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The Factors Affecting Poverty in Some Districts in South Kalimantan Province 2014-2019

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Abstract---*Given the importance of the very bad impact of poverty on the economy, it requires efforts to overcome poverty problems in all districts/cities. Thus, further research is needed on the causes that can affect the level of poverty in the district/city to be used as a basis in determining policies for each district/city to overcome poverty. This quantitative research uses secondary data in panel data from the Central Statistics Agency of South Kalimantan for 2014-2019, namely data on poverty levels, economic growth, education, health, and per capita income. After fulfilling the requirements of the classical assumption test, data analysis and hypothesis testing were taken from multiple linear regression equations using: the coefficient of determination test, simultaneous effect test, and t-test. The results showed that simultaneously economic growth, education, health, and per capita income affected South Kalimantan poverty levels. Partially the health variable had a negative and significant effect on the poverty level in South Kalimantan in 2014-2019, so improving health can reduce poverty levels. The variables of economic growth, education, and per capita income did not significantly affect South Kalimantan's poverty rate in 2014-2019.*
Keywords---*districts in south Kalimantan, economic growth, affecting poverty, poverty 2014-2019, poverty factors.*

Introduction

Development is a process that aims to bring prosperity to society through economic development. The benchmarks for the success of development can be seen from the economic growth, economic structure, and inequality between populations, between regions, and between sectors. The main objective of economic development efforts is to create the highest growth possible and eliminate or reduce poverty, income inequality, and unemployment (Todaro, 1981; Cao *et al*., 2016; Kam *et al.*, 2005). So it can be said that eliminating poverty is a priority in development (Setiadi & Kolip, 2011). Poverty is a multidimensional and cross-sectoral problem that is influenced by various interrelated factors, including income level, health, education, access to goods and services, geographic location, gender, and environmental conditions. The problem of poverty has not been resolved optimally and due to the various and complex causes of poverty. The factors affecting poverty are not only economic factors. By looking at the poverty factor, it can be seen how to minimize poverty.

Some of them are per capita income, education, health, and economic growth. Based on the explanation above, the researcher explained that poverty is a chronic and complex problem. Therefore, it requires a countermeasure with appropriate analysis involving all problem components and requires an appropriate, sustainable, and non-temporary handling strategy. Several variables can be used to determine poverty, and from this variable, a series of strategies and policies to reduce poverty that is right on target and sustainable are generated. Viewed from the education dimension, for example, low education can lead to poverty. The health dimension, the low quality of health, causes

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poverty. Economic dimensions, low income, and economic growth, mastery of technology, and lack of skills are the basic reasons poverty occurs. There is nothing problem with this approach, but it requires integration between the many factors that cause poverty with clear indicators so that poverty reduction is not temporary but sustainable.

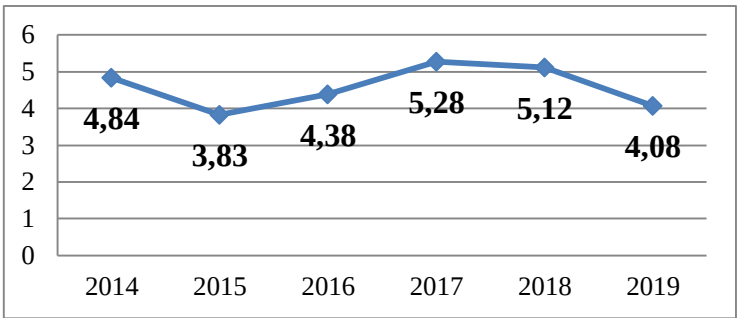

Figure 1. Economic Growth in South Kalimantan in 2014-2019
Sources: Central Bureau of Statistics of South Kalimantan Province, 2020

Economic growth in South Kalimantan in 2015 amounted to 3.83, decreased from the previous year of 4.84. When the prices of Indonesia's main export commodities, such as coal and rubber, experience a decline in the global market, it will impact Indonesia's economic growth. It also happened in South Kalimantan Province in 2015. The economic growth which started to improve reached 4.38 percent in 2016, higher than in 2015, which was only 3.83 percent. The processing industry contributed greatly to this growth. Meanwhile, the mining and excavation category, which has been the foundation of South Kalimantan's economy, is still struggling to rise. However, in 2019 it decreased, namely 4.08.

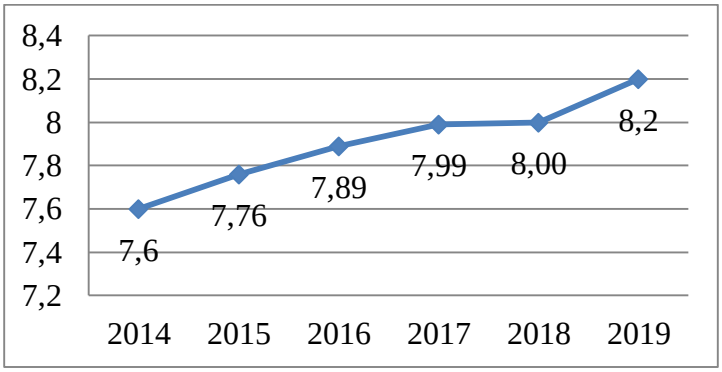

Figure 2. Average Length of Schooling in South Kalimantan 2014-2019 years
Source: Central Statistics Agency of South Kalimantan Province, 2020

The efforts of the South Kalimantan government in the field of education has been carried out with the development. It is the relevance of education to suit the goals of science and technology (IPTEK) and the job market's needs. These efforts are made by paying attention to the current national education system and the targets of international commitments in education. Figure 1.3 above shows a development in the average length of schooling in South Kalimantan, which has been continued to increase from 7.60 in 2014 and 2012 by 7.76 in 2019 to 8.2

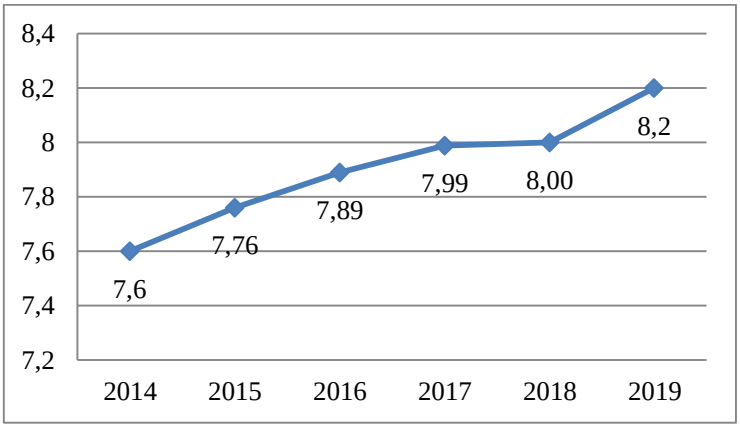

Figure 3. Life Expectancy in South Kalimantan 2014-2019 years

Life expectancy in South Kalimantan has increased to a range of over 65 years. In 2014 the value of life expectancy, the life expectancy in South Kalimantan, was 67.47 years, then increased in 2015 to 67.80 years. The increase in life expectancy occurred in a row in 2016-2019 with 67.92 years, 68.02 years, 68.23 years, and 68.49, respectively.

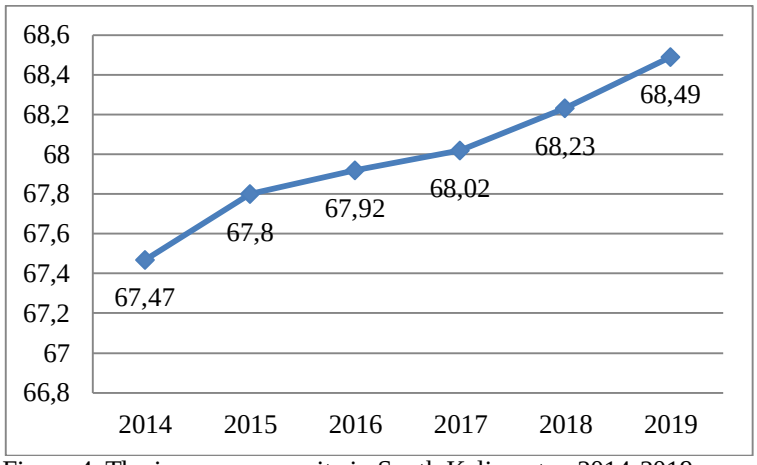

Figure 4. The income per capita in South Kalimantan 2014-2019 years
Source: Central Statistics Agency of South Kalimantan Province, 2020

The income per capita or Gross Regional Domestic Product per capita is used as an indicator of the level of progress or the level of welfare of a region's population. The income per capita is the average level of income of the community for a certain period. Per capita, the Gross Regional Domestic Product is obtained by dividing the Gross Regional Domestic Product's value by the total population. Per capita income in South Kalimantan from 2014-2018 has increased. Consecutive increases in income in 2014 amounting to Rp. 32.6 million, in 2019 amounting to Rp. 43.56 million. Based on the background presented, the problem in this study is: "How is the effect of economic growth, health, education, and per capita income on poverty levels in 13 districts/cities in South Kalimantan Province in 2014-2019?".

Framework and hypotheses

The level of poverty can be influenced by several factors, namely economic growth, education, health, and per capita income. There are issues related to poverty; namely: problems with economic growth can be categorized as positive and negative economic growth rates. Educational problems can play a very big role because education provides the ability to develop through mastery of knowledge and skills to increase productivity. Health problems are a component that can affect poverty. Health is a condition of physical, mental, and social well-being. Economic

problems that need attention are in line with the increase in per capita income, which should reduce poverty. A good economy must experience a synergistic movement between GDP per capita and other economic problems. In that sense, an increase in GDP per capita must be accompanied by a reduction in the poverty rate. The frame of mind is as follows: Figure 5.

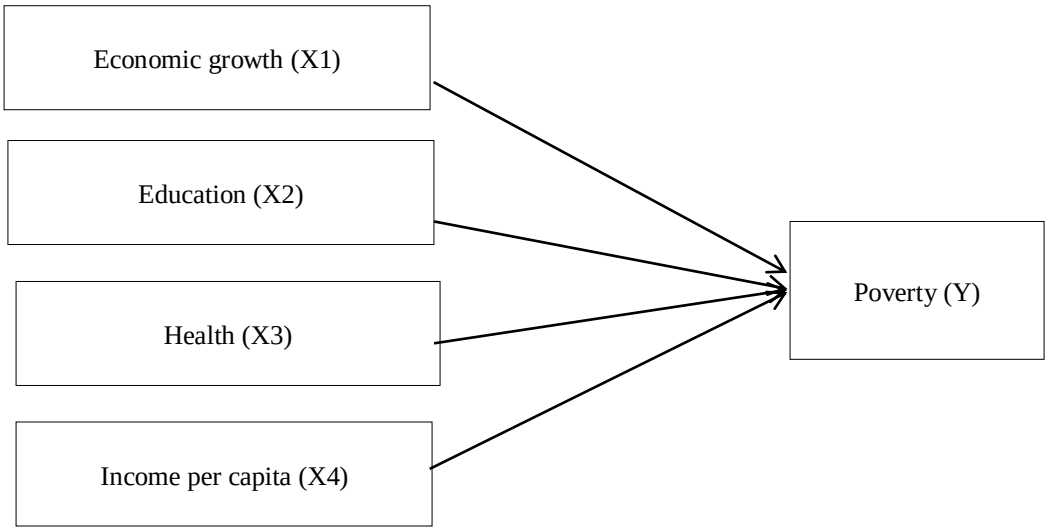

Figure 5. Thinking framework

Research Hypothesis Based on theoretical thinking and based on empirical studies that have been carried out related to research in this field, the following hypothesis will be proposed: 1) Economic growth affects the level of poverty. 2) The level of education affects the level of poverty; 3) Health affects poverty levels. 4) Income affects the poverty level.

Method

The scope of this study includes several variables that affect poor people in 13 districts/cities in South Kalimantan Province from 2014 to 2019, namely economic growth, education, health, and per capita income (Reardon & Vosti, 1995). This type of research used in this research is quantitative research supported by secondary data. In this study, the operational definition used is as follows:

1) Poverty Level (K) is the percentage of the population who are below the poverty line in each Regency / City in South Kalimantan Province in 2014-2019 (in percent), data is taken from the Central Statistics Agency (BPS) of South Kalimantan Province;
2) Regional economic growth (PE), expressed as change GRDP is based on constant prices in each district/city in South Kalimantan Province in 2014-2019 (in percent), data is taken from the Central Statistics Agency (BPS) of South Kalimantan Province;
3) Education (PD). expressed by the average length of schooling for each Regency / City in South Kalimantan in 2014-2019 (in units of years), data was taken from BPS South Kalimantan Province;
4) Health (KS), expressed by life expectancy for each Regency / City in South Kalimantan in 2014-2019 (in units of years) data was taken from BPS South Kalimantan Province;
5) Regional per capita income or PDRB per capita (PP) is expressed by the amount of GRDP of an area divided by the number of population in each Regency / City in South Kalimantan in 2014-2019 data taken from BPS South Kalimantan Province. The unit of per capita GRDP variable in this study is the unit of Million Rupiah.

This study uses panel data analysis (pooled data) as Data processing using the Eviews application version 10. Data with panel characteristics is data with a time sequence structure and a cross-section (Ariefianto, 2012).
The general equation for estimating panel data is as follows: $Yit = \beta 0 + \beta 1X1it + eit$, $i= 1, 2, \ldots, N$; $t= 1, 2, \ldots, T$

Where :

N = the number of observations
Q = the amount of time
N x T = the amount of panel data

Yit = β0 + β1X1it + β2X2it + β3X3it + β4X4it + μit
Y = Poverty rate (percent)
X1 = Economic growth (percent)
X2 = Education (years)
X3 = Health (years)
X4 = PDRB Per Per Capita (million rupiahs)
β0 = Intercept β1, β2, β3, β4: Regression Coefficient
μit = Error component at time t for unit cross section
i = 1-13 district/city cross section data
t = 1-6 time series data from 2014 to 2019

Estimation of Regression Model Using Panel Data

Research on the effect of economic growth, education, health, and per capita income on poverty in districts/cities in South Kalimantan, using time-series data for the last 5 (five) years represented by annual data from 2014-2019 and cross-section data of 13 the data is representative of the City District in South Kalimantan. The pooling produces 78 observations with the panel data equation function, which can be written as follows:

$$Y_{it} = \alpha_0 + \alpha_1 X1_{it} + \alpha_2 X2_{it} + \alpha_3 X3_{it} + \alpha_4 X4_{it} + \mu_{it}$$

Where:
Y = poverty rate of Regency / City in South Kalimantan (percent).
X1 = economic growth of districts/cities in South Kalimantan (percent)
X2 = district/city education in South Kalimantan (years)
X3 = health of Regency / City in South Kalimantan (years)
X4 = district/city income per capita in South Kalimantan (million rupiahs)
α_0 = intercept
$\alpha_1, \alpha_2, \alpha_3, \alpha_4$ = independent variable regression coefficient
μ_{it} = error component at time t for unit cross-section
i = 1, 2, 3, ……, 13 (cross-section data for districts/cities in South Kalimantan)
t = 1, 2, 3, 4, 5 (time-series data, 2014-2019)

Classic Assumption testing

The results of multiple regressions can be used as a good predictor and are not biased if they meet several assumptions known as classical assumptions. According to Gujarati (2012), the regression model is not biased, or so the regression model is BLUE (Best Linear Unavailable Estimator); it is necessary to test the classical assumptions first. The analysis requirements test for multiple regression that is often used is the normality test, multicollinearity test, autocorrelation test, heteroscedasticity test.

Hypothesis test

Testing of the hypothesis carried out in this study is done by;
The coefficient of determination shows the ability of the independent variable to explain or explain the dependent variable. The greater the coefficient of determination, the better the ability of the independent variables to explain or explain the Y variable (Gujarati, 2012).

Statistical F Test

It shows whether all the independent variables that are included in the regression model have a joint influence on the dependent variable.

a. Ho = The independent variable simultaneously has no significant effect on the dependent variable.
b. Ha = independent variable simultaneously has a significant effect on the dependent variable.

If the sign-F number or the prob-F level is less than 0.05, Ho is rejected; this means that the independent variable simultaneously affects the dependent variable. Conversely, if the significance level is more than 0.05, Ho is accepted; this means that the variables jointly affect the dependent variable.

Statistical t-tests

The statistical t-test sees the effect of one independent variable individually explaining the variation of the dependent variable.

a. Ho = Each independent variable has no significant effect on the dependent variable.
b. Ha = Each independent variable has a significant effect on the dependent variable.

If the value of prob-t or sig-t is less than 0.05, Ho is rejected, and Ha is accepted, meaning that the independent variable can explain the dependent variable. Conversely, if the significance level is more than 0.05, Ho is accepted, and Ha is rejected. It means that the independent variable cannot explain the dependent variable individually.

Results and Discussion

General Description of the Research Area South Kalimantan Province was formed on August 14, 1950, as the official administrative part of Kalimantan Island based on Law No. 25 of 1956. Along with the development and regional development that was carried out, currently, the South Kalimantan Province is administratively divided into 13 districts/cities consisting of 11 districts and two cities with the center of government, the capital city Banjarmasin City. Most of the land in the province of South Kalimantan is forest. The South Kalimantan area is flowed by many rivers, including the Barito River, Riam Kanan River, Riam Kiwa River, Balangan River, Batang Alai River, Amandit River Tapin River, Batu Licin River, Sampanahan River, and so on. These rivers originate in the Meratus Mountains and empty into the Java Sea and the Makassar Strait.

South Kalimantan Province has the smallest area on the island of Kalimantan and is structurally located at the coordinates of 114 19 '33 "- 116 33' 28" East Longitude and 1 21 '49 "- 1 10' 14" South Latitude. As for the boundaries of the South Kalimantan Province administratively, it is bordered by The West is bordered by the Province of Central Kalimantan, the Makassar Strait borders the East, the Java Sea borders the South, and the Province of East Kalimantan borders the North. The area of South Kalimantan Province reaches 38,744.23 km2, which is divided into 13 districts/cities with details of 153 sub-districts and 2,008 villages/wards. The population of South Kalimantan during the period between 2014 and 2019 experienced a relatively fast development. In 2019 the population was 4,244,096 people; this number increased from 2014, which was 3,922,790 people. The increase during the period 2014 to 2019 reached 321,306 people or an average of around 53,551 people per year.

Data Analysis

This research uses multiple regression analysis models. Based on the results of data analysis, it can be seen that the estimation results of the regression model approach Common Effect Model (CEM), Fixed Effect Model (FEM), Random Effect Model (REM) as follows:

Table 1
Panel Data Regression Results

	CEM		FEM		REM	
Variable	*Coefficient*	Prob.	*Coefficient*	Prob.	*Coefficient*	Prob.
C	30,69010	0,0000	25,04194	0,0000	24,75719	0,0000
X1	-0,482499	0,0004	-0,016275	0,7363	-0,015260	0,7467
X2	0,701486	0,0001	-0,223762	0,3072	-0,089687	0,6010
X3	-0,425802	0,0000	-0,268728	0,0117	-0,280109	0,0009
X4	1,4905	0,8904	-4,9107	0,9875	-7,81-06	0,8002
R-squared	0,368247		0,965297		0,334850	

Adj R-squared	0,333630	0,956195	0,298403
F-statistic	10,63787	106,0493	9,187407
DW stat	0,251403	1,927533	1,156031

Source: Output data processing using E-Views 10

From the results, as shown in Table 5.7, it can be seen that the Common Effect Model (CEM), Fixed Effect Model (FEM), Random Effect Model (REM) approaches have different results. The highest R-squared value is found in the Fixed Effect Model test of 96.53 percent. In general, the variables of economic growth, education, health, and income per capita are not significant to poverty. Based on the three available panel data models, the panel data model that is most suitable for this research will be determined; then, the model estimation test will be carried out.

Determination of Panel Data Estimation Model

In determining the estimation model used for this research, several tests were carried out, namely the Chow test and the Hausman test. The Chow test results show that the Cross-Section Chi-square probability is 0.0000, which means it is less than the 0.05 significance level. Then it can be decided that Ho is rejected and Ha is accepted so that the selected model is the fixed effect model. Based on the Hausman test results, it is known that the probability value of random cross-section is 0.0000 greater than alpha 0.05, so it can be concluded that Ho is accepted, and the best model that can be used in this study is the Fixed Effect Model.

Classical Assumption Test Results

The residual normality test results below are the bark fall value of 4.597385 with a probability value of 0.100390 where> 0.05, so accept H0 or which means that the residuals are normally distributed. Multicollinearity is the presence of a linear relationship between the independent variables in the regression model. Researchers used a partial method between independent variables to test the presence or absence of multicollinearity in the model. This method's rule is that if the correlation coefficient is high enough above 0.85, then it is suspected that there is multicollinearity in the model. Conversely, if the correlation coefficient is relatively low, it is assumed that the model does not contain elements of multicollinearity (Ajija *et al.*, 2011).

Table 2
Multidisciplinary Test

	X1	X2	X3	X4	Info
X1	1,000000	0,520149	-0,084330	-0,170794	Multicollinearity does not occur
X2	0,520149	1,000000	0,653052	-0,056142	Multicollinearity does not occur
X3	-0,084330	0,653052	1,000000	0,005264	Multicollinearity does not occur
X4	-0,170794	-0,056142	0,005264	1,000000	Multicollinearity does not occur

Source: The results of the classical assumption test data using Eviews

The results of testing the partial correlation method between the independent variables in the table above, it can be concluded that in this study, there is no multicollinearity problem. It can be seen from the absence of a correlation coefficient that is greater than 0.8. The heteroscedasticity test is used to determine whether there are deviations from the classical assumption, namely the inequality of variants of the residuals for all observations in the regression model. The condition that must be fulfilled in the regression model is the absence of heteroscedasticity symptoms.

Table 3
Heteroscedasticity Test

Variable	Prob.	Info
X1	0,0997	There is no heteroscedasticity
X2	0,3726	There is no heteroscedasticity
X3	0,7077	There is no heteroscedasticity

Source: Output data processing

The Autocorrelation test results, the Durbin-Watson value is 1.927533. See whether there is an autocorrelation problem; it is known by comparing the Durbin Watson value with the Durbin Watson table. In this study n = 78 and k = 4 dL = 1.5265 and dU = 1.7415. This value is on the criteria dU <d <4-dU (1.7415 <1.927533 <2.2585), so it can be concluded that there is no autocorrelation problem.

Statistical Test Results

The statistical test in this study includes the coefficient of determination (R^2 test), significant simultaneous test (statistical F test), and partially significant test (statistical t-test).

Coefficient of Determination (R2)

The R^2 test aims to determine the proportion or percentage of the total variation in the dependent variable explained by the independent variable. Meanwhile, according to the Fixed effects model regression analysis, the R-Squared results are obtained as follows:

Table 4
Determination Coefficient Test

R-squared	0.965297
Adjusted R-squared	0.956195

Source: Output data processing

Table 4, the results of R^2 show a value of 0.965297, which means that the variables of economic growth, education, health, and per capita income explain the variance of the dependent variable of 96.53%. While other variables explain the remaining 3.47% outside of this study, such as unemployment, total population, and others.

Statistical F Test

The F test is used to determine the significant effect of the independent variables on the dependent variable as a whole. Based on the Fixed model regression analysis results using reviews software, the F-statistic probability value is 0.000000, which is smaller than the significance confidence value of α 5% (0.00000 <0.05), then the F test this study is said to be significant.

Table 5
Result of the F Test

F-statistic	0,000000
Prob(F-statistic)	106,0493

Source: Output data processing

So it can be concluded that all independent variables (economic growth, education, health, and per capita income) have a simultaneous effect on the dependent variable (poverty level in 13 districts/cities in South Kalimantan).

t-test

The t-test was conducted to determine the influence of the independent variables (economic growth, education, health, and per capita income) on the dependent variable (poverty level in 13 districts/cities in South Kalimantan). Based on the fixed-effect model regression analysis in Table 5.10 above, the t-test results are obtained as follows:

Table 6
T-test results

Variable	Coefficient	t-statistic	Prob.	Info
C	25,04194	4,399058	0,0000	Significance

X1	-0,016275	-0,338339	0,7363	Not Significance
X2	-0,223762	-1,029807	0,3072	Not Significance
X3	-0,268728	-2,598632	0,0117	Significance
X4	-4.91E-07	-0.015713	0,9875	Not Significance

Source: The results of statistical test data processing using Eviews
Table 5.15 as follows:

Economic Growth (X1)

Based on the table above, the economic growth variable has a coefficient value of -0.016275 with a t-statistic of -0.338339 and a probability of 0.7363. At a significant level of α 5%, the economic growth variable can have no significant effect on the poverty rate variable in 13 districts/cities in South Kalimantan (0.7363> 0.05). It follows the results of Salayang, Laoh & Kapantow (2019), which state that economic growth has no significant effect on the number of poor people. Economic growth, in this case, is represented by economic growth, which is very important because the faster economic growth in the production of goods and services results in a better prospect for regional development, which also causes a reduction in the number of poor people. However, economic growth is not of sufficient quality due to inequality. Increasing economic growth is necessary, and Amun's option is not enough to alleviate poverty (Cronin *et al.*, 1991; Balassa, 1978; Dilliana *et al.*, 2019). The government should pay attention to how to distribute and equalize economic growth so that it is not only felt by some people. However, the results of the increase in growth can be felt by all levels of society, especially the poor.

Education (X2)

The table above the education variable has a coefficient value of -0.223762 with a t-statistic of -1.029807 and a probability of 0.3072. At a significant level of α 5%, the education variable can have no significant effect on the poverty level variable in 13 districts/cities in South Kalimantan (0.3072> 0.05). According to the results of Endrayani & Dewi (2016) research, education is not significant to the poverty level. Education, as measured by the average length of schooling, has no significant effect on poverty. It can be due to the mismatch between education and employment levels in South Kalimantan Province. The mismatch is the mismatch between the work obtained and the education that has been taken, resulting in low income. Low income implies low savings and investment. This low saving and investment causes underdevelopment, and so on, resulting in poverty.

Health (X3)

The T-test table shows that the health variable has a coefficient value -0.268728 with a t-statistic of -2.598632 and a probability of 0.0117. At a significant level of α 5%, the health variable is said to have a negative and significant relationship to the poverty level variable in 13 districts/cities in South Kalimantan (0.0117 <0.05). The results of research conducted by Tisniwati (2012), state that health has a significant effect on the number of poor people. Health, in this case, is represented by a life expectancy rate, which is very important because an increase in health status will improve the quality of human resources, so the poor's productivity will increase because it will affect the level of people's income. Therefore, it will affect the level of income and be able to meet their basic needs, to reduce the number of poor people.

Per capita income (X4)

Based on the t-test table results above, the per capita income variable has a coefficient value of -4.9100 with a t-statistic of -0.015713 and a probability of 0.9875. At a significant level of α 5%, it can be said that the per capita income variable does not have a significant effect on the poverty rate variable in 13 districts/cities in South Kalimantan (0.9875> 0.05). It follows the results of research conducted by Aziz *et al.* (2016), which state that per capita income is not significant to poverty levels. PDRB per capita of an area should be used as a parameter of the community's welfare in that area. If the GDP per capita of an area increases, the economic growth of a region will increase, this indicates that the community's welfare will increase. By improving the people's welfare, this will reduce the level of poverty in the region because economic growth is a necessary condition in reducing poverty.

Conclusion

Based on the analysis that has been done, the following conclusions can be drawn: 1 The regression model of the effect of economic growth, education, health, and per capita income on poverty levels in South Kalimantan in 2014-2019 is quite feasible to use because it has met and passed the classical assumption test, namely the normality assumption test and is free from multicollinearity, heteroscedasticity, and autocorrelation. The results showed that simultaneously (simultaneously) economic growth, education, health, and per capita income affected South Kalimantan poverty levels. Partially the health variable had a negative and significant effect on the poverty level in South Kalimantan in 2014-2019, so improving health can reduce poverty levels. The variables of economic growth, education, and per capita income did not significantly affect the poverty rate in South Kalimantan in 2014-2019.

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