The Effect of Education and Health on Unemployment and Poverty in West Sumatra

Yunita Muliana[1], Idris[2]

[1]Universitas Negeri Padang, Padang, Indonesia, ✉ yunitamuliana61@gmail.com
[2]Universitas Negeri Padang, Padang, Indonesia, ✉ idris_unp@yahoo.co.id

Abstract

One of the main indicators of successful development is the decline in the number of poor. This study aimed to analyze the influence of education, health and unemployment on poverty levels in the province of West Sumatra in 2014-2018. This research is quantitative. Data used in this research is secondary data obtained from the Central Bureau of Statistics with cross section 19 districts / cities in West Sumatra and time series for five years. Analysis of the data used is the analysis of panel data with fixed effect model. The data is processed by using Eviews 10. The results showed that: (1) Education a significant negative effect on the level of poverty in the province of West Sumatra; (2) Health and no significant negative effect on the level of poverty in the province of West Sumatra; (3) Unemployment and no significant positive effect on the level of poverty in the province of West Sumatra; (4) Educational significant negative effect on unemployment in the province of West Sumatra; and (5) Health and no significant negative effect on unemployment in the province of West Sumatra.

Keywords : Education, Health, Unemployment and Poverty

Introduction

Poverty and unemployment is a problem of fundamental importance, not only because of their tendency is increasing, but also the consequences that not only include the scope of merely economic but also social and political instability in the country,

Changes in the level of poverty is caused by several factors, including, according to Aziz, et al (2016) factors causing poverty, among others, education and unemployment. Education is a major factor in finding a job, low education Human Resources produces low anyway, people are still very dependent on natural resources, but if it does not have adequate ability in memanfaatkanya it will not compete with labor from outside the area. More education also affect the unemployment rate, where education worker affects the unemployment rate.

The level of education in West Sumatra can be seen from the average length of the school. The average length of school describes the number of years used by the population aged 15 years and over in undergoing formal education. The average length of school in West Sumatra in 2014-2018 increased that in 2014 the average length of 8.29 years and the school in 2018 has amounted to 8,76 years,

In addition to educational factors affecting unemployment and poverty is health. Health is one important factor in the successful development, in particular to improve social welfare. People who have a good level of health that will have a high level of labor productivity, high-income, high education levels and a number of other positive things that will improve the welfare of the community then by that will reduce poverty. Health indicators one of which is shown by life expectancy (AHH). Based on data from BPS (2019) West Sumatra in 2014-2018 shows that the life expectancy of people in West Sumatra continues to increase in 2014 amounted to 68.32% and in 2018 to 69.01%.

This is reinforced by research conducted by Gupta and Mitra (2004) studied the economic growth, health and poverty. The results showed that economic growth and health status can reduce the level of poverty. Empirical studies also show that the health status and associated positive economic growth and literacy, industrialization appears to improve the health and growth and reduce poverty.

According to Central Bureau of Statistics (2019) poverty can be measured using the concept of ability to meet basic needs (basic needs approach). With this approach, poverty is seen as an economic inability to meet the basic needs of food and non-food which is measured from the expenditure side. So the Poor is the population had an average monthly per capita expenditure below the poverty line.

According to Chambers (2010) poverty is understood as a state of lack of money and goods to ensure continuity hidup.Dalam broad sense, to say that poverty is an intergrated concept that has five dimensions, namely: 1) poverty (proper), 2) powerlessness (powerless), 3) the vulnerability of emergency (state of emergency), 4) dependence (dependence), and 5) alienation (isolation), both geographically and sociologically.

Unemployment by the Central Bureau of Statistics (2019) that an individual or a population that is not working or looking for work or preparing a business or residents who are not looking for work because they feel it is impossible to get a job (desperate) or people who are not looking for work because it has been hired but have not started working. FurthermoreAccording Sukirno (2011: 327) unemployment is a complex problem because it is caused by several factors that are interrelated and have some adverse effects on the economic, political, and social. For example, the number of unemployment, productivity and incomes will be reduced and other consequences will lead to social problems.

According to Law No. 20 of 2003 on Education System: Education is a conscious and deliberate effort to create an atmosphere of learning and the learning process so that learners are actively developing the potential for him to have the spiritual power of religion, self-control, personality, intelligence, noble character, as well as the skills needed him, society, nation and state. Furthermore Pervez (2014) studied the impact of education on poverty reduction. This study shows that the level of literacy has a negative influence and significant impact on poverty in the long term but in life expectancy have a positive impact on poverty.In this study the indicators used in the study which is the average length of the school.

Gupta and Mitra (2004) studied the economic growth, health and poverty. The results showed that economic growth and health status can reduce the level of poverty. Empirical studies also show that the health status and associated positive economic growth and literacy, industrialization appears to improve the health and growth and reduce poverty. According to Todaro and Smith (in Asrol & Ahmad, 2018), one of the core aspects of wealth is health. Health is an important aspect of sustainable development and is a requirement for increased productivity. human resources healthy and strong (HR) is an important aspect of basic capital in the development of water supply, access to health care, good nutrition, availability of adequate food, and pollution-free housing, all of which contribute to a healthy population. If a number of these factors are ignored, the health risks of the population will be affected, which in turn hinder the realization of sustainable development. Health is one of the key indicators of national development and prosperity.In this study, the indicators used in health is life expectancy

Methods

In this study, the data used is balance panel, where the number of units equal time for each individual. Data was collected from 19 districts / cities in West Sumatra were observed within a period of 5 years, the period 2014 to 2018 for all variables.

In the panel data model, panel data equation can be written as follows:

Kit = βo + β1PDit + β2 + β3 KSit Pit + μit .... (1)

Pit = βo + β1 + β2 PTID exists KSit + μit .... (2)

Results and Discussion

The variables used in this study are poverty, education, health and annual unemployment in 7 cities and 12 districts in West Sumatra 2014-2018 period. As shown in Table 1 below:

Table 1. Descriptive Analysis of Poverty, education, health and unemployment in West Sumatra

	POVERTY	HEALTH	EDUCATION	UNEMPLOYMENT
Mean	6.929579	69.41200	8.800737	5.519263
Median	7.080000	69.39000	8.120000	5.580000
Maximum	15.52000	73.91000	11.44000	14.00000
Minimum	2.010000	63.55000	6.190000	1.150000
Std. Dev	2.548543	2.777417	1.506964	2.417974
Skewness	1.225671	-0.105496	0.443069	0.991855
Kurtosis	6.206080	2.001313	1.787791	4.421915
Jarque-Bera	64.47342	4.124159	8.924826	23.57959
Probability	0.000000	0.127189	0.011534	0.000008
Sum	658.3100	6594.140	836.0700	524.3300
Sum Sq. Dev	610.5368	725.1201	213.4684	549.5802

Source: BPS Data Processed (2019)

Based on Table 1 above shows that the average poverty in West Sumatra, namely 6.93%, and the average population of unemployed West Sumatra is 5.52%, while the average length of school (education) ranges from 8.8 years and for average life expectancy (health) ie up to 69.41 years old.

In determining the estimation model that can be used to do some testing of this research is test Chow and Hausman test. Chow test results indicate that the probability of cross-section Chi-square of 0.0000 means that less than 0.05 significance level. Then it can be decided that Ho is rejected and Ha accepted that the model chosen is a fixed effect model. At the time of the model chosen is a fixed effect it is necessary Hausman test. Hausman test results, it is known that the probability of a random cross-section is equal to 0.6803 greater than 0.05 alpha so that Ho is accepted and concluded that the best model with poverty rates as the dependent variable can be used in this research is the Random Effect Model

Chow test results indicate that the probability of cross-section Chi-square of 0.0000 means that less than 0.05 significance level. Hausman test, it is known that the probability of a random cross-section is equal to 0.0215 lower than the alpha of 0.05. Then it can be decided that Ho is rejected and Ha received unemployment as the dependent variable so that the model chosen is a fixed effect model.

Based on the test results chow and Hausman test can be determined that the best model estimation random effect model is as follows

Table 2. Random Effect Model

Variable	Coefficient	Std. Error	t-Statistic	Prob.
HEALTH	-0.213064	0.132706	-1.605535	0.1118
EDUCATION	-0.631854	0.223501	-2.827075	0.0058
UNEMPLOYMENT	0.006718	0.025737	0.261036	0.7947
C	27.24250	7.870482	3.461350	0.0008
Effects Specification				
			S.D.	Rho
Cross-section random			1.947210	0.9783
Idiosyncratic random			0.290055	0.0217
Weighted Statistic				
R-squared	0.301923	Mean dependent var		0.460604
Adjusted R-squared	0.278910	S.D. dependent var		0.338764
S.E. of regression	0.287668	Sum squared resid		7.530507

Table Cont…

F-statistic	13.11939	Durbin-Watson stat	1.527261
Prob (F-statistic)	0.000000		
		Unweighted Statistic	
R-squared	0.483376	Mean dependent var	6.929579
Sum squared resid	315.4182	Durbin-Watson stat	0.036463

Source: Eviews 10 (2019, processed)

Table 2 can be written based on the model estimates of this study as follows:
Kit = -0.2130 27,24-0,6318PDit KSit + 0.0067Pit + µit

Based on the regression equation above, it can be seen that the constant coefficient of 27.24 indicates that if the variables of education, health and unemployment is considered constant average poverty rate of 27.24. In the education variable values obtained regression coefficient of -0.6318 means that any increase in education variable by 1 unit, it can cause a decrease in the poverty rate of 0.6318 units.

The value of the health variable coefficient of -0.2130, this means that any increase in health by 1 unit, then it can cause a decrease in the poverty rate of 0.2130 units. And the unemployment variable regression coefficient of 0.0067 means that any increase in unemployment by 1 unit, then it can lead to an increase in poverty amounted to 0.0067 units assuming other variables remain (ceteris paribus)

The results are consistent with research conducted by Asrol & Ahmad (2018), Faturrohim (2011), Antara et al (2013), and Rusdarti & Lesta (2013)

Based on Table 3 below , it can be written the model estimates of this study as follows:
Pit = -26.1862 - 2.2945PDit + 0.7477Ksit +µit

Based on the regression equation above, it can be seen that the constant coefficient of -26.1862 shows that if the education and health variables held constant average unemployment for -26.1862. In the education variable values obtained regression coefficient of -2.2945 means that any increase in education variable by 1 unit, it can cause a decrease in the unemployment rate to 2.2945 units. Health variable coefficient value of 0.7477, this means that any increase in health by 1 unit, then it can cause a decrease in the poverty rate of 0.7477 units. In line with hacyl Imrotus research and Hendry (2013), Anggun (2013), and Zulhanafi et al (2013)

Table 3. Fixed Effect Model

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-26.18625	39.62547	-0.660844	0.5108
EDUCATION	-2.294536	1.045275	-2.195151	0.0313
HEALTH	0.747697	0.653123	1.144802	0.2560
		Effects Specification		
Cross-section fixed (dummyvariable)				
R-squared	0.776388	Mean dependent var		5.519263
Adjusted R-squared	0.715952	S.D. dependent var		2.417974
S.E. of regression	1.288687	Akaike info criterion		3.537418
Sum squared resid	122.8928	Schwarz criterion		4.101959
Log likelihood	-147.0273	Hanna-Quinn criter		3.765535
F-statistic	12.84651	Durbin-Watson stat		1.403302
Prob (F-statistic)	0.000000			

Source: Eviews 10 (2019, processed)

Conclusion

Education is measured by the average old school and significant negative effect on the level of poverty in the province of West Sumatra. It is seen from the probability of 0.0058 <0.05 with a coefficient of -0.631854. This is because the sectors that dominate in the province of West Sumatra, namely trade, hotels and restaurants and agriculture that require an educated workforce. Therefore, it required the efforts of various parties to raise awareness of the importance of education to improve people's lives, especially the poor. The government needs to optimize the assistance programs for poor students so as to assist them in completing education. Governments also need to improve the quality of public education through formal and non-formal education. Through formal education, this can be done through a 9-year compulsory education program should be optimized so that the population can be graduated to high school graduation. Meanwhile, through education norformal can be done by providing courses or job training, entrepreneurial training for a new job, etc.

Health is measured by life expectancy and no significant negative effect on the level of poverty in the province of West Sumatra. It is seen from the probability of 0.1118> 0.05 with a coefficient of -0.213064. This is because the life expectancy is high population of West Sumatra. West Sumatra awareness of the population the importance of health is very high and the availability of adequate health infrastructure is very supportive of health in the province of West Sumatra

Unemployment and no significant positive effect on the level of poverty in the province of West Sumatra. It is seen from the probability of 0.7947> 0.05 with a coefficient of 0.006718. Education a significant negative effect on unemployment in the province of West Sumatra. It is seen from the probability of 0.0313 <0.05 with a coefficient tcount -2.195151 and -2.294536

Health and no significant negative effect on unemployment in the province of West Sumatra. It is seen from the probability of 0.2560> 0.05 with the coefficient of 0.747697. This will support the activities of production so that the maximum earned income and poverty will be reduced. Policies can be done in the health sector by expanding health Guarantees like BPJS especially for people living inland diwilyah that health improvement can be done evenly.

References

Afzal, M., Malik, ME, Begum, I., Sarwar, K., Fatima, H. (2012), Relationship among education, poverty and economic growth in Pakistan: An econometric analysis. Journal of Elementary Education, 22 (1), 23-45

Arsyad, L. (2016). Economic development. Fifth edition. STIE YKPN. Yogyakarta

Asrol & Ahmad, Hafsah. 2018.Analysis of factors that Affect poverty in Indonesia. Espacios.*Vol. 39 (Number 45) Year 2018. Page 14*

Chambers, Robert. 2010. Paradigms, Poverty and Adaptive Pluralism. IDS Working Paper 344 First published by the Institute of Development Studies in July 2010 © Institute of Development Studies 2010 ISSN: 2040-0209 ISBN: 978 1 85 864 939 0

Faturrohmin, R. 2011. Effect of the GDP, life expectancy, and literacy Against Poverty Level In 35 districts / municipalities in Central Java. Jakarta: UIN Syarif Hidayatullah

Gupta, Indrani and Mitra, Arup. 2004. Economic Growth, Health and Poverty: An Exploratory Study for India. Development Policy Review, 2004, 22 (2): 193-206

Janjua, PZ, Kamal, UA (2011), The role of education and income in Poverty Alleviation: A cross-country analysis. The Lahore Journal of Economics, 16 (1), 143-172

Joko Suprayitno, Iswahyudi et al. 2015. "Effect of Education on Unemployment in the city of Semarang." Semarang: Semarang State University

Mankiw N, Gregory et al. 2012. Introduction to Macroeconomic. Jakarta: Four Salemba

Margareni, Ni Putu Ayu Purnama et al. 2016. Factors Affecting Poverty in the province of Bali. Pyramid vol. Xii no. 1: 101-110 ISSN: 1907-3275

Niazi, MI, Khan, A. 2012. The impact of education on multidimensional poverty across the regions in Punjab. Journal of Elementary Education, 21 (1), 77-89

Republic of Indonesia, 2012, West Sumatra Governor Regulation No. 53Tahun 2012 on General Guidelines for Integrated Community Development Program in Nagari / Villages Priorities, accessed on 30 April 2019.

Rusdarti and Lesta. 2013. Factors influencing the level of poverty in the province of Central Java. Economy Journal, Volume 9, Number 1

Sukirno, Sadono. 2011. Introduction to Macroeconomic Theory. Jakarta: Rajawali Pers.

Zulhanafi, Hasdi Aimon, Efrizal Syofyan. 2013. Analysis of Factors Affecting Productivity and Unemployment in Indonesia. Journal of Economic Studies, July 2013, Vol. II, No.03