and literacy rate in Banten province have negative influences to levels of poverty in Banten province, when economic growth and literacy rate increases 1 percent, levels of poverty will decrease. While minimum wage and unemployment numbers have a positive influence to levels of poverty in Banten province, when the minimum wage and unemployment numbers increase 1 percent, levels of poverty will increase.

## References

- Amelia, R. (2012). *Analisis Faktor-faktor yang Mempengaruhi Kemiskinan di Provinsi Nusa Tenggara Timur*. [Thesis]. Bogor: Bogor Institute of Agriculture.
- Central Body of Statistics. (2016). *Jumlah dan Persentase Penduduk Miskin Berdasarkan Provinsi Hasil Pemekaran di Indonesia*. Central Body of Statistics.
- Central Body of Statistics Banten Province. (2016). *Jumlah dan Persentase Penduduk Miskin di Provinsi Banten*. Central Body of Statistics Banten.
- \_\_\_\_\_. (2016a). *Pertumbuhan Ekonomi Menurut Kabupaten/Kota di Provinsi Banten*. Central Body of Statistics Banten.
- \_\_\_\_\_. (2016b). *Upah Minimum Menurut Kabupaten/Kota di Provinsi Banten*. Central Body of Statistics Banten.
- \_\_\_\_\_. (2016c). *Jumlah Pengangguran Menurut Kabupaten/Kota di Provinsi Banten*. Central Body of Statistics Banten.
- \_\_\_\_\_. (2016d). *Angka Melek Huruf Menurut Kabupaten/Kota di Provinsi Banten*. Central Body of Statistics Banten.
- \_\_\_\_\_. (2016e). *PBRB Atas Dasar Harga Konstan 2000 Menurut Lapangan Usaha di Kabupaten/Kota di Provinsi Banten*. Central Body of Statistics Banten.
- Baltagi. (2005). *Econometric Analysis of Panel Data* (3<sup>rd</sup> Ed). England: John Wiley & Sons, Ltd.
- Body of Planned Families Coordination. (2016). <http://bkkbn.go.id/>
- Budhi, M K S. (2013). Analisis Faktor-faktor yang Berpengaruh Terhadap Pengentasan Kemiskinan di Bali. *Jurnal Ekonomi Pembangunan*, 6(1), 1-6.
- Cahyono, K D. (2011). *Analisis Faktor-faktor yang Memengaruhi Tingkat Kemiskinan di Provinsi Maluku Utara Tahun 2005-2009*. [Thesis]. Bogor :Bogor Institute of Agriculture.
- Firdaus, M. (2011). *Aplikasi Ekonometrika Untuk Data Panel dan Time Series*. Bogor: IPB Press.
- Gujarati, D N. (1978). *Ekonometrika Dasar*. Zain and Sumarno [Translator]. Jakarta: Erlangga.
- Hudaya, D. (2009). *Analisis Faktor-faktor yang Mempengaruhi Tingkat Kemiskinan di Indonesia*. [Thesis]. Bogor: Bogor Institute of Agriculture.
- Jonaidi, A. (2012). Analisis Pertumbuhan Ekonomi dan Kemiskinan di Indonesia. *Jurnal Kajian Ekonomi*, 1(1).
- Juanda, B. (2009). *Ekonometrika: Pemodelan dan Peramalan*. Bogor: IPB Press.
- \_\_\_\_\_. (2009). *Metodologi Penelitian Ekonomi & Bisnis*. (Edisi Kedua). Bogor: IPB Press.
- Kuncoro, M. (2004). *Otonomi dan Pembangunan Daerah: Reformasi, Perencanaan, Strategi, dan Peluang*. Jakarta: Erlangga.

- Mallo, B. (2011). *Analisis Faktor-faktor yang Memengaruhi Kemiskinan dan Kebijakan Pengentasannya di DKI Jakarta* .[Thesis]. Bogor: Bogor Institute of Agriculture.
- Mardimin, Y. (1996). *Kritis Proses Pembangunan di Indonesia*. Yogyakarta: Kanisius.
- Marmujiono, S P. (2014). Analisis Faktor-faktor yang Mempengaruhi Tingkat Kemiskinan dan Strategi Pengentasan Kemiskinan di Kab. Brebes Tahun 2009-2011. *Economics Development Analysis Journal*.
- Nanga, M. (2005). *Makroekonomi: Teori, Masalah dan Kebijakan*. Jakarta: PT Raja Grafindo Perkasa.
- National Body of Development Planning. (2016). <http://bappenas.go.id/>
- Purba, J. (2005). *Pengelolaan Lingkungan Sosial*. Jakarta: Yayasan Obor Indonesia.
- Sukirno, S. (2000). *Ekonomi Pembangunan Proses, Masalah dan Dasar Kebijakan Pembangunan*. Jakarta: UI-Press.
- Sukmadinata. (2006). *Metode Penelitian Pendidikan*. Bandung: Remaja Rosdakarya.
- Todaro, M P., & S C. Smith. (2006). *Pembangunan Ekonomi* (Cover 1, Edition 9). Translator. Erlangga