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by Nairobi Nairobi

Submission date: 23-Dec-2021 03:24PM (UTC+0700)

Submission ID: 1735232036

File name: 13._Criminality_And_Poverty_In_Sumatra.pdf (284.57K)

Word count: 3940

Character count: 20704

CRIMINALITY AND POVERTY IN SUMATRA

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ABSTRACT

- Purpose** : This study analyzes the effect of crime on poverty in Sumatra, in addition to using the Human Development Index variable and also the open unemployment rate as independent variables.
- Design/Methodology/ Approach** : Fixed Effect Model is the best method used in this study, panel data consisting of 9 years and 10 provinces in Sumatra.
- Findings** : Increasing security and comfort is an important thing that must be accommodated in the form of a law. This is a certainty as well as a guarantor to prevent criminal acts by taking action in the form of strict punishment from the government.
- Keyword** : Crime, Poverty, and Sumatra
- JEL Classification** : I32, K14

Submission date: 27 Juli 2021

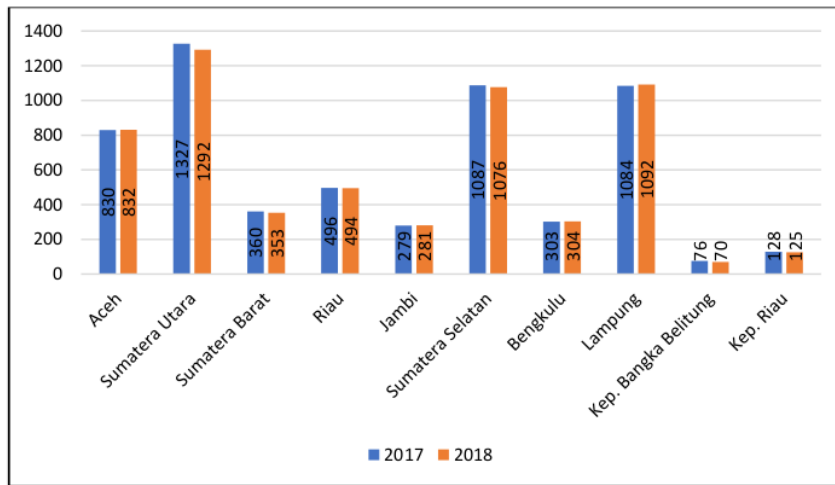
Accepted date: 7 Oktober 2021

INTRODUCTION

The problem of poverty is still the main concern of the Indonesian government, various development programs are implemented to improve people's welfare. Mankiw (2019) states that widespread poverty and high rates are at the core of all development problems. Poverty is a multidimensional problem related to various aspects of human life and livelihood, both economic, political, socio-cultural, psychological, technological, and other aspects, which are closely related to one another (Tubaka, 2019).

According to BAPPENAS (2004) in its 2004 Annual Report, poverty is defined as a condition in which a person or group of people cannot fulfill their basic rights to maintain and develop a dignified life. These basic rights include meeting the needs of food, health, education, employment, housing, clean water, land, natural resources, and the environment, a sense of security from treatment or threats of violence, and the right to participate in social life, political activities, both for men and women. According to World Poverty data, about 589,163,300 people in the world still live in extreme poverty, that is, people living on a per capita income of less than \$1.25 per day.

Likewise in Indonesia, poverty is a vital problem and has occurred for a long period and has become a fundamental problem amid Indonesia's dense population (Rini & Suguharti, 2016). Based on data presented by BPS in 2018 through its official website, it states that of the 5 (five) largest islands in Indonesia, Sumatra Island has the highest number of poor people of 5.9 million people. The following is a picture of the development of the number of poor people on the island of Sumatra (by province) in 2017-2018:



Source: Central Statistics Agency (BPS), 2020

Figure 1
Development of the Number of Poor Population in Sumatra Island (by Province) in 2017-2018

Figure 1 shows that in 2017-2018, the province with the highest number of poor people was North Sumatra with a total of 1.3 million people in 2017 and 1.2 million people in 2018. The province with the lowest number of poor people in the Bangka Belitung Islands with a total of 76 thousand inhabitants in 2017 and 70 thousand inhabitants in 2018. According to Sekhampu (2013), the main cause of a large number of poor people in North Sumatra province is the rate of growth of the labor force far exceeds the rate of growth of employment opportunities and has an impact on increasing unemployment which in turn will directly affect the increase in the number of poor people.

In general, a condition is called poor if it is characterized by a lack or inability to meet the level of basic human needs. Poverty includes not meeting basic needs which include primary and secondary aspects. The main aspect is poor knowledge and skill assets, while the second aspect is for social relations, financial resources, and informal assets such as malnutrition, water, housing, poor health care, and relatively low education (Biyase & Zwane, 2018). Mankiw (2018) identifies the causes of poverty from an economic point of view. First, at the micro-level, poverty arises because of the unequal distribution of income caused by unequal patterns of resource ownership. Most of the poor have limited and low-quality resources. Second, the difference in the quality of human resources owned triggers the emergence of poverty in a region. The low quality of human resources means low productivity which in turn lowers wages. Low education, disadvantaged fate, discrimination, or heredity are suspected to be the main causes of the low quality of human resources. Third, differences in access and sources of capital are also the cause of poverty.

According to Prasada et al. (2020), poverty is a condition of life that is completely deprived experienced by a person or household so that it is unable to meet the minimum or proper needs for life. Factors that cause poverty include low levels of education, low levels of health, limited employment opportunities, and conditions of isolation (Nurwati, 2008). Of the various factors that cause poverty, several other things are the result of the multiplier effect that causes poverty (Olsson et al., 2015). The crime rate is one of the factors considered to affect poverty (Dewi et al., 2020).

Crime is a form of behavior that is contrary to human morals, harms society, and violates the law and criminal law (Anser et al., 2020). Through the flow of influence with the level of poverty, crime goes through several phases of relationship until it finally has a positive effect on poverty. In its influence through the economic sector, the crime rate will have an impact on investors' decisions to invest in the area (Sheer et al., 2018).

Crime has a positive relationship with poverty levels, in other words, if there is an increase in the crime rate, it will lead to an increase in poverty. This can be explained from the economic sector channel through the decisions of investors which are strongly influenced by the level of crime in a region. Investors will tend to discourage business expansion if the crime rate in the area is high. This will result in a decrease in the availability of opportunities and employment opportunities so that many people do not have income which will lead to poverty (Gunanto, 2013).

Various studies show that crime has a large impact on development and burdens society. Anser et al. (2020) and Gunanto (2013) found evidence of negative effects of crime on productivity and crime can reduce entrepreneurial activity. Also, crime can lead to overinvestment in crime protection mechanisms and can lead to suboptimal migration decisions (Roberge & Gagnon, 2009). More generally, Engelbrecht (2003), Mehlum et al. (2002), and (Sheer et al., 2018) present evidence of a strong negative effect of violent crime on human development and human well-being in different situations. This supports the research conducted, in addition to the crime rate, another factor considered to be the cause of poverty is the development outcome factor (Itang, 2013). The development orientation has shifted from economic development that only focuses on simple economic growth to human-oriented development. From several previous studies, one of the indicators used to measure the level of success of a community's development is the Human Development Index (HDI).

The creation and fulfillment of security in the community will build a conducive atmosphere for the community to carry out various activities including economic activities. This condition on a macro scale will realize its nationality which is one of the prerequisites for achieving development in the context of realizing a just and prosperous society. Iyer & Topalova (2014) stated that individuals with high crime tendencies tend to lack non-cognitive skills which could reduce their employability, possibly influencing the likelihood of poverty (Iyer & Topalova, 2014). So that the hypothesis is built that the crime rate, Human Development Index and unemployment rate affect the poverty level.

RESEARCH METHOD

8 This study uses data in the form of panel data consisting of cross-section and time-series data covering data from ten provinces on the island of Sumatra from 2012 to 2020. The data were obtained from several sources, namely the results of the publication of the Badan Pusat Statistik (BPS).

The creation and fulfillment of security in the community will build a conducive atmosphere for the community to carry out various activities including economic activities. This condition on a macro scale will realize its nationality which is one of the prerequisites for achieving development in the context of realizing a just and prosperous society. Fafchamps and Minten (2006) stated that individuals with high crime tendencies tend to lack non-cognitive skills (eg discipline) which could reduce their employability, possibly influencing the likelihood of poverty.

8 Poverty

The concept of the ability to meet basic needs **7** is a concept used by the Badan Pusat Statistik to measure poverty. With this concept, the inability of the economy to meet the basic needs of food and non-food which is measured from the expenditure side is assessed as poverty. The poverty line is the sum of the GKM and GKNM. People categorized as poor are those who have an average monthly per capita expenditure below the Poverty Line (Badan Pusat Statistik, 2020). The data uses the number of poor people (thousands of people) obtained from Badan Pusat Statistik.

Crime

Crime or violation is the act of a person who can be punished by the Criminal Code (KUHP) or other laws and regulations in force in Indonesia. A victim of a crime is a person or his or her property who has experienced or been exposed to a crime or attempted/attempted crime (Anser et al., 2020). The data uses the total number of types of crimes reported in case units.

6 Human Development Index

The Human Development Index (HDI) explains how the population can access development outcomes in terms of income, health, education, and so on. HDI is an important indicator to measure success in efforts to build the quality of human life (community/population). HDI can determine the ranking or level of development of a region/country. The groupings are very high: HDI > 80, high: 70 < HDI < 80, medium: 60 < HDI < 70, and low: HDI < 60 (Badan Pusat Statistik, 2020).

Open Unemployment Rate

The Open Unemployment Rate (TPT) is the percentage of the number of unemployed to the total labor force. Open unemployment consists of those who do not have a job and are looking for work, those who do not have a job and are preparing for a business, those who do not have a job and are not looking for work, because they feel it impossible to get a job, and those who already have a job, but have not started work. The data used is the open unemployment rate (Badan Pusat Statistik, 2021).

Panel Data Regression

There are several advantages to using panel data according to Baltagi (2015) First, panel data which is a combination of time series data and cross section data is able to provide more data so that it will produce a greater degree of freedom. Second, combining information from time series and cross section data can overcome problems that arise when there is a problem with eliminating variables (omitted variables). In panel data regression, there are three approaches that can be used, namely the Common Effect Model, Fixed Effect Model and Random Effect Model.

Baltagi (2015) said that there are three tests that can be used to determine the most appropriate technique for estimating panel data regression. First, the F statistical test was used to choose between the OLS method without dummy variables or fixed effects. Second, the Lagrange Multiplier (LM) test was used to choose between OLS without dummy variables or random effects. Finally, to choose between a fixed effect or a random effect, the test proposed by Hausman is used.

$$PRV_{it} = \beta_0 + \beta_1 CRM_{it} + \beta_2 HDI_{it} + \beta_3 UEM_{it} + \varepsilon_{it}$$

Information:

PRV = Poverty

i = 1, 2, . . . n, shows cross-sectional data

t = 1, 2, . . . n, shows time series data

β = Constant

1,2,3 = Regression coefficient

CRM = Crime

HDI = Human Development Index

UEM = Open Unemployment Rate

ε = Error term

According to Baltagi (2005), there are three tests to perform panel data estimation techniques, namely the Chi-Square Test is a test carried out to determine whether the model used is Common Effect or Fixed Effect. Hausman test is used to choose between fixed effect or random effect, and Lagrange Multiplier (LM) test is used to choose between OLS (Common Effect) without dummy variable or Random Effect.

RESULTS AND DISCUSSION

Table 1
Regression Results

Variable	CEM	FEM	REM
Constant	3,829,3690 0.0001*	998,6724 0.0003*	758,3606 0.0055*
Crime	0.0326 0.0000*	0.7325 0.0079*	0.0043 0.1038
Human Development Index	-5.3905 0.0002*	-6.3172 0.0661**	-3.4702 0.2935
Unemployment	3.2997 0.0976**	7.7147 0.0469*	7,7960 0.0436*
Chow test		408,3004 (0.00000)*	
Hausman test		28.8767 (0.00000)*	

Note: *) significant 5%; **) significant 10%

In the Chow test the value of F of 0.0000 is smaller than the significance level (α 5%, (0.0000 < 0.05) then H_0 is rejected, and H_a is accepted so that it can be concluded that the Fixed Effect Model (FEM) method is better than the Common Effect Method Models (CEM). In the Hausman test, the p-value is 0.0000 < 0.05, it can be concluded that the Fixed Effect (FEM) method is better used than the Random Effect (REM) method. Based on these results, it can be concluded that the best method used is the Fixed Effect Model (FEM).

Constant coefficient of 998. This shows that if all the independent variables used are equal 0 (zero), then the poverty rate for the province in Sumatra is 998 people. The crime rate has a positive and significant effect on = 5% (0.05) with a coefficient of 0.732. These results show that if there is an increase in the crime rate by 1 incident and ceteris paribus, then the poverty rate increases by 0.732 soul. This is in accordance with the opinion of Prasada et al. (2020) which states that an increase in the crime rate is accompanied by an increase in poverty. HDI has a negative and significant effect on = 5% (0.05) with a coefficient of -6.3172. These results show that if there is an increase in HDI by 1 index and ceteris paribus, then the poverty rate will decrease by 6.3172 souls. Suliswanto (2010) states that an increase in HDI can reduce poverty levels. Unemployment has a positive and significant effect on = 5% (0.05) with a coefficient of 7.7147. These results show that if there is an increase in unemployment by 1% and ceteris paribus, the poverty rate will increase by 7.7147 souls. this is in accordance with the results of Yustie (2017) research which states that an increasing open unemployment rate is able to encourage an increase in poverty.

Previous studies have shown that crime or crime has a major impact on development and burdens society. Anser et al. (2020) and Gunanto (2013) found evidence of a negative effect of crime on productivity and also research conducted by Bartel (1974) showed that crime reduces entrepreneurial activity. Also, crime can lead to overinvestment in

crime protection mechanisms and can lead to suboptimal migration decisions (Roberge & Gagnon, 2009).

This study is in line with Anser et al. (2020) who stated that crime has a positive relationship with the poverty level, in other words, if there is an increase in the crime rate, it will lead to an increase in poverty. This can be explained from the economic sector through the decisions of investors which are strongly influenced by the level of crime in a region. Investors will tend to discourage business expansion if the crime rate in the area is high. This will result in a decrease in the availability of opportunities and employment opportunities so that many people do not have income which will lead to poverty.

Other empirical studies that support this research are Alhudhori (2017) and Amalia et al. (2018) found that the HDI value has a negative relationship with the poverty level. A high HDI value represents an improvement in human quality through 3 (three) main dimensions of the HDI itself; knowledge, a decent standard of living, and a long/healthy life. These three dimensions have the same essence and purpose, namely, to influence the level of community productivity in generating income to improve the quality of people's lives and reduce poverty conditions.

Unemployment will have a direct impact on poverty level. Unemployment will cause no income to meet the daily needs of the community. The results of this study are in accordance with previous research, namely Aswar & Subekti (2016) and Yustie (2017) their research found that unemployment affects the decline in people's income so that it will reduce the level of welfare they achieve. The number and variety of people's needs make them try to fulfill their needs, what they do is work to earn an income. If they do not work or are unemployed, as a result, they cannot meet their needs properly and cause the unemployed to reduce their consumption expenditure. When their needs are not met, they fall into the category of poor people and increase the number of poor people, so that poverty will increase. Other research results that support this research are Alhudhori (2017) and (Amalia et al., 2018) states that the unemployment rate can have an impact on increasing poverty in a region.

CONCLUSION & SUGGESTION

The crime rate and unemployment have a significant positive effect on poverty, while the HDI has a negative effect on poverty. A crime rate is a form of action that can be detrimental in various sectors, especially the economy. High and comprehensive crime will affect the decision of investors to invest in the area because it is considered that the level of security of the area will hurt the expected return on investment by investors. Relevant stakeholders such as security and police who have responsibility for the safety and comfort of the community must work together to create the desired atmosphere with safeguards and regulations that can protect every level of society from all forms of crime.

Increasing security and comfort is an important thing that must be accommodated in the form of a law. This is a certainty as well as a guarantor to prevent criminal acts by taking action in the form of strict punishment from the government. Policymakers to further

improve the quality of security to ensure that criminal acts are minimized as a step to open up investment flows to create new jobs and ultimately reduce poverty levels.

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