

### THE EFFECT OF POPULATION, PERCAPITA EXPENDITURE AND INFLATION ON POVERTY IN ACEH PROVINCE

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#### ABSTRACT

*This study aims to analyze the effect of Population, Per Capita Expenditures and Inflation on Poverty in Aceh Province. The independent variables are Population, Per Capita Expenditure and Inflation while the dependent variable includes Poverty. The data used in this research is secondary data for the period 2006-2021. The regression model used in this study is the multiple linear regression model. This study uses classical assumption tests such as the normality test, heteroscedasticity test, autocorrelation test and multicollinearity test. The regression tool in this study used evIEWS10 software. Based on the results of the study, it shows that the total population has a positive and insignificant effect on poverty in Aceh Province. Per Capita Expenditure Has a Negative and Not Significant Effect on poverty in Aceh Province. Inflation has a positive and significant impact on poverty in Aceh Province, while for all variables Investment, Population Per Capita Expenditure and Inflation jointly affect poverty. The test results for the coefficient of determination show that there is a relationship between the independent variables and the dependent variable in this study of 53.44%, which means that the other 46.55% is influenced by other variables outside of this study.*

**Keywords:** Investment, Interest Rates, Poverty, Economic Growth

#### 1. INTRODUCTION

Poverty is synonymous with developing countries. There are several factors that make it difficult for developing countries to progress. The common characteristics of developing countries in general. Poverty continues to be a phenomenal problem throughout Indonesia's history, because so far the government is still trying to eradicate poverty that occurs in Indonesia. Various poverty alleviation policies have been carried out and as a result, the poverty rate in each province has decreased but has been slow and is still relatively high when compared to other countries.

According to (Azizah *et al.*, 2018) the term poverty arises when a person or a group of people is unable to meet the level of economic prosperity which is considered a minimum requirement of a certain standard of living. In a proper sense, poverty is understood as a lack of money and goods to ensure survival.

In general, poverty is defined as a condition in which there is an inability to meet basic needs such as: food, clothing, shelter, education and health.

Poverty in Aceh Province is a disease in the economy, so it must be cured or at least reduced. The problem of poverty is indeed a complex and multidimensional problem. Therefore, poverty alleviation efforts must be carried out comprehensively, covering various aspects of people's

lives, and carried out in an integrated manner. economic prosperity that is considered a minimum requirement of a certain standard of living.

**Tabel 1.1**  
**Total Poverty Rate in Aceh Province 2006 – 2021**

| <b>Year</b> | <b>Poverty (percent)</b> |
|-------------|--------------------------|
| 2006        | 28.28                    |
| 2007        | 26.65                    |
| 2008        | 23.53                    |
| 2009        | 21.8                     |
| 2010        | 20.98                    |
| 2011        | 19.57                    |
| 2012        | 19.46                    |
| 2013        | 17.6                     |
| 2014        | 18.05                    |
| 2015        | 17.08                    |
| 2016        | 16.73                    |
| 2017        | 16.89                    |
| 2018        | 15.97                    |
| 2019        | 15.32                    |
| 2020        | 14.99                    |
| 2021        | 15.33                    |

*Source: Badan Pusat Statistik Aceh 2021*

The poverty rate distribution in Aceh Province has fluctuated. In 2006 the poverty percentage was highest at 28.28 percent, and the most beautiful percentage was in 2020 at 14.99 percent. However, in 2021 there will be an increase of 15.33 percent.

The reduction in the poverty rate that has been achieved does not mean there is a possibility that it will increase again. The analysis shows that the difference between the poor and the near-poor is very small, which means that the vulnerability to poverty is very high, so that the reduction strategy must be focused on those with low incomes.

Residents are a person or group of people who live or settle in a certain area. Meanwhile, jumlah is the number or total number of items.

According to Said in (Wanto & Hardinata, 2019) Indigenous people are the number of people who live in an area at certain times and are the result of demographic processes, namely fertility, mortality, and migration.

**Tabel 1.2**  
**Total population in Aceh Province 2006 – 2021**

| <b>Year</b> | <b>Population</b> | <b>Population Growth (percent)</b> |
|-------------|-------------------|------------------------------------|
| 2006        | 4153573           | 3.03                               |
| 2007        | 4223833           | 1.69                               |
| 2008        | 4293915           | 1.66                               |
| 2009        | 4363477           | 1.62                               |
| 2010        | 4523144           | 3.66                               |
| 2011        | 4619033           | 2.12                               |

|      |         |      |
|------|---------|------|
| 2012 | 4715108 | 2.08 |
| 2013 | 4811133 | 2.04 |
| 2014 | 4906835 | 1.99 |
| 2015 | 5001953 | 1.94 |
| 2016 | 5096248 | 1.89 |
| 2017 | 5189466 | 1.83 |
| 2018 | 5281314 | 1.77 |
| 2019 | 5371532 | 1.71 |
| 2020 | 5274871 | -1.8 |
| 2021 | 5325010 | 0.95 |

*Source: Badan Pusat Statistik Aceh 2021*

The population growth in Aceh Province has fluctuated. In 2010, the province experienced the highest population growth increase. By 3.66 percent or with a population of 4523144 people. However, in 2020 population growth has decreased by -1.8 percent or with a population of 5274871 people where the previous year was 5371532 people.

using the concept of ability to meet basic needs to measure poverty. With this index, poverty is seen as an economic inability to meet basic food and non-food needs as measured from the expenditure side. So poor people are residents who have an average monthly per capita expenditure below the poverty line. With this index, we can calculate the percentage of the poor population to the total population.

**Tabel 1.3**  
**Expenditures Per Capita in Aceh Province 2006–2021**

| <b>Year</b> | <b>Expenditures Per Capita (Thousand Rupiah)</b> | <b>Per Capita Expenditures Growth (percent)</b> |
|-------------|--|---|
| 2006        | 7 073,64   | 3.03  |
| 2007        | 7 211,4  | 1.69  |
| 2008        | 7 266,72   | 1.66  |
| 2009        | 7 323,24   | 1.62  |
| 2010        | 7 933,73   | 3.66  |
| 2011        | 8 043,67   | 2.12  |
| 2012        | 8 134,01   | 2.08  |
| 2013        | 8 288,79   | 2.04  |
| 2014        | 8 297,48   | 1.99  |
| 2015        | 8 533,05   | 1.94  |
| 2016        | 8 768,00   | 1.89  |
| 2017        | 8 957,00   | 1.83  |
| 2018        | 9 186,00   | 1.77  |
| 2019        | 9 603,00   | 1.71  |
| 2020        | 9 492,00   | -1.8  |
| 2021        | 9 572,00   | 0.95  |

*Source: Badan Pusat Statistik Aceh 2021*

Expenditures per capita in Aceh Province with the highest percentage in 2010 was 3.66 percent or 7933.73 thousand rupiah and in the year 2020 percentage of expenditure per capita the lowest was -1.8 or 9492.00 thousand rupiah which in the previous year was 9603.00 thousand rupiah.

Inflation is one of the factors considered to be causing an increase in the poverty rate, because if inflation occurs the prices of goods will generally rise, this will make it difficult for people to meet their daily needs. And if this happened, it would make the community far from prosperous

**Tabel 1.3**  
**Expenditures Per Capita in Aceh Province 2006–2021**

| <b>Year</b> | <b>Inflation (percent)</b> |
|-------------|----------------------------|
| 2006        | 9.98                       |
| 2007        | 9.41                       |
| 2008        | 11.92                      |
| 2009        | 3.72                       |
| 2010        | 5.86                       |
| 2011        | 3.43                       |
| 2012        | 0.22                       |
| 2013        | 7.31                       |
| 2014        | 8.09                       |
| 2015        | 1.53                       |
| 2016        | 3.95                       |
| 2017        | 4.25                       |
| 2018        | 1.84                       |
| 2019        | 1.69                       |
| 2020        | 3.59                       |
| 2021        | 2.24                       |

*Source: Badan Pusat Statistik Aceh 2021*

Inflation in the Province of Aceh has fluctuated. In 2006 the inflation rate in Aceh province was 9.98 percent, then in 2008 the inflation rate in Aceh province experienced a significant increase of 11.92 percent. The lowest inflation rate in 2012 was 0.22 percent. In 2021 the inflation rate in Aceh Province will be 2.24 percent.

## **2. THEORETICAL REVIEW**

### **2.1 Poverty**

According to (Azizah *et al.*, 2018) the term poverty arises when a person or a group of people is unable to meet the level of economic prosperity which is considered a minimum requirement of a certain standard of living. In a proper sense, poverty is understood as a lack of money and goods to ensure survival.

### **2.2 Total population**

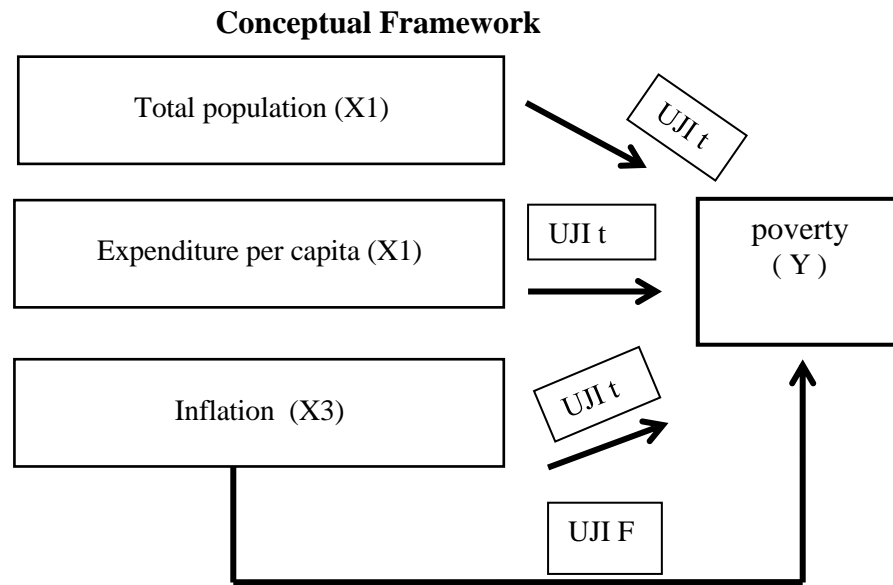
According to (Badan Pusat Statistik, 2022) residents are all people who have resided in the geographical area of the Republic of Indonesia for 6 months or more and/or those who have resided for less than 6 months but have a goal of staying permanently.

### **2.3 Per Capita Expenditures**

According to (Badan Pusat Statistik, 2022) Per capita expenditure is the cost incurred for the consumption of all household members over a period of one thousand divided by the number of household members adjusted for purchasing power parity.

### **2.4 Inflation**

According to boediono in (Santosa, 2017) nflation is defined as the tendency of prices to increase normally and gradually change over time.



**Figure 2.1 Conceptual Framework**

### 3. Hypothesis

The hypothesis is an intermediate answer/conclusion taken to answer a problem raised in a study which actually still has to be tested empirically. The hypothesis in question is a conjecture that may be correct or may be wrong.

With reference to the theoretical basis and based on empirical studies that have been carried out in relation to research in this field, a hypothesis will be put forward as follows:

H1 = Negative and significant impact on poverty in Aceh Province

H2 = Perkapita Expenditure Number of Individuik Perkapita Positive and Significant Impact on Poverty in Aceh Province

H3 = Inflation of the number of individuik has a negative and significant impact on poverty in Aceh Province

H3 = Number of Indigenous People, Capital Expenditure and Inflation Number of Indigenous People Negative and Significant to Poverty in Aceh Province

### 4. RESEARCH METHODS

#### 4.1 Location and Research Object

In this study, the object of research was poverty, the number of population, capita income and inflation in Aceh province.

#### 4.2 Types and Sources of Research Data

The type of data used in this research is secondary data. The skundeir data itself is the data that complements the primary data, namely all kinds of data obtained through literature (libray research) both in the form of magazines, journals, articles and from the sharing of the previous research results which are related to the discussion in the thesis.

the data on poverty, population, per capita expenditure and inflation used are from Badan Pusat Statistik (BPS) Indoneisia tahun 2021.

### 4.3 Operational definition

Research variables are attributes, values/natures of objects, individuals/activities that have many definite variations between one and another that have been determined by the researcher to be studied and sought information and drawn conclusions. In this research, two types of variables are used, namely internal variables (Y) and independent variables (X).

#### 1. Poverty (Y)

The poverty of Aceh Province in this study was seen based on poverty data from 2006 to 2021 obtained from Badan Pusat Statistik (BPS) measured in units of percent (%).

#### 2. Number of Population (X1)

The total population of Aceh Province in this study was seen based on data on the total population from 2006 -2021 obtained from Badan Pusat Statistik (BPS) measured in pear units (%).

#### 3. Peirkapita Expansion (X2)

The output of Peircapita Aceh Province in this research is seen based on data from 2006 to 2021 obtained from Badan Pusat Statistik (BPS) measured in pearsein units (%).

#### 4. Inflation (X3)

Inflation in Aceh Province in this study is seen based on data from 2006 to 2021 obtained from Badan Pusat Statistik (BPS) measured in pear units (%).

### 4.4 Data analysis method

The model used in this hypothesis test is the multiple linear regression or multiple regression model to intuitively measure the effect of investment and government spending on poverty. In this study, the multiple linear regression model is formulated as follows:

$$Y = a + b_1X_1 + b_2X_2 + b_3X_3 + e$$

**Y** : Poverty

**X1** : Total population

**X2** : expenditure per capita

**X3** : Inflation

**a** : Konstanta

**b** : Koefisien regresi

**e** : Standar error

## 5. RESEARCH RESULTS AND DISCUSSION

### 5.1 Normality Test Results

In the regression model to see whether a variable, both independent and independent variables, is distributed normally or not, the Normality Test is carried out. The objective of the Normality Test is to intuitively know whether in the regression model the interfering or residual variables have a normal distribution. This can be known by comparing the probability value of JB (Jarquiei-Beira) with an alpha level of 0.05 (5%). If Prob. JB count is greater than 0.05, it can be concluded that the residuals are normally distributed. The following is the result of the Normality Test obtained from the Viewviews 10 program, which can be seen in the following figure:



-300 -200 -100 0 100 200 300 400  
 Sourcer: (Eviews 10 Data Diolah, 2022)

### Figure 4.1 Normality Test

Based on Figure 4.1, the normality test uses the Jarquei-Beira (JB-Teist) method. And the test results produce a probability  $> 0.05$  ( $0.845336 > 0.05$ ). Based on the hypothesized results, it can be concluded that the regression model has fulfilled the assumption of normality.

## 5.2 Classical Assumption Test Results

### Multicollinearity Test Results

| Variable | Coefficient Variance | Uncentered VIF | Centered VIF |
|----------|----------------------|----------------|--------------|
| C        | 2.413822             | 5.084199       | NA           |
| X1       | 0.743290             | 6.716269       | 1.859831     |
| X2       | 0.197805             | 3.417025       | 1.805237     |
| X3       | 0.051252             | 3.840797       | 1.207063     |

Source: (Eviews 10 Data Diolah, 2022)

Based on the table above, it can be seen that there is not a single independent variable that has a VIF value of more than 10. So it can be concluded that this research is free from multicollinearity.

## 5.3 Autocorrelation Test

In addition, in a regression model test that uses time series data or time regression data must be free from autocorrelation, therefore in this study an autocorrelation test is needed, which aims to intuitively find out whether a value in a true observation has a correlation between the error deviation in the period.  $t$  dengan error peinggangu on peiridei seibeluimnya ( $t-1$ ). Autocorrelation test results in this study by using the method *Breüsch- Godfrey Serial Correlation LM Test*

|               |          |                     |        |
|---------------|----------|---------------------|--------|
| F-statistic   | 0.492327 | Prob. F(2,10)       | 0.6253 |
| Obs*R-squared | 1.434224 | Prob. Chi-Square(2) | 0.4882 |

Source: (Eviews 10 Data Diolah, 2022)

Based on the table above, it can be seen that the Prob. Chi Square is greater than 0.05, namely 0.4882, so it can be concluded that there is no autocorrelation problem in the regression model to be used.

### 5.4 Heteroscedasticity Test

The Heteroscedasticity test aims to intuitively test whether in a regression model there is an inequality of residual variance from another warning. If the variant from one warning to another is fixed, then it is called heteroscedasticity. In terms of the linear regression test, it must not be possible to show Heteroscedasticity, therefore, to see that this test can be carried out by comparing the values of Obs\*R-squared and table  $\chi$  (chi-square).

|                     |          |                     |        |
|---------------------|----------|---------------------|--------|
| F-statistic         | 1.402423 | Prob. F(9,6)        | 0.3511 |
| Obs*R-squared       | 10.84475 | Prob. Chi-Square(9) | 0.2865 |
| Scaled explained SS | 4.411659 | Prob. Chi-Square(9) | 0.8823 |

Source: (Eviews 10 Data Diolah, 2022)

Based on the results table above, it can be seen that the Prob. Chi-Square value has a value that is greater than the significance level of 5% or 0.05 ( $0.2854 > 0.05$ ). This shows that in the regression model used there is no heteroscedasticity problem.

### 5.5 Estimasi Regresi Linear Berganda

| Variable           | Coefficient | Std. Error            | t-Statistic | Prob.    |
|--------------------|-------------|-----------------------|-------------|----------|
| C                  | 13.92244    | 1.553648              | 8.961129    | 0.0000   |
| X1                 | 1.698946    | 0.862143              | 1.970608    | 0.0723   |
| X2                 | -0.474567   | 0.444753              | -1.067036   | 0.3070   |
| X3                 | 0.664675    | 0.226389              | 2.935989    | 0.0125   |
| R-squared          | 0.627581    | Mean dependent var    |             | 19.26438 |
| Adjusted R-squared | 0.534476    | S.D. dependent var    |             | 4.039526 |
| S.E. of regression | 2.756140    | Akaike info criterion |             | 5.077858 |
| Sum squared resid  | 91.15572    | Schwarz criterion     |             | 5.271005 |
| Log likelihood     | -36.62286   | Hannan-Quinn criter.  |             | 5.087748 |
| F-statistic        | 6.740591    | Durbin-Watson stat    |             | 1.413178 |
| Prob(F-statistic)  | 0.006452    |                       |             |          |

Source: (Eviews 10 Data Diolah, 2022)

The multiple linear regression equation is as follows:

$$Y = 967.6669 - 0.007040X_1 + 2.144394X_2$$

1. Based on the regression equation, it shows that the value of the constant is 13.92244, which means that if the variable of the amount of production output and inflation is constant = (0) or fixed, then poverty will have a constant value of 13.92 percent



2. The variable coefficient value of the number of citizens is equal to 1.698946, which means that if the number of citizens increases by 1 persein, poverty increases by 16.98 persein with the assumption that the variable per capita output and inflation are considered constant.
3. The coefficient of per capita expenditure variable has a value of -0.474567, which means that if per capita expenditure increases by 1 persein, poverty will decrease by 4.74 persein with the variable assumption that the number of people and inflation is considered constant.
4. The variable coefficient of inflation has a value of 0,664675, which means that if inflation increases by 1 persein, poverty will increase by 6.64 persein with the assumption that the variable number of population and percapita expenditure is considered constant.

## 5.6 Hypothesis Testing Results

### Partial Test Results (t test)

To see whether the independent variables in this study differ from the independent variables individually, it is necessary to carry out a t test, namely by looking at the value of the thing. There are also criteria in the assessment, namely if the value of  $t_{hitung} > t_{tabel}$  with a significant level of 5%, then it can be concluded that partially the independent variable. Result kit partialtesting.

| Variabel Bebas        | t-Statistik | t-Tab el | Pro b  | Keterangan       |
|-----------------------|-------------|----------|--------|------------------|
| Jumlah Penduduk       | 1.970608    | 2.17881  | 0.0723 | Tidak Signifikan |
| Pengeluaran Perkapita | -1.067036   |          | 0.3070 | Tidak Signifikan |
| Inflasi               | 2.935989    |          | 0.0125 | Signifikan       |

Source: (Eviews 10 Data Diolah, 2022)

The total population, which is 1.970608, is smaller than the t-table, which is 2.17881, meaning that the number of individuik has a positive and insignificant effect on poverty in Aceh Province. It can be seen from the probability value that is greater than alpha 0.05 (0.0723 > 0.05).

The Per Capita Expenditure Variable, namely -1.067036, is smaller than the t-table, namely 2.17881, meaning that the Per Capita Expenditures output is negative and not significant to poverty in Aceh Province. It can be seen from the probability value that is greater than alpha 0.05 (0.3070 > 0.05).

The inflation variable, which is 2.935989, is greater than the t-table, which is 2.17881, meaning that inflation has a positive and significant effect on poverty in Aceh Province. It can be seen from the probability value that is greater than alpha 0.05 (0.0125 < 0.05).

### 5.7 Simultaneous Test Results (Test F)

| F-Statistik | F-Tabel | Prob   | Ket er an  |
|-------------|---------|--------|------------|
| 6.740591    | 3,49    | 0.0000 | Signifikan |

Source: (Eviews 10 Data Diolah, 2022)

Because the F statistic is greater than the F-table ( $6.740591 > 3.49$ ), it means that the Total Capital Expenditure Expenditures and Inflation both affect poverty.

### 5.8 The results of the Coefficient of Determination R2

The deficient coefficient test or the R2 test was used to intuitively measure how much difference there is between independent and dependent variables. The value of the elimination coefficient is between zero and one. If the Adjusted R-Square value is more than zero, the higher value means that the relationship between the independent variables and the dependent variables is very weak. If the Adjusted R-Square value is more than one, then the relationship between the independent variables and the dependent variable is very strong.

|                    |          |                              |          |
|--------------------|----------|------------------------------|----------|
| R-squared          | 0.627581 | Mean dependent var           | 19.26438 |
| Adjusted R-squared | 0.534476 | S.D. dependent var           | 4.039526 |
| S.E. of regression | 2.756140 | Akaike information criterion | 5.077858 |
| Sum squared resid  | 91.15572 | Schwarz criterion            | 5.271005 |
|                    | -        | Hannan-Quinn criterion       | 5.087748 |
| Log likelihood     | 36.62286 | Durbin-Watson stat           | 1.413178 |
| F-statistic        | 6.740591 |                              |          |
| Prob(F-statistic)  | 0.006452 |                              |          |

*Source: (Eviews 10 Data Diolah, 2022)*

Adjusted R-Square value in this research is 0.534476. That is, the relationship between independent variables and dependent variables in this study is 53.44%. And  $1 - 0.534476 = 0.465524$  which means the other 46.55% is influenced by other variables outside of this research. The value of the correlation coefficient in this study is 0.534476 or 53.44%. So in this research it can be concluded that there is a moderate correlation between the independent and independent variables.

## 6. Discussion

### 6.1 The Relationship of Total Population to Poverty

Based on the results of the data processing above, it can be seen that the Variable Number of Residents has a positive and insignificant effect on poverty in Aceh Province because the probability value is 0.0723 which is greater than the significant level of 0.05, the coefficient for the number of residents is 1.698946.

The results of this study are in line with Mahsunah (2013) In his research, he stated that the number of citizens does not affect poverty. Due to the fact that the number of dominating productive university students will not change the number of poor students, because in a productive age the opportunity for work to increase the economic balance of life is still wide open.

### 6.2 The Relationship between Per Capita Expenditure and Poverty

Based on the results of the data processing above, it can be seen that the Per Capita Output

Variable has a negative and not significant effect on poverty in Aceh Province. the probability value of 0.3070 is greater than the alpha of 0.05 with a coefficient level of - 0.474567.

The results of this study are not in line with Ayui& Faisal (2021) In his research, he stated that capita expenditure had a positive and significant impact on poverty in Makassar City. The higher the income, the more they are away from the cycle of poverty. Meanwhile, in measuring poverty, there are two approaches, namely income and expenditure. Household income is attractive for use in assessing household welfare. Public spending can be effective in alleviating poverty only when its policy arrangements are appropriate.

### **6.3 The Relationship of Inflation to Poverty**

From the results of data processing the Inflation Variable, which is 0.664675, is smaller than the t-table, namely 2.17881. Inflation has a positive and significant effect on poverty in Aceh Province. It can be seen from the probability value of 0.0125, which is greater than the alpha of 0.05.

The results of this study are in line with Desrini Ningsih & Andiny (2018) whose research suggests that inflation has a significant and positive increase in economic growth in Indonesia. If inflation increases, poverty will increase. Conversely, if inflation decreases, the poverty rate will decrease.

## **7. CLOSING**

### **7.1 Conclusion**

This research is intended to intuitively examine the variable effects of investment and government spending in Indonesia. Based on the results of data analysis and discussion that has been carried out, conclusions can be drawn as follows:

1. Partially, population has a positive and insignificant effect on poverty in Aceh province.
2. Partially, Per Capita Expenditure has a negative and insignificant effect on Poverty in Aceh Province.
3. Partially, inflation has had a positive and significant effect on poverty in Aceh province.
4. Simultaneously Population, Per Capita Expenditure, and Inflation have a significant effect on poverty in Aceh Province.

### **8. Suggestion**

Based on the results of the discussion and conclusions that have been given, suggestions can be given as follows:

1. for the regional government, they should issue a number of policies and assume sufficiently large roles to reduce the level of poverty in Aceh Province. The government is also expected to be able to implement policies by increasing job opportunities balancing and increasing entrepreneurial activities provided with specialist training from related agencies or institutions, and accelerate industrialization in the economic sector in the economic area, supaya meinyirap a lot of work force. With these policies, the poverty level in a region will also decrease.
2. For academics and scientists, this can be used as a reference material for further research

interested in studying the number of citizens in the economy, capita expenditure, and inflation against poverty in Aceh Province. for further discussion skills.

3. It is hoped that related agencies can provide updated and complete data for the ease of access to community data and subsequent research

## **REFERENCES**