

Analysis of the Effects of Education, Unemployment, Poverty, and Income Inequality on Crime in Indonesia

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Abstract

This study aims to analyze the effect of education, unemployment, poverty and income inequality on crime in Indonesia both partially and simultaneously. The form in this study is data of research in 31 provinces in Indonesia from 2013-2017. This research method uses panel data multiple regression techniques. The results of the study concluded that 1) Education had a negative and significant effect on the crime in Indonesia. 2) Unemployment has a negative and not significant effect on crime in Indonesia. 3) Poverty has a positive and significant effect on crime. 4) Income inequality has a positive and significant effect on crime.

Keywords : *crime, education, unemployment, income inequality*

Introduction

Crime is one of the big problems that is always faced and difficult to avoid in various countries, both developed and developing countries. Indonesia is a developing country with a crime rate that is being compared to South America, Iraq and Colombia which occupy the top 3 positions of countries with a high crime rate in the world. Although the level of criminality in Indonesia is in a moderate position in the world, it cannot be denied that criminality is one of the big problems facing Indonesia.

The problem of crime that is increasingly complicated occurs at all levels of society in Indonesia, a diverse community environment greatly affects a person in committing crime. The crowded and busy big city environment with a variety of activities facilitates the occurrence of a crime. The need for efforts to create a sense of security in the midst of a better society in the form of minimizing the number of criminal acts, especially in areas with high crime rates. For more details the development of the number of crimes reported (total crime) in 2013-2017 can be seen in table 1.

Table 1 shows the development of the number of crimes in Indonesia which tends to increase due to various problems, especially economic, social, conflict and legal awareness issues. In addition, the progress of information technology is one of the drivers of the forms of actions that are realized or not realized. Behind the problem of criminality in Indonesia, of course there are factors behind the occurrence of criminal acts in a country. According to some experts the factors that determine the level of crime in a country are education, unemployment, poverty and income inequality. When many people are not in school, unemployment is high, poverty is rampant and income inequality between residents is more uneven, this will trigger an increase in crime rates in a country. Vice versa, from these conditions (Sullvian (2007), Lochner (2007), Alexandros (2010), Gillani (2009), Nolan (2004), Lilley (2013)).

**Table 1 Number of Crimes Reported (Total Crime)
According to the 2013-2017 Regional Police in Indonesia (Case)**

Numb.	Province	2013	2014	2015	2016	2017
1	Aceh	9.150	7.569	8.048	9.646	8.885
2	Sumatera Utara	40.709	35.728	35.248	37.102	39.867

Table Cont...

3	Sumatera Barat	14.324	14.955	16.277	14.921	13.205
4	Riau	9.399	9.644	9.595	8.520	6.869
5	Jambi	6.510	7.463	10.564	5.904	9.531
6	Sumatera Selatan	22.882	22.708	20.575	9.424	15.728
7	Bengkulu	4.550	3.847	4.463	20.368	4.867
8	Lampung	4.812	7.755	9.218	10.485	11.089
9	Bangka Belitung	2.515	1.796	1.875	2.094	1.931
10	Kep. Riau	4.278	4.633	4.892	4.885	3.673
11	DKI Jakarta	49.498	44.298	44.461	43.842	34.767
12	Jawa Barat	24.843	27.058	27.805	29.351	25.183
13	Jawa Tengah	14.859	15.993	15.958	14.353	12.033
14	DI Yogyakarta	6.727	7.135	9.692	8.348	7.251
15	Jawa Timur	16.913	14.102	35.437	28.902	34.598
16	Banten	4.259	5.741	5.002	4.570	3.692
17	Bali	5.980	5.072	5.032	4.764	3.589
18	NTB	8.928	7.242	6.015	7.779	8.132
19	NTT	6.844	6.496	6.709	7.813	6.729
20	Kalim. Barat	9.430	8.019	6.669	7.311	6.020
21	Kalim. Tengah	2.983	2.865	2.681	7.211	2.699
22	Kalim. Selatan	7.080	5.982	6.809	3.712	6.578
23	Kalim. Timur	9.251	9.095	8.764	8.896	9.149
24	Sul. Utara	7.609	6.163	7.873	9.923	7.981
25	Sul. Tengah	7.815	7.804	8.988	9.602	10.240
26	Sul. Selatan	17.124	14.925	16.088	15.071	21.616
27	Sul. Tenggara	7.059	5.284	3.655	3.756	2.866
28	Gorontalo	3.735	3.377	3.372	3.763	3.099
29	Maluku	2.186	2.394	1.843	2.559	3.086
30	Maluku Utara	1.177	1.124	814	1096	789
31	Papua	8.655	8.870	7.194	8103	6.785
	Indonesia	342.084	325.317	352.936	357.197	336 652

Sources: Statistics Indonesia, *Criminal Statistics, 2017*

According to Pritana (2015) limitations to embrace higher education result in limited employment opportunities. Making it difficult for those with little education to meet decent needs. For this reason, someone will act in every way to get a satisfying need. In the midst of globalization which is filled with a realistic lifestyle it is not impossible that someone will commit illegal or unnatural actions to get money.

If the population cannot get a job it will have an impact on rising unemployment. According to Hardianto (2009) unemployment can have an impact on increasing the crime rate in an area because unemployed people will try to get income to live in an inappropriate manner. In addition, Khan (2015) states that high unemployment in any country will reduce one's income opportunities and can force individuals to adopt criminal behavior.

According to Priatna (2015) unemployment causes a person's low income level. Low income will sustainably lead to poverty. Poor means having a smaller income than the income needed to live properly.

Khan (2015) concluded that economic difficulties can cause people to adopt criminal behavior to meet basic needs. Economic depression causes increased crime while economic prosperity decreases criminal activity. In addition, according to Anata (2012) another factor triggering the high crime rate is the phenomenon of income inequality among residents in Indonesia. High income inequality will trigger social jealousy. This social jealousy has an impact on social conflict between residents, triggering one of the occurrence of crime and crime.

The influence of education, unemployment, poverty and income inequality on crime rates has been done by several previous researchers including Di Tella (2004), Edmark (2005), Gillani (2009), Alexandros (2010), Lilley (2013) and Lochner (2013) 2012). However, this study does not look at all four variables. Some see the effect of just 3 variables such as education, unemployment, poverty but do not include income inequality variables. Some see the effect of education, poverty and inequality on crime but do not examine the effect of unemployment on crime.

Based on the description of facts and description of previous research to see the effect of education, unemployment, poverty and inequality of opinion on crime in Indonesia. So the authors are interested in researching and studying about criminal factors in Indonesia

Methods

This type of research includes descriptive and associative research types. The form in this study is data of research in 31 provinces in Indonesia from 2013-2017. The independent variables in this study are education, unemployment, poverty and income inequality. The dependent variable is crime. This research method uses panel data multiple regression techniques.

$$Y_{it} = \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 X_{3it} + \beta_4 X_{4it} + U_{it} \quad (1)$$

Where :

Y_{it} = Crime

X_{1it} = Education

X_{2it} = Unemployment

X_{3it} = povertu

X_{4it} = Income Inequality

U_{it} = *distrubance term*

Results and Discussion

Panel Data Model Selection Test

Chow Test (Likelihood Test Ratio)

Chow Test is conducted to compare or choose the best model between common effect and fixed effect. Assuming if the probability value is > 0.05 then the chosen model is the comon effect model and no hausman test is needed. However, if the probability is < 0.05 then the chosen model is the fixed effect model and continued with the hausman test. By using Eviews 9, the following results are obtained:

Table 2 Chow Test Results

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

Effects Test	Statistic	d.f.	Prob.
Cross-section F	16.471633	(31,121)	0.0000
Cross-section Chi-square	128.150123	31	0.0000

Source: Results of Data Processing with Eviews 9

Based on the results of the chow test, the probability of cross-section F is 0.00. In testing the error rate used is 0.05. The results obtained indicate that the probability value of 0.00 < 0.05. Because the probability is < 0.05, the selected model is the Fixed Effect Model.

Hausman Test

Husman Test is conducted to compare or choose the best model between fixed effects and random effects. This test is done with the assumption if the probability value is > 0.05 then the selected model is random effect, but if the probability is < 0.05 then the selected model is fixed effect. By using Eviews 9, the following results are obtained:

Table 3 Hausman Test Results

Correlated Random Effects - Hausman Test

Equation: Untitled

Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	2.471834	3	0.0480

Source: Results of Data Processing with Eviews 9

Based on the thirsty test using Eviews 9, a random cross section probability of 0.048 is obtained. The probability value is smaller than the significant level of 0.05 so that a better estimate used in this model is the Fixed Effect.

Panel Regression Estimation

This test is used to test the effect of independent variables on the dependent variable in the form of a combination of time and place data series. From the results of the study can be determined the magnitude of the influence of Education Level (X1), Unemployment (X2), Poverty (X3) and Income Inequality (X4) on Criminality (Y). Based on the results of Table 4 secondary data processing using Eviews, the panel regression equation is obtained as follows:

$$Y = 10.91 - 0,10 X1 - 0,04 X2 + 0,09 X3 + 0,08 X4 \quad (2)$$

Based on the results of the research the equation shows that the Education Level (X1) has a significant negative effect on crime (Y) in Indonesia through the data of 31 provinces with a regression coefficient of - 0.10. This means that if education increases by 1 one-unit, crime will decrease by 0.10 one-unit with a probability of 0.042. This means that the more the level of education decreases, the crime will increase according to the stated theory.

Based on the estimation results Table 4 shows that the level of education has a negative and significant effect on crime in Indonesia. That is, if education increases, crime will decrease otherwise, if education decreases, crime will increase and the ups and downs of education will directly affect crime in Indonesia.

The significance of crime education in Indonesia is because individuals with higher education have a lower risk of committing crime compared to individuals with low education. The higher the education, the easier it will be to get a job so that it can reduce crime in Indonesia due to economic pressure.

Based on the estimation results Table 4 shows that unemployment has a negative and not significant effect on crime in Indonesia. That is, if unemployment increases, crime in Indonesia will decrease and vice versa if

unemployment decreases, crime will increase.

Table 4 Fixed Effect Model Result

Dependent Variable: Y
 Method: Panel Least Squares
 Date: 10/15/19 Time: 07:32
 Sample: 2013 2017
 Periods included: 5
 Cross-sections included: 31
 Total panel (balanced) observations: 155

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	10.91903	2.452697	4.451848	0.0000
X1	-0.107613	0.245581	2.111287	0.0420
X2	-0.004460	0.049685	-0.089761	0.9286
X3	0.093092	0.063619	1.463265	0.0146
X4	0.087487	0.031139	2.809550	0.0069
Effects Specification				
Cross-section fixed (dummy variables)				
R-squared	0.810229	Mean dependent var	11305.02	
Adjusted R-squared	0.806366	S.D. dependent var	0.376767	
S.E. of regression	0.142791	Akaike info criterion	-0.770641	
Sum squared resid	0.713626	Schwarz criterion	0.017905	
Log likelihood	43.96326	Hannan-Quinn criter.	-0.464185	
F-statistic	16.89910	Durbin-Watson stat	2.604558	
Prob(F-statistic)	0.000000			

Source: Results of Data Processing with Eviews 9

Indonesia is currently experiencing a phenomenon where a lot of unemployment is due to several factors such as the large number of new college graduates who are picking out jobs, the number of undergraduate graduates who do not want to do work carelessly because they are considered not equivalent to their competencies. As a result these graduates are even unemployed and do not work at all. The incompatibility of science competencies with the needs in the world of work and qualifications they have.

This is different from people who have low education in the sense that education completed is only limited to elementary schools and junior high schools who tend to accept any job to meet the needs of daily life. They don't think about the qualifications they have and only think about how to get money. This is one of the reasons why unemployment in Indonesia in this study is not in accordance with existing theories and is significantly related.

According to the Central Statistics Agency (2017) the number of unemployed educated graduates of the University has increased from 2012-2016 where in 2012 the number of unemployed graduates of academic / diploma and universities amounted to 499,521 people, experienced a significant increase in 2015 amounted to 609,494 and experienced an increase again in in 2016 to 631,270 people. If this happens it is less likely to commit criminal acts because highly educated people will have rational thinking so that they will not carry out activities that violate the law. This causes unemployment to have a negative and not significant effect on crime

Based on the results of the study indicate that poverty has a positive and significant effect on crime in Indonesia. That is, if poverty increases then crime will increase in Indonesia and vice versa if poverty has decreased then crime will also decrease in Indonesia. Significant poverty of crime in Indonesia, where the

decreasing number of poor people in Indonesia will reduce crime rates.

If the number of poor people has decreased it will have a good impact on people's lives and an improving economy where the community is able to meet the needs of daily life and will not commit crime. According to the Central Statistics Agency (2018) the existence of poverty inequality in urban and rural areas has not progressed. This is due to the fact that the equalization efforts undertaken by the government through village funds have not worked optimally due to the slow bureaucracy in disbursing village funds.

It is these poor people who have a great opportunity to commit crimes. In the midst of economic limitations they must meet basic needs for survival so that some poor people choose illegal and risky jobs but generate income and generate more income when compared to legal work. The compulsion to get producers makes the perpetrators of crime do not care about the risks they face if caught.

Based on the results of the study showed that income inequality has a positive and significant effect on crime in Indonesia. That is, if income inequality increases, crime will also increase in Indonesia. Conversely, if income inequality has decreased, crime will also decrease in Indonesia. This is because if income inequality between income levels in the community will lead to social jealousy. This social jealousy will have an impact on community deviant behavior because there are people who feel no better than some people. Of course this situation makes the community commit crime because they feel different from some people.

Conclusions

Based on the results of research and discussion as described in the previous chapter, the conclusion in this study that the results of the study concluded that 1) Education has a negative and significant effect on crime in Indonesia. That is, if education increases, crime will decrease and vice versa if education is low, crime will increase. 2) Unemployment has a negative and not significant effect on crime in Indonesia. This means that if unemployment increases, crime will decrease and vice versa if unemployment levels decrease, crime will increase. 3) Poverty has a positive and significant effect on crime. It means, the more poverty increases, the criminality will also increase and vice versa. 4) Income inequality has a positive and significant effect on crime. That is, the more increasing income inequality in the community, the crime will also increase.

Based on the results of the research, the policies that need to be taken are 1) It is recommended to the government and the authorities to conduct socialization to the schools and regions that are prone to criminal acts regarding the laws and regulations against people who become perpetrators of crime, 2) It is recommended so that the government of each region is able to control how the conditions of the community in meeting their needs so that community needs can be met. 3) It is recommended to the government to open jobs in the form of MSMEs or new programs from the local government, so that unemployment and poverty in each region can be overcome.

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