

Human Development Index, Unemployment and Poverty Rate in Kalimantan Barat

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ABSTRACT

Poverty is a serious problem that occurs at the regional, national and international levels. The causes by are numerous and one of which is low quality of human resources that can be measured through the Human Development Index. The HDI only describes the quality of human resources in general, while a more comprehensive picture can be seen through its components, namely health, education and purchasing power. In addition to low quality of human resources, unemployment is also another contributing factor to poverty. This study aims to find out and analyse the effects of Health, Education, Purchasing Power and Unemployment on Poverty Rates in Indonesia, and the research locations is in 33 provinces in Indonesia. The data used are secondary data published by BPS in the form of Life Expectancy, Expected Years of Schooling, Mean Years of Schooling, Purchasing Power Parity, Open Unemployment Rate and Percentage of Poverty in 2010 to 2017. The analysis uses multiple regressions with fixed effect cross section-weights (EGLS) method. The result indicated that the influence of health, education and purchasing power on poverty rate is negative and significant. It means that increase in this variables, would decrease poverty rate in Indonesia, on the other hand, unemployment has a positive and not significant effect on the poverty rate in Indonesia.

JEL: I15

Keywords: health; education; purchasing power; unemployment; poverty rate.

1. INTRODUCTION

Poverty is still a development problem in Indonesia today and a priority that the government attempts to resolve through various programs. The National MDG target is to reduce poverty to 7.55% in 2015, but based on BPS publications the 2015 poverty rate nationally is only reduced to reach 11.22%. Indonesia is included in a developing country that is synonymous with poverty problems. Todaro and Smith (2006) pointed out that one of the causes of poverty is low quality of human resources (HR).

The quality of human resources can be measured by looking into the three basic components of the Human Development Index (HDI) comprising life expectancy at birth, knowledge and education, and standard of living. Another factor that also gives an effect on poverty levels is unemployment. High unemployment rate is a picture of low success of development in a country.

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There have been many studies on the relationship of HDI and poverty levels, but not so many have examined the relationship of the components of HDI as a whole to poverty levels, and for that reason the researchers are interested in testing whether greater HDI components (health, education and purchasing power) is related to reduced poverty. Then it will also be tested whether lower unemployment rate is related to high level of poverty.

Theoretically the results of this study are expected to contribute to the development of science (economic theory of development), and can also be used as a reference / reference source for academics to carry out deeper research and analysis related to policies in poverty alleviation. From the practical side, it is expected to be able to contribute to the government / local government in making policies related to planning in the fields of education, health, community economic empowerment and job creation.

2. LITERATURE REVIEW

Poverty

Central Agency of Statistic (*Badan Pusat Statistik* or *BPS*) understands poverty as an inability from the economic side to meet basic needs, both food and non-food, measured from the expenditure side conceptualized by the Poverty Line. Whereas the National Planning Board (*Badan Perencanaan Pembangunan Nasional* or *BAPPENAS*) (2015) defines poverty more comprehensively, by viewing poverty as a condition where a person or group of people, both men and women, are unable to fulfill their basic rights to maintain and develop a dignified life.

From the various theories available, it can be simplified, at least for the purposes of this study, that there are two major paradigms or theories (grand theory) about poverty that become the reference, namely: the neo-liberal and social-democratic paradigms.

1) Neo-Liberal Paradigm

Proponents of the Neo-liberal paradigm argue that poverty is only a partial or individual problem, caused by individual weaknesses in determining the choice in question. Poverty will be reduced even will disappear by itself if economic growth can be driven as high as possible and the market power can be expanded as much as possible.

2) Social-Democratic Paradigm

Proponents of the Social-Democratic paradigm say that the problem of poverty is not merely an individual problem, but rather a problem that is more structural in nature, namely where poverty is more caused by inequality, injustice and inequality in society caused by limited community access to various available sources.

Sharp, et.al (1996) in Mudrajad (2006) tried to identify the causes of poverty viewed from the economic aspect. Todaro and Smith (2006) made a statement that poverty which occurs in developing countries is largely due to low quality of human resources. Experts argue that the causes of poverty are actually multidimensional including low levels of education and low levels of health.

Human Development

As quoted from the UNDP report (1995), there are several important concepts regarding human development, namely: a). Development must prioritize the population as the center of

attention; b). Development is intended to enlarge choices for residents, not just to increase their incomes; c). There are four main pillars to support human development, namely productivity, equity, sustainability and empowerment; and d). Human development becomes the basis in determining development goals and in analyzing options for achieving them.

Human Development Index (HDI)

HDI is a composite index that is calculated as the simple average of three basic dimensions, namely long and healthy life, knowledge, and decent standard of living. In calculating the HDI, each component or indicator of the HDI must first be calculated in its index value. To facilitate the analysis, the index value is multiplied by 100.

$$HDI = \sqrt[3]{I_{health} + I_{education} + I_{expenditure}} \times 100 \dots\dots\dots (1)$$

Health Index

Life Expectancy (LEX) is defined as the average of estimated number of years a person can take at birth. LEX is one instrument to measure and evaluate government performance in an effort to improve the welfare of the population in general and more specifically to measure and evaluate the degree of public health. To get the value from the Health Index or Life Expectancy Index the following formula is used:

$$I_{health} = \frac{LEX - LEX_{min}}{LEX_{max} - LEX_{min}} \dots\dots\dots (2)$$

Education Index

The indicators used in the education dimension consist of Expected Years of Schooling (EYS) indicator and Average Years of Schooling (AYS) indicator. EYS is defined as the average length of schooling in units of years that are expected to be lived and felt by children at a certain age in the future. AYS is defined as the number of years spent by residents in attending or undergoing formal education. To get the value from the Education Index formula is used:

$$I_{EYS} = \frac{EYS - EYS_{min}}{EYS_{max} - EYS_{min}} \dots\dots\dots (3)$$

$$I_{AYS} = \frac{AYS - AYS_{min}}{AYS_{max} - AYS_{min}} \dots\dots\dots (4)$$

$$I_{education} = \frac{I_{EYS} + I_{AYS}}{2} \dots\dots\dots (5)$$

Expenditure Index

Dimensions of standard of living or known as expenditure dimensions is measured by the Adjusted Per capita Expenditures indicator or better known as Purchasing Power. The increasing purchasing power of a community shows an increase in the ability of the community to live properly. To get the value from the Expenditure Index this formula is used.

$$I_{expenditure} = \frac{\ln(expenditure) - \ln(expenditure_{min})}{\ln(expenditure_{max}) - \ln(expenditure_{min})} \dots\dots\dots (6)$$

Unemployment

BPS defines unemployment as residents who are unemployed or looking for work, or are preparing a new job or business field, or people who are desperate because they feel it is no longer possible to get a job, or residents already have a job or even accepted to work but have not started

to work. Malthus's theory states that the population tends to increase indefinitely until it reaches the limit of food supply, and this problem causes humans to compete with each other. During this competition a number of humans may be excluded and unable to obtain food. This explanation can be interpreted that increasing number of population will create a greater workforce, and this is not in balance with available employment opportunities. Due to the small number of available employment opportunities, the labor force that does not get a job will become unemployed.

Effects of Health on Poverty Rate

Health is a vital element of human resources and is considered a requirement for increasing work productivity (Knapp, 2007). A person's physical ability to do work depends on the health status of the individual. Good degree of health will certainly increase work power, reduce work days and increase energy output. Therefore the level / degree of good health will negatively affect the level of poverty.

Then Lincoln (1999) explains that government intervention in improving health services is an important policy tool in poverty alleviation. The thought that underlies the policy is that by improving the health status of a community, it will increase the productivity of the community including the poor. Based on the relationship between these influences and referring to the results of previous studies, the first hypothesis (H1) was compiled, namely: Health has a negative and significant effect on poverty levels in provinces in Indonesia.

Effects of Education on Poverty Rate

Education is a very basic development goal, where education plays a very important role in shaping the country's ability to adopt modern technology and to develop capacity in an effort to accelerate growth and sustainable development. Tsai (2006) conducted a study regarding the determinants of economic and non-economic poverty, in 97 developing countries. The empirical results reveal that income levels, population growth and opportunities for secondary schools (education) are significant predictors of poverty reduction. So in general it can be concluded that the level of good education is very influential (negative effect) on poverty levels. Based on the relationship between these influences and in reference to the results of previous studies, the second hypothesis (H2) was: Education has a negative and significant effect on poverty levels in the provinces in Indonesia.

Effect of Purchasing Power on Poverty Rate

According to Pawenang (2016), purchasing power is the ability of people as consumers to buy goods or services needed. *BPS* defines adjusted expenditure per capita (purchasing power) is the ability of people to spend their money in the form of goods or services. Purchasing power is closely related to income, where the higher a person's income, his purchasing power will also increase and vice versa. In relation to poverty, purchasing power is a measure of whether a person is categorized as poor or not, where when someone's per capita expenditure falls below the poverty line, that person is categorized as poor, and when one's per capita expenditure is above or greater than poverty line, then that person is categorized as not poor. So in general it can be concluded that high purchasing power has a negative effect on poverty levels. Based on the relationship of these influences and refer to the results of previous studies, the third hypothesis (H3), was: Purchasing Power has a negative and significant effect on poverty levels in the provinces in Indonesia.

Effect of Unemployment on Poverty Rate

One important factor that determines the prosperity of a society is the level of income, Sukirno (2010). Decreasing the level of welfare of a society caused by unemployment will certainly have an impact on the community to be trapped in poverty. Unemployment raises a variety of problems, both economic problems and social problems, if viewed from an individual's point of view. Reduced or even no income causes the unemployed to reduce their consumption expenditure. So in general it can be concluded that unemployment has a positive effect on poverty levels. Based on the relationship between these influences and refer to the results of previous studies, the fourth hypothesis (H4), namely: Unemployment has a positive and significant effect on poverty levels in the provinces in Indonesia.

3. RESEARCH METHOD

The conceptual relationship or relation between the independent concepts (variables) designated as X_1 , X_2 , X_3 , and X_4 to the dependent concept (variable) designated as Y of the problem to be investigated can be described as follows:

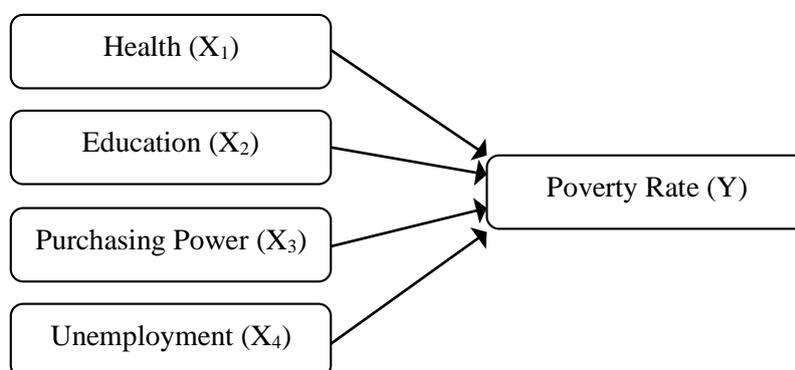


Figure 1. Research Conceptual Framework

Based on the purpose of the study, the researchers intended to test and analyze the effect of the components of the Human Development Index and Unemployment on the Poverty Rate in Indonesia, and then this type of research is based on explanatory research. The data used is secondary data in the form of panel data from 33 provinces in Indonesia (except North Kalimantan), with a period of 8 years (2010-2017).

Statistical method is used for the purpose of testing research hypotheses comprising:

- H1 - Health has a negative and significant effect on poverty levels in provinces in Indonesia.
- H2 - Education has a negative and significant effect on poverty levels in the provinces in Indonesia.
- H3 - Purchasing Power has a negative and significant effect on poverty levels in the provinces in Indonesia.
- H4 - Unemployment has a positive and significant effect on poverty levels in the provinces in Indonesia.

The panel data analysis method used is multiple linear regressions which can be mathematically written in the following equation:

$$Y_{it} = \beta_0 + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 X_{3it} + \beta_4 X_{4it} + e_{it} \dots\dots\dots (7)$$

Then to estimate the regression coefficient, all variables are transformed into linear form using natural logarithms (Ln), so that the equation is obtained:

$$\text{Ln}Y_{it} = \beta_0 + \beta_1 \text{Ln}X_{1it} + \beta_2 \text{Ln}X_{2it} + \beta_3 \text{Ln}X_{3it} + \beta_4 \text{Ln}X_{4it} + e_{it} \dots\dots\dots (8)$$

where:

- Y = poverty rate
- β_0 = constant/intercept
- $\beta_{1,2,3}$ = independent regression coefficient
- X_1 = health
- X_2 = education
- X_3 = purchase power
- X_4 = unemployment
- e = effect of other factors
- i = Province (i)
- t = Year (t)

Panel data regression provides alternative models of Common Effects Model (CEM), Fixed Effects Model (FEM) and Random Effects Model (REM). CEM and FEM use the OLS approach, while REM uses GLS as its estimation technique. Then to get a good regression model that is truly capable of providing reliable and unbiased estimates, it is necessary to test the deviation of classical assumptions. The classic assumption test used in linear regression with the OLS approach includes tests of normality, multicollinearity, autocorrelation, and heteroscedasticity. However, not all classic assumption tests must be performed on every linear regression model using the OLS approach. Then the F test, t test and the coefficient of determination (R^2) test are also performed on the estimation results to see the accuracy of the regression function in estimating the actual value.

4. RESEARCH RESULTS AND DISCUSSION

There are 81.8% (9 out of 11 provinces with higher HDI than the national HDI) that show relatively lower poverty rate compared to Indonesia's poverty level. Furthermore, 63.6% (14 out of 22 provinces with lower HDI than the national HDI) have relatively higher poverty rate compared to Indonesia's poverty level. In general it can be said that provinces with relatively high HDI show relatively low poverty rates, and vice versa.

Health Index (I_{health})

There are 66.7% (4 out of 6 provinces with relatively higher I_{health} average (good) than the average I_{health} Indonesia) that show relatively lower average poverty rate (good) compared to the average national poverty rate (11.64 %). Furthermore 51.9% (14 out of 27 provinces with relatively lower I_{health} average (worse) than the average I_{health} Indonesia) have average poverty rate that is relatively higher (bad) when compared to the average poverty rate of Indonesia. So in general it can be concluded that the majority of provinces that have a high average I_{health} (good) will have relatively low poverty rate (good), where the majority of provinces that have relatively low I_{health} average (bad) will have average high poverty rate (bad).

Education Index ($I_{education}$)

There are 66.7% of the regions (12 out of 18 provinces with relatively higher $I_{education}$ value (good) than the average Indonesian $I_{education}$), that show relatively lower average poverty rate (good) when compared to the average Indonesian poverty level. Then there are 66.7% (10 out of

15 provinces with relatively lower $I_{education}$ average (worse) than the Indonesian $I_{education}$ average), that have relatively higher average poverty rate (worse) when compared to the average Indonesian poverty level. So in general it can be concluded that the majority of provinces that have high $I_{education}$ (good) will have relatively low poverty rate (good), where the majority of provinces that have relatively low $I_{education}$ (bad) will have a poverty level that is high (bad).

Expenditure Index ($I_{expenditure}$)

There are 80% (8 out of 10 provinces with higher $I_{expenditure}$ value (good) than the average Indonesian $I_{expenditure}$), that have relatively lower average poverty rate (good) when compared to the average Indonesian poverty level. Furthermore, there are 60.9% of the regions (14 out of 23 provinces with relatively lower (worse) average $I_{expenditure}$ than the average Indonesian $I_{expenditure}$), that have relatively higher average poverty rate (worse) when compared with the average Indonesian poverty level. So in general it can be concluded that the majority of provinces with high $I_{expenditure}$ (good) will have relatively low poverty rate (good), where the majority of provinces that have relatively low $I_{expenditure}$ (bad) will have a poverty level that is high (bad).

Open Unemployment Rate (TPT: Tingkat Pengangguran Terbuka)

There are 61.9% (13 out of 21 provinces that have relatively lower TPT (good) than the average Indonesian TPT, that have a relatively higher (bad) average poverty rate when compared to the average Indonesian poverty level. Then there are 75% (9 out of 12 provinces with average TPT which is relatively higher (worse) than the average Indonesian TPT), that have an average poverty rate that is relatively lower (good) when compared to the average Indonesian poverty level. So in general it can be concluded that the majority of provinces that have low TPT (good) will have a relatively high poverty rate (bad), where the majority of provinces that have relatively high TPT (bad) will have a poverty level that is relatively low (good). This analysis shows a reverse compared to data for the other three independent variables (Health, education, and expenditure).

The explanation can be found if we look at the structure of employment in Indonesia. Almost half (44.97%) of unemployed people have high school education (educated unemployment), where generally they come from groups of people with middle and upper economic strata that enable them to continue to survive even without having jobs (unemployed). Educated unemployment is closely related to the problem of education in developing countries, which generally do not have an educational development plan that is in line with the development of employment needs, so that the graduates are not absorbed into the existing employment.

Based on the results of the model selection either by comparing the regression results in the 7 (seven) panel data regression models or by statistically testing (Chow test and Hausman test) shows that the best model is fixed effect Cross-section Weights. The model uses the EGLS (Estimated Generalized Least Square) approach, in contrast to the fixed effect - no weights model that still uses the PLS or OLS approach, so that the classic assumption test does not need to be done as a whole, but multicollinearity and heteroscedasticity testing still need to be done.

Multicollinearity Test

This test aims to see whether in the regression Model a correlation is found between independent variables. A good model should not have a high correlation between the independent

variables. The way to detect multicollinearity is to look at the Correlation Matrix values between independent variables. If the correlation value <0.75 means there is no multicollinearity in each variable, and vice versa. From the partial correlation output above, it can be seen that there is no correlation value between independent variables >0.75 so that it can be concluded that there is no multicollinearity between variables in this study.

Table 1. Multicollinearity Test

	Health (X1)	Education (X2)	Purchase Power (X3)	Unemployment (X4)
Health (X1)	1,000000	0,451144	0,663981	0,165235
Education (X2)	0,451144	1,000000	0,574750	0,262159
Purchase Power (X3)	0,663981	0,574750	1,000000	0,109099
Unemployment (X4)	0,165235	0,262159	0,109099	1,000000

Source: Eviews 10, processed

Heteroscedasticity Test

A good regression model must be tested for homoscedasticity (variance of constant residuals). There are several ways to test whether the regression model used passes heteroscedasticity, one of which is by using the Glejser Test which is to regress its absolute value with an independent variable. The criterion used is if the significance value (prob.) of the independent variable >0.05 then it means there is no heteroscedasticity problem. Based on the results of the output, it can be seen that the significance value (prob.) of the 4 (four) independent variables is greater than alpha (>0.05) so that it can be concluded that no heteroscedasticity problem exists.

Table 2. Heteroscedasticity Test (Glejser Test)

Health (X1)	0,0696
Education (X2)	0,1089
Purchase Power (X3)	0,4911
Unemployment (X4)	0,1811

Source: Eviews 10, processed

Calculation Results of Test t Regression Model (Partial Test)

This test is used to determine the significance and influence of each independent variable on the dependent variable, where if the p-value <0.05 , and if $t_{\text{arithmetic}} \geq t_{\text{table}}$, then it can be concluded that there is a significant influence between the independent variables on the dependent variable. The result of the calculation is shown as follows.

Variable X_1 - Health: Prob. ($0.00 < 0.05$), $t_{\text{Calculate}} (5.055194) > t_{\text{Table}} (1.96917)$, and the regression coefficient is negative (-3.75). Thus it can be said that health has a negative and significant effect on poverty levels, so the first hypothesis (H1) is accepted. These results are in line with Janjua and Kamal's research (2014), Widyasworo's research (2014), Anggadini's research (2015), Finkayana and Dewi's research (2016), and Azwar and Subekan's research (2016).

Variable X_2 – Education: Prob. ($0.01 < 0.05$), $t_{count} (2.534292) > t_{Table} (1.96917)$, and the regression coefficient is negative (-0.51). Thus it can be said that education has a negative and significant effect on poverty levels, so that the second hypothesis (H2) is accepted. These results are in line with Olga and Vijayakumar's research (2012), Janjua and Kamal's research (2014), Primary research (2014), Finkayana and Dewi's research (2016), and Azwar and Subekan's research (2016).

Table 3. Result of Statistic Test t

Variable	Coefficient	t-Statistic	Prob.
Health (X1)	-3,754935	-5,055194	0,0000
Education (X2)	-0,517420	-2,534292	0,0119
Purchase Power (X3)	-0,814169	-2,592881	0,0101
Unemployment (X4)	0,033654	1,932355	0,0546

Source: Eviews 10, processed

Variable X_3 – Purchasing Power: Prob. ($0.01 < 0.05$), $t_{Calculate} (2.592881) > t_{Table} (1.96917)$, and the regression coefficient is negative (-0.81). Thus it can be said that purchasing power has a negative and significant effect on poverty levels, so the third hypothesis (H3) is accepted. These results are in line with Leasiwal's research (2013), Kakwani and Son's research (2015), Finkayana and Dewi's research (2016).

Variable X_4 – Unemployment: Prob. ($0.054 > 0.050$), $t_{Calculate} (1.932355) < t_{Table} (1.96917)$, and the regression coefficient is positive (0.03). Thus it can be said that unemployment has a positive but not significant effect on poverty levels, so the fourth hypothesis (H4) is rejected. These results are not in line with previous studies, including research by Yacoub (2012) who found that the unemployment rate has a negative and significant effect on poverty levels. Aiyedogbon's research (2012), Anggadini's research (2015), and Ningrum's study (2017) stated that unemployment rate has a positive and significant effect on poverty levels. Then Azwar and Subekan's research (2016) suggested that unemployment has a negative effect which is not significant to the poverty variable.

F Test (Significance of Simultaneous Test)

The F test, also known as the simultaneous test, is used to see how the influence of all the independent variables together on the dependent variable (significant or not significant). H_0 is accepted if $F_{Calculate} \leq F_{Table}$, or significance (prob.) > 0.05 , and H_0 is rejected (= H_1 accepted) if $F_{Calculate} \geq F_{Table}$, or significance (prob.) ≤ 0.05 .

Table 4. Result of Statistic Test F

R-squared	0,993029
Adjusted R-squared	0,991924
F-statistic	898,2524
Prob. (F-statistic)	0,000000
F-Table	2,406490

Source: Eviews 10, processed

From the regression results obtained significance value (prob.) F of 0.000000, where at a significance level of 5% (0.05), the F test was declared significant. Then the value of $F_{\text{Calculate}}$ (898.2524) > F_{Tabel} (2.406490), so the assumption fulfilled is H_0 rejected H_1 accepted. Then it can be concluded that all independent variables together (simultaneously) significantly influence the dependent variable (poverty level).

Test R^2 (Coefficient of Determination)

Based on the calculation of the coefficient of determination or goodness of fit in table 4 obtained a figure of 0.991924. The adjusted R^2 coefficient value of 99.19%, this shows that the variables of health, education, purchasing power and unemployment together are able to explain the poverty level variable of 99.19%, while the remaining 0.81% is explained by other variables which is not included in the model.

5. CONCLUSION

Based on the results of the analysis, it can be concluded as follows: (1). The quality of human resources seen from the HDI components (health, education, and purchasing power) has a negative influence on poverty levels in Indonesia during the 2010-2017 period. The unemployment has a positive and not significant effect on the level of poverty in the same period. (2). Province which has relatively high health index, education index, and expenditure index compared to aggregate (Indonesia), will tend to have a better poverty rate (low) compared to aggregate poverty level. (3). Provinces with relatively low unemployment (*TPT*) compared to aggregate *TPT* (Indonesia), tend to have high poverty rates (bad) compared to aggregate poverty levels (Indonesia).

Based on the results of the analysis, the following recommendations can be made: (1) Health variable is a component of human resources (HDI) which has the greatest influence on reducing poverty levels, so that efforts can be made by the government to accelerate poverty reduction by increasing and expanding the provision of health services to the community. In addition, government support in the form of health budget allocation in the National Budget (*APBN*) and Regional Budget (*APBD*) can at least meet the provisions in accordance with applicable laws and regulations. (2) The purchasing power variable is the second largest component of human resources (HDI) which has an influence on poverty reduction. Efforts that can be made by the government (formal business sector) include reviewing the level of the minimum wage, which is still below the living standard (*Kebutuhan Hidup Layak* or *KHL*). Government intervention (non-formal), carried out by optimizing the role of government agencies (logistics) in absorbing the output of the informal business sector. Then a review of import policies. (3) The education variable is a component of human resources (HDI) which has the lowest influence on poverty reduction. Investment in improving the quality of human resources, especially in the education sector requires quite a long time, so that in the short term it has not had an optimal impact on poverty reduction. The efforts that can be made by the government, namely increasing and expanding the scope of cheap and quality education services (from Grade School - University). In addition, government support in the form of education budget allocations in the national budget and provincial budget (*APBN* and *APBD*) can at least meet the provisions in accordance with applicable laws and regulations. The role of parents in motivating children to stay in school is another important contributing factor that should be encouraged. (4) Participation in the health

sector can be done by the community by utilizing existing health facilities. (5) The researchers predicted that unemployment has a positive and significant effect on poverty levels in the provinces in Indonesia, however, the result of statistical test shows otherwise. The reason for this is that almost half (44.97%) of the unemployed people have high school education or more, and in general they belong to middle and upper economic strata who can survive even without having a job. To reduce unemployment, the government should create employment in leading sectors other than Agriculture, namely by opening informal entrepreneurial employment in small (micro) businesses, especially in trade and service sectors. In rural areas, the government intervention can be done by directing Village Fund Allocation (*Alokasi Dana Desa* or *ADD*) to activities that recruit villagers in labor-intensive activities.

This research has a number of limitations, including: (1) the time span is relatively short, which is only eight years. Therefore it is unable to describe the effect of independent variables on the dependent variable in the long run. (2). the research site should ideally include all 34 provinces of Indonesia. However, because one province, North Kalimantan, was only formed in 2013 and data since 2013 down related to the variables used in this study was not available, the researchers did not include the Province of North Kalimantan in this study.

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