

Causality Analysis of Poverty, Residence and Education in West Sumatera

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ABSTRACT

This study aims to analyze the causality between poverty, place of residence and education. This type of research is descriptive associative research. This study uses panel data from 2016-2020. This research uses panel VAR analysis. with variables in this study are poverty, place of residence and education. The results of this study show that: (1) the education variable and the poverty variable do not have causality. (2) the poverty variable has a one-way causality to the variable of residence. (3) the variable of residence and education variable has no causality.

Keywords: Poverty, Education, Place of residence.

1. INTRODUCTION

Poverty is described as a person's inability to meet the primary needs for himself and his family. Poverty itself is a global problem that still requires special attention in efforts to reduce it. This also happened in the province of West Sumatra, Indonesia, with a population of 5.543 million people, there were 6.63% of people categorized as poor. The number of poor people is relatively low compared to other provinces. However, with a low percentage of the poor, it turns out that in West Sumatra the number of people aged 5 years and over who are not in school is still relatively high, at 65.88%. Which should be a low percentage of the poor should indicate the level of welfare of the people of West Sumatra is high. With the high level of welfare, it should be accompanied by public concern for education [1]. Public awareness needs to be built on the importance of education. explained that there was a drastic decline in efforts to increase household resilience in the country of Ethiopia, where one of the efforts to increase resilience was to reduce the illiteracy rate, namely through education.

Table 1. Housing Facilities

Housing Facilities	Urban		Rural		Urban rural	
	2019	2020	2019	2020	2019	2020
the widest floor not the	99,67	99,75	99,39	99,35	99,52	99,54

Housing Facilities	Urban		Rural		Urban rural	
	2019	2020	2019	2020	2019	2020
ground						
the widest roof is not thatched/palm fiber/leaves / thatch and others	99,70	99,88	99,28	99,38	99,48	99,61
the widest wall is not bamboo / woven bamboo and others	99,22	99,48	99,63	99,16	99,90	99,32

Source: BPS (2020)

With the relatively small number of poor people in West Sumatra, not only is the number of people who do not go to school high, it turns out that there are still community houses with inadequate conditions, even though the number is below 1%, so the government of West Sumatra needs to pay more attention to the number of poor people in West Sumatra, although the number is indeed smaller when compared to other provinces in Indonesia. The KB (family planning) policy that has been implemented by the government is indeed an effective way to reduce the number of poor

people. As explained [2] having many children will have a direct influence on poverty, so that when the poor have few children, they will focus on improving the quality of life, such as health, education and decent housing.

[3] by increasing access to basic community needs such as health and education by the government, it is hoped that it will reduce poverty qualitatively. [4] explains that poverty is a complex problem and has a multidimensional nature, so it must be a top development priority by the Indonesian government. [5] explains that severe poverty goes hand in hand with the length of time the population does not get an education.

[6] explains that the importance of the government's role in terms of increasing human development (human capital) in education with the aim of encouraging and increasing productivity, where productivity growth will be a driving force in the process of economic growth. Education will be very important because an increase in the productivity of education will lead to economic progress in a country. [7] in his journal explains that low skills (education) will cause a person to have fewer opportunities to find work, while those who specialize in their field will easily find work. So that education has an important role in determining the future of young people. [8] mentions that providing higher education to girls is the first step in alleviating poverty in a nation. [9] states that the results of a child's early education will determine how a child's subsequent education will be, both in formal education such as school, and in society.

In the Law of the Republic of Indonesia Number 4 of 1992 concerning Housing and Settlements in chapter 3 articles 4 and 5 "Every citizen has the right to occupy and/or enjoy and/or own a decent house in a healthy, safe, harmonious, and orderly." "Every citizen has the obligation and responsibility to participate in the construction of housing and settlements". [10] in his journal explained that the family is the first facility and environment for a child to recognize education, so that the family plays an important role in a child's education.

2. METHOD

This research is research that has descriptive and associative properties. This study uses secondary data sourced from official institutions, namely BPS. The data in this study are in the form of panels from 2016 – 2020 districts/cities in the province of West Sumatra. The data is processed using the Panel VAR technique with the help of EViews 9 software. The variables in this study are poverty, place of residence and education. The form of the equation in the Var Panel model in this study is:

$$KMSKN_{it} = \alpha_{10} + \sum_{k=1}^p \alpha_{11} KMSKN_{i,t-k} + \sum_{k=1}^p \alpha_{12} TPE_{i,t-k} + \sum_{k=1}^p \alpha_{13} TTI_{i,t-k} + n_{i,t-k} + \mu_{it}$$

(1)

$$\alpha_{20} + \sum_{k=1}^p \alpha_{21} KMSKN_{i,t-k} + \sum_{k=1}^p \alpha_{22} TPE_{i,t-k} + \sum_{k=1}^p \alpha_{23} TTI_{i,t-k} + n_{i,t-k} + \mu_{it}$$

(2)

$$TTI_{it} = \alpha_{30} + \sum_{k=1}^p \alpha_{31} KMSKN_{i,t-k} + \sum_{k=1}^p \alpha_{32} TPE_{i,t-k} + \sum_{k=1}^p \alpha_{33} TTI_{i,t-k} + n_{i,t-k} + \mu_{it}$$

(3)

Description:
 KMSKN : Poverty
 TPE : Level of Education
 TTI : Residence

3. RESULTS AND DISCUSSION

After the cointegration test, it turned out that there was no cointegration, so the analysis continued with VAR. After that, the Granger causality test was carried out to see the causal relationship between the variables studied. based on the results of the Granger causality estimation for the three variables studied. To see whether there is causality or not, it is done by looking at the probability value if it is less than 0.05 then there is a causal relationship, but if the probability value is greater than 0.05 then there is no causality between the variables.

Table 2. Estimation Result Granger Causality

Pairwise Granger Causality Tests
 Date: 10/29/21 Time: 10:20
 Sample: 2016 2020
 Lags: 3

Null Hypothesis:	Obs	F-Statistic	Prob.
D(TPEN) does not Granger Cause D(KMSKN)	18	0.47728	0.7045
D(KMSKN) does not Granger Cause D(TPEN)		0.73167	0.5544
D(TTING) does not Granger Cause D(KMSKN)	18	6.38098	0.0092
D(KMSKN) does not Granger Cause D(TTING)		1.09368	0.3925
D(TTING) does not Granger Cause D(TPEN)	18	0.30351	0.8223
D(TPEN) does not Granger Cause D(TTING)		1.43564	0.2851

Source: Author Processed

3.1 Causality between poverty and education in districts/cities in West Sumatra

Based on the results of the Granger causality estimation, it is concluded that there is no causality between education and poverty. The absence of a relationship between poverty and education in the province of West Sumatra occurs because the people of West Sumatra still work in the non-formal sector. It can be proven by the population working in West Sumatra as many as 2.58 million people, an increase of 41.48 thousand people from August 2019. 3 The sectors that experienced the highest percentage increase in the working population were the Agriculture, Forestry and Fisheries Sector. Most of these workers do not need special education and higher education, so many workers do not go to school [11].

3.2 Causality between poverty and residence in districts/cities in West Sumatra

Based on the results of the Granger causality estimation, it can be concluded that poverty affects the place of residence, but the place of residence does not affect poverty. This happens because when a person is in poor condition, he or she does not have enough resources to buy or rent a house to serve as a place to live. So, they have to live in places that can be said to be inadequate in many ways. While the place of residence will not have an effect on poverty because the good or bad of the place of residence will not have an effect on income. In line with the journal [12] the more income a family has, the better the housing facilities they have.

3.3 Causality between residence and education in districts/cities in West Sumatra

Based on the results of the Granger causality estimation, it can be concluded that there is no causality between residence and education. Good or bad place of residence will not have an effect on education. Because in West Sumatra there is a nine-year compulsory education policy, so there is no reason that place of residence will affect the education of the people of West Sumatra.

4. CONCLUSION

Based on the results of the Granger estimation using the Panel VAR method, it can be concluded that there is no causality between education and poverty. This means that the variables of education and poverty in West Sumatra with the 2016-2020 panel data do not influence each other.

Based on the results of the Granger estimation using the Panel VAR method, it can be concluded that there is a one-way causality from poverty to housing. This means that the poverty variable affects the residence

variable, while the residence variable does not affect the poverty variable in West Sumatra with 2016-2020 panel data.

Based on the results of the Granger estimation using the Panel VAR method, it can be concluded that there is no causality between education and place of residence. This means that the education variable and the place of residence in West Sumatra with the 2016-2020 panel data do not influence each other.

5. RECOMMENDATION

To improve community housing facilities, the government of West Sumatra needs to reduce poverty in West Sumatra. So that there will be an increase in income and people will be able to live in a more decent place. The government of West Sumatra needs to increase public awareness of the importance of education, because the low number of poor people in West Sumatra does not have an impact on education in West Sumatra.

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