ANALYSIS OF THE EFFECT OF AVERAGE LENGTH OF SCHOOL, INEQUALITY OF INCOME DISTRIBUTION AND ECONOMIC GROWTH ON POVERTY IN GORONTALO PROVINCE

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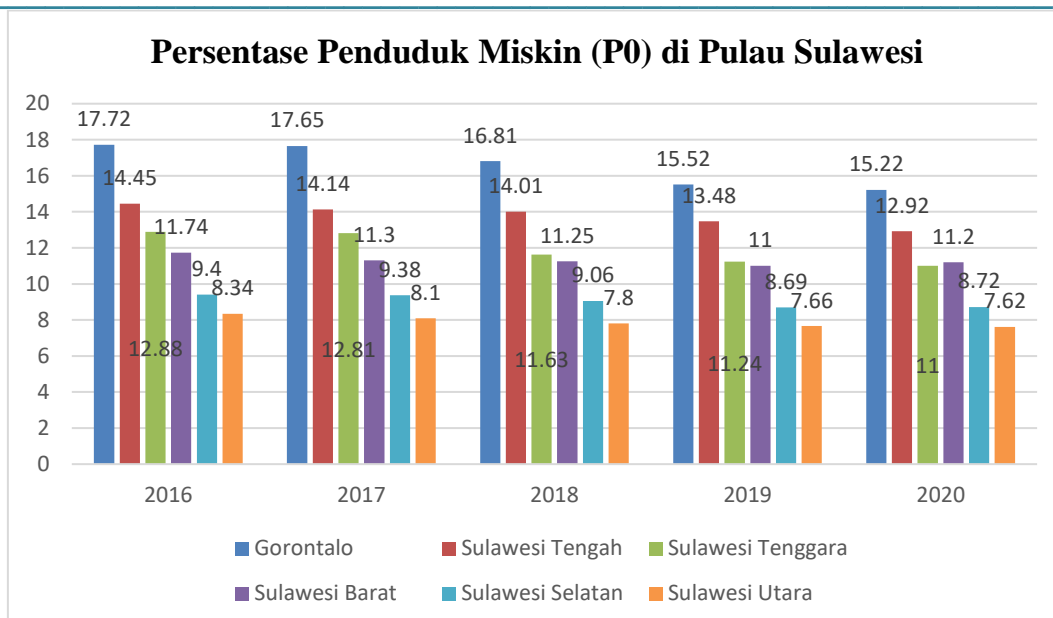
Abstract:

This study analyzes the Effect of Average Length of School, Inequality of Income Distribution, and Economic Growth on Poverty in Gorontalo Province. The data uses secondary data obtained from the Statistics Indonesia (BPS) in 2016-2020, and the unit of analysis is 5 districts and 1 city in Gorontalo Province. This study uses multiple linear regression analysis of panel data with the Fixed Effect Model (FEM) method.

The results show that (1) Average Length of School negatively and significantly affects poverty in Gorontalo Province in 2016-2020. This means that ever 1-year increase in the average length of school in the Regency/City can significantly reduce poverty in Gorontalo Province. (2) Income distribution inequality has a positive and insignificant effect on poverty in Gorontalo Province. This means that every increase in the Gini coefficient of income distribution inequality will increase poverty in Gorontalo Province. (3) Economic Growth negatively and insignificantly affects poverty in Gorontalo Province. This means that every 1 percent increase in the economic growth rate can reduce poverty in Gorontalo Province.

1.INTRODUCTION

The economic problems that Indonesia is still facing today are related to poverty, unemployment and inflation. From the economic side, poverty is an inability to meet the needs of food and non-food which is measured in terms of expenditure. This means that a person is categorized as poor if he has an average per capita expenditure per month below the poverty line. As of March 2021, 10.14% or 27.54 million Indonesians are poor. Over the last few years, Gorontalo is a province on Sulawesi Island which is included in the 5 poorest provinces in Indonesia with a percentage of poor people (P0) of 15.59% in September 2020. This figure increased by 0.02% to 15.61% in March 2021 and then dropped to 15.41% in September 2021. The percentage of poor people also increased in rural and urban areas. It is known that in the period September 2020 to March 2021, the percentage of poor people in urban areas increased by 0.05%, from 4.18% to 4.23%. This increase also occurred in rural areas. In the same time period, the percentage of poor people in rural areas increased by 0.15%, from 24.32% to 24.47%.

Persentase Penduduk Miskin (P0) di Pulau Sulawesi

Year	Gorontalo	Sulawesi Tengah	Sulawesi Tenggara	Sulawesi Barat	Sulawesi Selatan	Sulawesi Utara
2016	17.72	14.45	12.88	11.74	9.4	8.34
2017	17.65	14.14	12.81	11.3	9.38	8.1
2018	16.81	14.01	11.63	11.25	9.06	7.8
2019	15.52	13.48	11.24	11	8.69	7.66
2020	15.22	12.92	11	11.2	8.72	7.62

Source: Central Statistics Agency (BPS), data processed
Figure 1.1 Percentage of Poor Population (P0) in Sulawesi Island

Based on the data above, over the last five years, the percentage of poor people in Gorontalo Province has decreased. Not only Gorontalo but 5 other provinces namely Central Sulawesi, Southeast Sulawesi, West Sulawesi, South Sulawesi and North Sulawesi also experienced a decline every year. In 2020, the percentage of poor people in Gorontalo Province is at 15.22%, Central Sulawesi is 12.92%, then there is West Sulawesi at 11.2% then Southeast Sulawesi at 11% then South Sulawesi at 8.72% and the last one is North Sulawesi at 7.62%.

In 2016, the percentage of poor people in Gorontalo Province was at 17.72% which then decreased to 17.65% in 2017. This figure continued to decline to 16.81% in 2018, then 15.52% in 2019 and in 2020 to 15.22%. Although from 2016 to 2020 the percentage of poor people in Gorontalo Province continued to decline, this did not reduce poverty significantly and was still above the poverty level of the other 5 provinces on the island of Sulawesi.

Sharp, et.al (in Kuncoro, 2006) identified three causes of poverty from an economic perspective. First, poverty grows because of inequality in income distribution caused by differences in resource ownership. Second, poverty exists because there are differences in the quality of human resources. Third, poverty arises because there are differences in access to capital. The factors that can affect the level of poverty in an area such as the quality of human resources that can be improved through education. Education is a process in which a person's behavior, attitude or bad habits change for the better with the teaching process. With the teaching process, it is expected to be able to obtain superior human resources who are able to compete in work competencies (Nalle, 2019). The higher the education taken, the better the quality of human resources. One indicator that can be used to observe how high the education level of the population in an area is by looking at the average number of years of schooling. As for what can affect poverty, namely inequality. Unequal economic development can cause inequality or income inequality which then causes low income received. The next factor that can affect poverty is economic growth. Economic growth is an increase in an economic process in an area that causes an increase in the production of goods and services in a certain period of time. The high economic growth in an area is expected to improve the welfare of the population in the region. Thus, this paper is made to examine the effect of the average length of schooling, inequality in income distribution and economic growth on poverty in Gorontalo Province.

2. MATERIALS AND METHODS
2.1 Theory Study
2.1.1 Poverty

Poverty is a condition where a person or group of people is unable to meet the minimum needs of a certain standard of living. Poverty is one indicator that can be used to see the results of development in an area. By looking at poverty, it can be seen whether the results of development in a particular area are good or bad. According to BPS (2016) poverty is a material and physical inability to meet various basic needs, both food and non-food, as measured by expenditure for a month from an economic perspective.

To measure poverty, you can use the Poverty Line, which consists of the Food Poverty Line (GKM) and the Non-Food Poverty Line (GKNM). The Food Poverty Line is the amount of minimum expenditure used for food needs which has been equalized to 2,100 kilocalories per capita per day, while the Non-Food Poverty Line is the minimum expenditure value spent on non-food needs in the form of housing, health, clothing and education. .

Poverty has a broader meaning than just a person's low level of income or a person's consumption of measured welfare standards in the form of minimum calorie needs or the poverty line. According to Novriansyah (2018), poverty is a disease that arises when people always have material and non-material deficiencies such as lack of food, lack of education, malnutrition, lack of access to information and other deficiencies that describe poverty. Other evidence

that shows real poverty, especially in big cities in Indonesia, can be seen from the large number of people who lack food and drink, do not have a proper place to live, even evicted or expelled from their homes, the many protests carried out by many workers. due to Termination of Employment (PHK), arbitrary treatment of female workers abroad.

2.1.2 Average Length of School

The average length of schooling shows the high level of formal education taken by residents in an area. Average Length of Schooling (RLS) is the number of years used by residents in an area in taking formal education. According to Arofah and Rohimah (2019), it takes some information to calculate the average length of schooling, namely:

- a) School participation
- b) Level or type of education currently / ever taken
- c) Highest diploma owned
- d) The highest class tier ever occupied

The higher the average number of years of schooling, the higher the education completed by residents in an area. The higher the average number of years of schooling, the higher the level of education taken by the population in the area. Education is one form of human capital (human capital) which will show the quality of Human Resources. Highly educated people will start full-time work at an older age, but their income will rise faster than people who work earlier(Todaro, 2000).

2.1.3 Inequality of Income Distribution

Inequality of income distribution is a condition where the income received by several groups of people is not evenly distributed. Income inequality can be interpreted as a difference in economic prosperity between the rich and the poor, which is reflected in the difference in income distribution(Baldwin, 1986). The higher inequality in a region, the distribution of income in that region is also increasingly unequal. According to Khoirudin (2020), the inequality in income distribution is caused by differences in the productivity of each individual where there is one individual or group whose productivity level is higher than other individuals/groups.

The gap caused by the imbalance between the traditional sector and the modern sector can widen the gap of inequality. Because the modern sector increases faster than the traditional sector. The distribution of national income indicates unequal or even distribution of development results among the population in a country. There are several kinds of inequality, namely inequality between regions, inequality between sectors, and inequality in the distribution of people's income(Sianturi, 2011).

2.1.4 Economic Growth

Economic growth is one of the indicators used to see the success of development in a region. In addition, economic growth can also be used to see the economic conditions in a region. Todaro(in Safuridar, 2017)defines economic growth as an increase in the capacity of a country to provide various economic goods which are determined by technological, institutional (institutional) and ideological advances or adjustments to various demands of existing conditions in the long term. In general, economic growth is defined as an increase in the production of goods and services in an economic process in a region over a certain period of time. The high economic growth in an area is expected to improve the welfare of the population in the region. In actual economic activity, economic growth means that there is a fiscal development of the production of goods and services in a country, such as an increase in the number of schools, infrastructure development,(Sukirno, 2011).

3.1 RESEARCH METHODS

This research is quantitative, because it will analyze the effect of three variables, namely the average length of schooling, inequality in income distribution and economic growth. Quantitative data is used with the aim of knowing the effect and results of two or more variables. The data used in this study are secondary data collected from various types of publication data sources such as journals, books, and published or unpublished documents from various related institutions such as the Central Statistics Agency and various other references that discuss poverty, education, inequality and economic growth.

This study uses multiple linear regression equation analysis as a data analysis technique with panel data as an analytical tool. Multiple linear regression is a regression equation that uses more than one independent variable in an analysis. The use of multiple linear regression equation is to be able to determine whether or not there is a relationship between the dependent variable and the independent variable and also to determine the magnitude and direction of the signs of the independent variables. So that the multiple linear regression analysis model for this research is as follows

$$KEMit = 0 + 1RLSit + 2KETit + 3PEit + it$$

Where :

KEM	=Poverty
0	= Constants or fixed numbers
RLS	= Old AverageSchool
KET	=Inequality of Income Distribution (Gini Ratio)
PE	=Economic Growth (GDP)
1 2 3	=Regression Coefficient

it	= Error Terms	
i	=Gorontalo Province	
t	=2016-2020 period	

To use panel data multiple linear regression, there are three approaches that can be taken, namely the OLS approach (Pooled Least Square or Common Effect), Fixed Effect Model and Random Effect Model which can be determined using tests, namely the Chow test and the Hausman test. Chow test is used to determine the use of Pooled Least Square or Fixed Effects Model while Hausman Test is used to determine the use of Random Effects Model or Fixed Effects Model in estimating data.

As for testing the feasibility of the regression model used in this study, a classical assumption test will be carried out which consists of a normality test to see the distribution of the data used is normally distributed, a multicollinearity test to find out whether there is a correlation between the independent variables and a heteroscedasticity test to find out whether there is a correlation between the independent variables. residual variation in observations. Furthermore, a statistical test will be carried out consisting of the Coefficient of Determination Test (R2) to see how far the independent variable is in explaining the dependent variable being tested, the F test to find out whether the independent variable has a simultaneous effect on the dependent variable and the t test is carried out to find out how far the influence an independent variable on the dependent variable.

4.1 RESULTS AND DISCUSSION

To determine the most appropriate model to be used in this study, the Chow test and Hausman test were carried out. After being tested with the Chow test and the Hausman test, the probability value of the F cross-section is 0.0000 and the random cross-section is 0.0237 which is smaller than the alpha used, namely 1%, 5% and 10% so that the model used in this study is Fixed Effects Model (FEM). With the estimation results from the selection of models using the Fixed Effects Model, the regression results are obtained as follows

Table 1.3 Panel Data Regression Results

Dependent Variable: KEM?
Method: Pooled Least Squares
Total pool (balanced) observations: 30

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	61.61368	9.028946	6.824017	0.0000
RLS?	-6.227262	1.065073	-5.846794	0.0000
GR?	5.884315	6.678827	0.881040	0.3883
PE?	-0.020181	0.060901	-0.331374	0.7436
Fixed Effects (Cross)				
_BOALEMO--C	-3.753674			
_KABGOR--C	-1.506930			
_POHUWATO--C	6.253274			
_BONBOL--C	3.200146			
_GORUT--C	-1.162484			
_KOTAGOR--C	-3.030333			

R-squared	0.989199		
Adjusted R-squared	0.985084	Durbin-Watson stat	2.804891
F-statistic	240.3985		
Prob(F-statistic)	0.000000		

Based on the previous estimation results, it is known that:
1. Poverty, without being influenced by any independent variables in this study will remain constant value of61.61368 percent
2. The average length of schooling in districts/cities in Gorontalo Province has a negative effect on poverty. So it can be concluded that an increase in 1 year of Average Length of Schooling can reduce poverty by 6.227262 percent.
3. Gini Ratio has a positive effect on poverty. So it can be concluded that an increase in 1 Gini Ratio or Income Distribution Inequality can increase Poverty by 5.884315 percent
4. Economic growth has a negative effect on poverty. So it can be concluded that an increase of 1 percent in the Economic Growth Rate can reduce Poverty by0.020181 percent.

Based on the estimation results of the fixed effects model in table 1.1, it can be seen by the fixed effects coefficient of districts/cities in Gorontalo Province which gives positive growth and negative impact on poverty. Pohuwato Regency and Bone Bolango Regency experienced positive growth on poverty while Boalemo Regency, Gorontalo Regency, North Gorontalo Regency, and Gorontalo City had a negative impact on poverty.

The results of the classical assumption test to test the feasibility of the regression model used are as follows from the results of the data normality test, it is known that the distribution of the data in this study is normally distributed because the Jarque-Bera value in this study is 0.167008 smaller than the alpha value. Meanwhile, for the multicollinearity test, the results of Centered VIF on the three independent variables are 1.020177 for RLS, GR of 1.057224 and PE of 1.037330. These values are worth less than 10, so it can be concluded that there are no

symptoms of multicollinearity. And for the heteroscedasticity test, the results show that the probability values of the three independent variables are RLS with a probability value of 0.6709, GR with a probability value of 0.4471 and PE with a probability value of 0.2511.

For statistical hypothesis testing, the coefficient of determination test (R^2) showed that the R-Squared value was 0.989199. This means that poverty of 0.989199 or 98.91% can be explained by the Average Length of Schooling, Inequality of Income Distribution and Economic Growth and the remaining 1.09% can be explained by other variables outside the model. For the simultaneous F test, the results of the f-statistic value of 240.3985 with a probability of 0.00000. This value is smaller than the significant levels of 1%, 5% and 10% so that it can be concluded that the three independent variables, namely Average Years of Schooling, Inequality of Income Distribution and Economic Growth have a significant simultaneous effect on the dependent variable. And finally the results of the t-test for the three independent variables, namely:

1) For the average length of schooling variable, the t-statistic value is -5.846794 with a p-value of 0.0000. This p-value is still smaller than the significance level of 1%. So it can be concluded that the average length of schooling has a significant effect on poverty in Gorontalo Province in 2016-2020.
2) For the income distribution inequality variable, the t-statistic is 0.881040 with a p-value of 0.3883. With a p-value of 0.3883, it is known that this value is greater than the significance level of 1%. So it can be concluded that the Inequality of Income Distribution has no significant effect on poverty in Gorontalo Province in 2016-2020.
3) For the Economic Growth variable, the t-statistic value is -1.331374 with a p-value of 0.7436. The p-value of 0.7436 is known to be higher than the 1% significance level. So it can be concluded that the rate of economic growth has no significant effect on poverty in Gorontalo Province in 2016-2020.

From the various tests that have been carried out, the results of the study are as follows:

1. The Effect of Average Years of Schooling on Poverty in Gorontalo Province

From the results of the multiple linear regression analysis that has been obtained from the previous test, it is known that the Average Years of Schooling has a negative and significant effect so that it can be significantly explained on the reduction of poverty in Gorontalo Province in 2016-2020. This means that every increase in the average length of schooling will significantly reduce poverty in Gorontalo Province. These results indicate that the higher the average length of schooling in the province of Gorontalo, the higher the poverty rate in the province of Gorontalo can directly reduce. This can happen because a person's level of education is related to productivity which can affect the wages earned to meet daily needs.

A good quality of education for a person can increase choices about what kind of work to be undertaken which of course will affect the wages earned. When someone gets more wages when working, it is judged that the wages can meet daily needs so that absolute poverty can be reduced, namely poverty that occurs when a person is unable to meet daily needs due to insufficient income because they are below the poverty line. Although a better level of education is considered to be able to increase the wages earned, it does not mean that only higher education levels must be relied on. But also with skills or expertise that must be honed to get adequate skills.

2. The Effect of Inequality of Income Distribution on Poverty in Gorontalo Provinsi Province

From the results of the regression analysis that has been obtained from the previous test, it is known that the Inequality of Income Distribution has a positive but not significant effect on poverty in Gorontalo Province in 2016-2020. This means that a high income distribution inequality can increase the poverty level in Gorontalo Province, but this increase cannot be clearly explained. Better income distribution can help an individual to be able to improve their standard of living so that they can move out of the poverty line. The main cause of poverty is low income so that it cannot meet daily needs properly. If the income distribution is not evenly distributed, it can make it difficult for the poor to get out of the poverty line.

The income distribution inequality does not have a significant effect on poverty because there is a two-way relationship between poverty and income distribution inequality. Poor people who do not have high productivity have little chance of being able to generate sufficient income to meet their daily needs. Especially if low productivity is coupled with differences in natural resources and demographics in certain areas which will affect the process of economic development and of course will affect the community. So it is difficult for the poor to get an even distribution of income.

3. The Effect of Economic Growth on Poverty in Gorontalo Province

From the results of the regression analysis that has been obtained from the previous test, it is known that Economic Growth has a positive but not significant effect on poverty in Gorontalo Province in 2016-2020. This means that every increase in the rate of economic growth can reduce poverty in Gorontalo Province but cannot be explained in real terms. This is because the effect of increasing economic growth on reducing poverty in Gorontalo Province is not too big or not significant.

Economic growth is one of the indicators used to see the success of a region's development. By looking at the increase in goods and services from the previous year and the increase in people's income and welfare. The increase in this average ability can affect the ability to access a number of facilities to meet daily needs so as to improve people's welfare. If economic growth increases, it will increase the ability of the average income of the community which can affect the ability to increase the ability to meet the needs of welfare. This need for welfare is fulfilled, it will affect the poverty level in Gorontalo Province.

5.1 CONCLUSION

Based on and discussion of the effect of Average Length of Schooling, Inequality of Income Distribution and Economic Growth on those described in the previous chapter, the researchers draw the following conclusions:

1. The average length of schooling has a negative and significant effect on poverty in Gorontalo Province. This means that every 1 year increase in the average length of schooling in districts/cities in Gorontalo Province can significantly reduce the percentage of poor people in Gorontalo Province during the study period.

2. Inequality of income distribution has a positive and insignificant effect on poverty in Gorontalo Province. This means that every increase in the Gini Ratio can increase poverty in Gorontalo Province during the study period, but this increase cannot be clearly explained.

3. Economic growth has a negative and insignificant effect on poverty in Gorontalo Province. This means that every 1 percent increase in the rate of economic growth can reduce the percentage of poor people in Gorontalo Province during the study period but this cannot be explained significantly.

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