

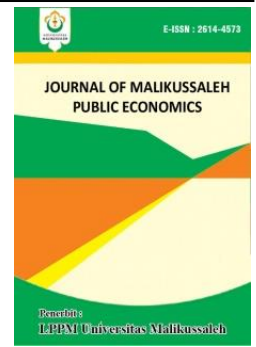
THE EFFECT OF EDUCATION LEVEL, UNEMPLOYMENT RATE AND ECONOMIC GROWTH ON POVERTY RATE IN INDONESIA 2012-2017 PERIOD

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ARTICLE INFORMATION ABSTRACT

Keywords:

Education Level, Unemployment Rate, Economic Growth, Poverty Rate.

This research aims to determine the effect of education level, unemployment rate and economic growth on the poverty rate in Indonesia during 2012-2017. The data used in this research are secondary data with a cross-section of 33 provinces and time series data from 2012 to 2017. The method of data analysis is panel data regression. The results partially showed that the education level has a significant but negative effect on the poverty rate in Indonesia, the unemployment rate has a positive but insignificant effect on the poverty rate in Indonesia and the economic growth has a negative and insignificant affect the poverty rate in Indonesia.

1. INTRODUCTION

Poverty is a frightening condition for developing and developed countries, because poverty can hit every country and region. Poverty is a situation where humans are unable to meet basic needs such as food, clothing, shelter, education and health (BPS, 2016). Poverty is a global problem that must be solved.

The Indonesian government defines the poverty line with monthly income of Rp. 354,386 (or around USD \$ 25) so that living standards are still very low. Following is the development of poverty in Indonesia from the period 2012-2017:

Table 1
Number of Poor Populations
in Indonesia

Amount of Poor Population (%) in Indonesia According to the 2012-2016 Rural and Urban Classifications					
Year	2012	2013	2014	2015	2016
Rural	11.66	11.47	10.96	11.13	10.70
Urban	8.60	8.52	8.16	8.22	7.73

Sources: World Bank and BPD, 2018

In 2016 the poverty rate in urban areas stands at 7.73%, this figure is the lowest number in the last five years as seen in the table 1 above..

Table 2
Number of Poor Population (%) in Indonesia
Period 2012-2017

Amount of Poor Population (%) in Indonesia						
Year	2012	2013	2014	2015	2016	2017
Poverty	11,66	11,47	10,96	11,13	10,70	10,12

Source: www.bps.go.id (2018)

In 2015 the poverty rate as seen in table 2 above, in Indonesia again increases at 11.13%. However, in 2016 and 2017 the poverty rate in Indonesia declines to 10.70% in 2016 and is 10.12% in 2017.

Table 3
School Participation Rates in Indonesia For
The Period 2012-2017

School Participation Rate (Higher Education) in Indonesia (%)						
Year	2012	2013	2014	2015	2016	2017
Total	16.05	20.14	22.82	22.95	23.93	24,77

Source: www.bps.go.id (2018)

Participation level in table 3 above is at 24.77%. This number is the highest school participation rate level in the last 6 years.

Table 4

**Number of Unemployment in Indonesia
in 2012-2017**

Number of Unemployment in Indonesia (%)						
Year	2012	2013	2014	2015	2016	2017
Tahun	6.13	6.17	5.94	6.18	5.61	5,50

Source: www.bps.go.id (2018)

In 2016, an shown in table 4 above, unemployment again declined to 5.61% and in 2017 the unemployment rate also declines to the figure of 5.50%.

Indonesia's economic growth fluctuates. This can be seen from the following table:

Table 5

**Development of Economic Growth in Indonesia
Period 2012-2017**

Economic Growth in Indonesia Period 2012-2017 (%)						
Year	2012	2013	2014	2015	2016	2017
Total	6,03	5,58	5,02	4,79	5,02	5,07

Source: BPS and BI (2018)

Economic growth increases to 5.02% and this increase also occurs in 2017, which is at 5.07%, as seen in table 5 above.

Table 6

**Amount of Poverty, Education Level,
Unemployment Rate and Economic Growth
Rate (%) in Indonesia Period 2012-2017**

Amount of Poverty, Education Level, Unemployment Rate and Economic Growth (%) in Indonesia Period 2012-2017						
Variable	2012	2013	2014	2015	2016	2017
Poverty level	11,66	11,47	10,96	11,13	10,70	10,12
Level of education(*)	16,05	20,14	22,82	22,95	23,93	24,77
Unemployment Rate	6.13	6.17	5.94	6.18	5.61	5,50
Economic Growth Rate	6,03	5,58	5,02	4,79	5,02	5,07

Source: www.bps.go.id (2018)

In 2013 and 2014, poverty decreases from 11.47% to 10.96%. While in the theory explains that if economic growth increases, the poverty rate will decrease and if economic growth decreases it will increase the poverty level.

This article aims to find out more about the influence of education level, unemployment rate and economic growth on poverty rate in Indonesia for the period 2012-2017.

2. THEORITICAL REVIEW

Definition of Education

The level of education is one measure of one's success in overcoming the problem of poverty. UNESCO (1946). states education is an effort to prepare the needs for skill worker for all fields, in accordance with the demands of the past and future.

Definition of Economic Growth

Economic growth is the rate of increase in real GDP and GNP in a given year when compared to the previous year (Sukirno, 2015).

Definition of Poverty

Poverty is a problem of vulnerability, this is because poverty has a level where a system is easily affected by or unable to deal with or the adverse effects of changes including variability (household income, social networking, access to information, globalization of environmental conditions or climate change). Poverty is a problem of closed access to various opportunities for productive resources, including capital, natural resources and even jobs opportunities (Jain and Khanna, 2009).

Conceptual Framework

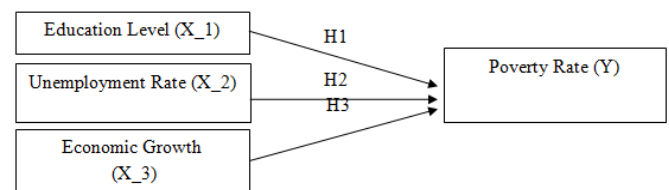


Figure1

Conceptual Framework

Research Hypothesis

- H1: The level of education has a significant and negative influence on the level of poverty in Indonesia for the period 2012-2017.
- H2: Unemployment rates have a significant and positive effect on poverty levels in Indonesia for the period 2012-2017.
- H3: The rate of economic growth has a significant and negative effect on the poverty level in Indonesia for the period 2012-2017.

3. RESEARCH METHODS

Data and Source of Data

Data analyzed in this research is secondary data. Panel data is used from 2012-2017 as many as 33 provinces in Indonesia. Data in this study is obtained from the documentation of the main data of Central Statistics Agency (BPS) Indonesia.

Data analysis method

The panel data model is as follows:

$$Y_{it} = B_0 + B_1 X_{1it} + B_2 X_{2it} + B_3 X_{3it} + e_{it}$$

Where:

- Y = Poverty Level
 B₀ = constant
 i = cross section data (1,2,3,, N)
 t = Data Time Series (1,2,3, T)
 b₁ - b₃ = Regression Coefficient
 X₁ = Education Level
 X₂ = Unemployment Rate
 X₃ = Economic Growth
 N = Number of observations
 T = Number of Time
 N × T = Number of Data Panels
 e_i = error term / Disturbing variable

4. RESULTS AND DISCUSSIONS

Descriptive Statistics

Table 7

Descriptive Results of Statistical Data

Variabel	Observasi	Minimum	Maksimum	Mean	Std Dev
γ	198	3,610000	31,53000	11,76631	6,152817
X_1	198	9,300000	51,33000	24,02616	7,303922
X_2	198	1,480000	25,80000	5,884697	3,542152
X_3	198	-1,540000	21,98000	5,705051	2,283825

Source: Results of Data Analysis, 2018

The poverty level (γ) has a minimum of 3.61 and a maximum value of 31.53%, with an average of 11.77% and a standard deviation of 6.15%. Judging from the standard deviation value is smaller than the average value, which is 6.15% < 11.76%. These results indicate that the spread of poverty is good, because the standard deviation is smaller than the average value there is an increase in the level of poverty in Indonesia.

The level of education (X_1) has a minimum of 9.3% and a maximum value of 51.33%, with an average of 24.03% and a standard deviation of 7.3%. Judging from the standard deviation value is smaller than the average value, which is 24.03% < 7.3%. These results indicate that there is an increase in the level of education in Indonesia.

The unemployment rate (X_2), has a minimum of 1.48% and a maximum value of 25.8%, with an average of 5.88% and a standard deviation of 3.54%. Judging from the standard deviation value is smaller than the average value, which is 5.88% < 3.54%. These results indicate that there is a change in the increase in the unemployment rate (X_2) in Indonesia.

Economic growth X (X_3) has a minimum of -1.54% and a maximum value of 21.98%, with an average of 5.71% and a standard deviation of 2.28%. Judging from the standard deviation value is smaller than the average value, which is 5.71% < 2.28%. These results indicate that there has been an increase in economic growth (X_3) in Indonesia.

Inter-Variable Relationships

Table 8

Free Inter-Variable Correlation

Correlation t-Statistic	Y	X1	X2	X3
Y	1.000000 -----			
X1	0.214180 3.069762	1.000000 -----		
X2	-0.162537 -2.306189	-0.006795 -0.095133	1.000000 -----	
X3	0.037705 0.528245	-0.080664 -1.132992	-0.158352 -2.245262	1.000000 -----

Source: Data Processed, 2018

Based on the results in Table 8 it can be seen that all the independent variables in this study are free from multicollinearity problems. This can be seen from the correlation value of each independent variable. The correlation value of the education level is 0.21, the correlation value of the unemployment rate is -0.16 and economic growth has a correlation value of -0.04, all the correlation values in the table above are < 0.80, then the value indicates that there is no multicollinearity.

Chow Test

Table 9
Estimated Chow Test Results

Effects Test	Statistic	d.f.	Prob.
Cross-section F	543.239050 (32,162)		0.0000
Cross-section Chi-square	927.623066	32	0.0000

Source: Processed Data, 2018

Based on the results of the Chow Test above it can be seen that the model is significant, this can be seen in the Chi-square cross-section of 0.0000 as shown in table 9 above.

Hausman Test

Table 10
Hausman Test Estimation Results

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	6.355133	3	0.0956

Source: Processed Data, 2018

Based on the Hausman Test above, it can be seen that the Cross-Section Random value is 5.814692 and the p-value is 0.0956. Comparison of critical Chi-Square values in df Chi-Square (X^2); at $\alpha = 5\%$ has a value of 9.49.

Model Pooled Least Square (PLS)

Table 11
Estimated Pooled Least Square Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	8.534221	2.089942	4.083473	0.0001
X1	0.181593	0.058442	3.107220	0.0022
X2	-0.271440	0.121650	-2.231312	0.0268
X3	0.081761	0.189289	0.431936	0.6663

Source: Processed Data, 2018

Based on the results of processing data / estimation using the Common Effect in Table 11 can be seen the equation of the model is as follows:

$$Y_{it} = 8,534 + 0,182X_{1it} - 0,271X_{2it} + 0,082X_{3it}$$

Based on these results it can be seen that the economic growth variable does not affect the poverty level in Indonesia for the period 2012-2017.

Model Fixed Effect (FEM)

Table 12
Estimated Result of Fixed Effect Model

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	14.10123	0.443226	31.81499	0.0000
X1	-0.115368	0.014097	-8.184094	0.0000
X2	0.078661	0.044689	1.760204	0.0803
X3	-0.004552	0.025697	-0.177161	0.8596

Source: Processed Data, 2018

Based on the results of estimation using the Fixed Effect Model in Table 12, the model is obtained as follows:

$$Y_{it} = 14,101 - [0,115X_{1it} + 0,079X_{2it} - 0,005X_{3it}]$$

Based on the equation above, it can be seen that economic growth has no effect on the level of poverty in Indonesia for the 2012-2017 period.

Model Random Effect (REM)

Table 13
Estimated Random Effect Model Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	14.07502	1.160697	12.12635	0.0000
X1	-0.112327	0.014042	-7.999596	0.0000
X2	0.069812	0.044247	1.577783	0.1162
X3	-0.003635	0.025680	-0.141538	0.8876

R-squared	0.248087	Mean dependent var	0.488627
Adjusted R-squared	0.236459	S.D. dependent var	0.724664
F-statistic	21.33615	Durbin-Watson stat	1.169742
Prob(F-statistic)	0.000000		

Source: Processed Data, 2018

Based on the results of estimation using Random Effect Model in Table 13 it can be seen that the education level variable (X_1) significantly and negatively affects the poverty level (Y) in Indonesia for the period 2012-2017, the unemployment (X_2) has a positive effect but not significant to the variable poverty level (Y) in

Indonesia in 2012-2017. The level of economic growth (X_3) has an effect but not significant on the poverty level (Y) in Indonesia for the period 2012-2017. The models obtained are as follows:

$$Y_{it} = 14,075 - 0,112X_{1it} + 0,070X_{2it} - 0,004X_{3it}$$

Based on the above model it can be explained as follows:

The constant of 14.075 is if the level of education (X_1), the unemployment rate (X_2) and economic growth (X_3) is constant (zero), then the poverty level (Y) will be at 14.075.

The coefficient regression of education level (X_1) is -0,112. It means that if the education level (X_1) increases 1% then the poverty level (Y) will decrease by 0,112%. This result supports the theory, if education increases it will reduce poverty.

Regression coefficient of unemployment rate (X_2) of 0.070 states that is if the unemployment rate (X_2) increases 1% then the poverty rate (Y) will increase by 0.070%. These results support the theory which says that if unemployment increases it will increase poverty.

The regression coefficient for economic growth (X_3) is -0.004. It means is that if the economic growth rate (X_3) increases by 1%, the poverty rate (Y) will decrease by 0.004%. The results are in accordance with the theory, if economic growth increases it will reduce poverty.

Partial Testing

Table 13 can be explained that the education level variable (X_1) has a significant and negative effect on the poverty level (γ). This is based on the value $t_{count} > t_{(table)}$ or 7.999596 < -2.60141 then reject H_0 and accept H_1 . It can also be seen from the calculated probability $< p\text{-value}$ or 0.0000 < 0.01 .

The effect of the unemployment rate (X_2) on the poverty level (γ) is positively influential but not significant. This is based on $t_{count} < t_{(table)}$ or 1.577783 < 1.65271 then reject H_2 and accept H_0 . This can also be seen from the probability of calculating $> p\text{-value}$ or 0.2490 > 0.10 .

The economic growth rate (X_3) has an effect but is not significant on the poverty level (γ). This is based on the value of $t_{count} < t_{(table)}$ or -0.141538 > -1.65271 then reject H_2 and accept H_0 . This can also be seen from the probability of calculating $> p\text{-value}$ or 0.8876 > 0.10 .

(table) or -0.141538 > -1.65271 then reject H_2 and accept H_0 . This can also be seen from the probability of calculating $> p\text{-value}$ or 0.8876 > 0.10 .

F Test

Based on the results of processing data in table 13. The $F_{count} > F_{table}$ or 21.33615 > 3.88 then the education level (X_1), the unemployment rate (X_2) and economic growth variable (X_3) significantly influence the poverty level (γ) in Indonesia. In the period 2012-2017. This can also be seen from the probability ($p\text{-value}$) of 0.0000 < 0.01 .

Determination and Correlation Coefficient

The coefficient of determination can be seen from the Adjusted R-squared value which is equal to 0.2365. So the magnitude of the influence of the education level (X_1), unemployment rate (X_2) and economic growth (X_3) on the poverty level (γ) in Indonesia for the period 2012-2017 is 0.2365 or (23.65%). While the rest of 0.7635 or (76.35%) is influenced by other variables outside of this study. The correlation coefficient can be obtained from $R = \sqrt{R^2} = \sqrt{0.2365} = 0.4863$. So the relationship between education level (X_1), unemployment rate variable (X_2) and economic growth (X_3) on the poverty level (γ) in Indonesia for the period 2012-2017 is 48.63%.

5. CONCLUSIONS AND SUGGESTION

Conclusion

1. Taken together the education level (X_1), unemployment rate (X_2) and economic growth (X_3) significantly influence the poverty level (γ) in Indonesia for the period 2012-2017. And partially the level of education (X_1) influences the variable unemployment rate (X_2) and economic growth (X_3) influences but does not significantly affect the poverty level (γ) in Indonesia for the period 2012-2017.
2. The magnitude of the effect of education level (X_1), unemployment rate (X_2) and economic growth (X_3) significantly

influence the poverty level (γ) in Indonesia for the period 2012-2017 is 0.2365 (23.65%), while the rest amounting to 0.7635 (76.35%) is influenced by other variables outside of this study.

Suggestion

After the researchers analyzed the influence of education levels, unemployment rates and economic growth on poverty levels in Indonesia for the period 2012-2017, the authors suggest the following:

1. Indonesia must focus more on reducing poverty by increasing education level and then opening up more jobs to reduce unemployment.
2. Governments should focus more on policies that will reduce poverty periodically, quickly and effectively.

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