

# ANALYSING THE EFFECT OF POPULATION GROWTH AND EDUCATION ON UNEMPLOYMENT IN SOUTHWEST ACEH DISTRICT

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**ABSTRACT** Unemployment is one of the problems that arise in the development process. Increased unemployment can be an obstacle for the economy. High population growth and low education are also factors that influence unemployment. This study aims to determine the effect of population and education on unemployment in Southwest Aceh Regency. This research is a quantitative research using multiple linear analysis method. The data used in this research is secondary data for 13 years obtained from the Central Bureau of Statistics of Southwest Aceh Regency. The result of this research shows that population has a negative influence on unemployment in Southwest Aceh Regency. Education also has a negative influence on unemployment in Southwest Aceh Regency.

**KEY WORDS** Unemployment, Population, and Education

## INTRODUCTION **Background**

There are 11 districts/cities that have a TPT above the provincial average. The highest TPT came from Lhokseumawe City at 11.16 per cent. Banda Aceh City followed with a TPT of 8.94 per cent. Then, the TPT in Aceh Singkil District was 8.36 per cent. Meanwhile, the lowest TPT was in Bener Meriah District, which was 1.24 per cent. Above that were Gayo Lues and Central Aceh districts with TPTs of 1.84 per cent and 2.61 per cent respectively, and Southwest Aceh district with 3.93 per cent. Compared to its original and expansion regions, Kabupaten Aceh Selatan and Kabupaten Aceh Singkil, Kabupaten Aceh Barat Daya has more unemployment.

This is a big challenge for the government because the indicators of successful development include being able to significantly reduce unemployment. This is ironic considering that Aceh Province is one of the provinces that received special autonomy. BPS (2018) defines unemployment as part of the labour force that is not working or is looking for work (both for those who have never worked at all and those who have

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worked) or who are preparing a business, those who are not looking for work because they feel it is impossible to get a job and those who already have a job but have not started working. In 2020 the population of Aceh as much as with the most populous area is North Aceh district with 602,793 thousand inhabitants followed by Bireuen district with 436,418 thousand inhabitants, Pidie 435,275 thousand inhabitants, East Aceh 422,401 thousand inhabitants, with Southwest Aceh 150,775 thousand inhabitants and finally the city of Sabang with 41,197 thousand inhabitants. From the data above, it can be concluded that Aceh Province is also one of the provinces with a high population of 5.27 million people. According to Arsyad in Pramusadji's research, et al (2019) the definition of population is people who live in villages, cities and so on. Population can be seen as a supporting factor for development because the increase in population also means an increase in labour which can increase production and expand markets.

The average length of schooling in Aceh Province in 2021 was dominated by the city of Banda Aceh at 12.83 percent per year and followed by the city of Sabang at 11.18 percent per year, Aceh Besar at 10.33 percent, Aceh Barat Daya at 8.67 percent and closed by Subulussalam at 8.03 percent per year. Aceh Barat Daya district is one of the districts in Aceh province. This district has an unemployment rate of 4.04 per cent in 2021, besides that the population growth rate in Southwest Aceh Regency is also relatively fast increasing, namely 150,775 thousand people in 2020 and is also accompanied by a low average school length of 8.67 per cent in 2021. This shows that Aceh Barat Daya district has serious problems in tackling unemployment caused by the population growth rate and education level.

#### Research Objectives

This study aims to determine the effect of population growth and education on unemployment in Southwest Aceh Regency.

## LITERATURE REVIEW

### Unemployment

Unemployment is a term for people who are not working at all, looking for work, working less than two days a week, or someone who is trying to get a decent job. Unemployment is also said to be people who are in the labour force with an age limit between 15 years and 64 years who are looking for work and have not yet found it. The imbalance between the employment provided and the increase in the number of the labour force. According to Rahmawati (2016) unemployment is someone who has been classified in the labour force who is actively looking for work at a certain wage level, but cannot get the job he wants.

### Population Growth

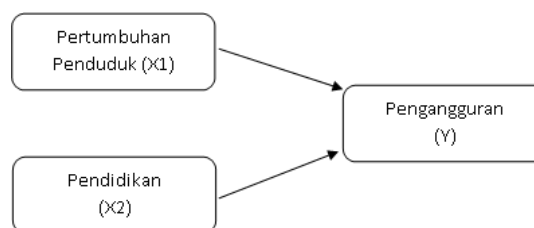
Population growth is the change in the number of people in a certain area at a certain time compared to the previous time. The more widespread population growth in an area, the more people will be unemployed or underemployed because the jobs that are created do not meet the requirements for the increasing population every year (Syamet al., 2015).

Population problems have become an important issue for governments and population experts (Sunaryanto, 2014).

**Education**

Education plays a very important role in producing competent human resources by presenting human resources in accordance with market desires. Franita (2016). With the development of technology and media today, it is very demanding for human resources who are able to accompany and balance the changes that occur. It is very necessary to improve education with a supporting curriculum so that humanresources can be equipped with knowledge and skills that can support independent job seekers in finding work or becoming self-employed.

**Framework**



**Figure 1 Framework**

**Hypothesis**

Ho1: Population growth has no effect on unemployment in Southwest Aceh District

Ha1: Population growth affects unemployment in Southwest Aceh Regency

Ho2: Education has no effect on unemployment in Southwest Aceh District

Ha2: Education affects unemployment in Southwest Aceh Regency.

**METHODOLOGY Type of Research**

This type of research is quantitative research (quantitative reseach). Quantitative research is research that shows and proves theories, to explain a true event or fact and develop and describe statistics to show the relationship between variables, Narbuko (2013).

**Data Type and Source**

This type of research is quantitative research. The source of data used in this research is secondary data sourced from the Southwest Aceh Central Bureau of Statistics which includes data on population growth, education, and unemployment in Southwest Aceh in 2010-2022.

**Data Collection Technique**

The data in this research is data taken or obtained from the Central Bureau of Statistics (BPS) of Southwest Aceh and other publications.

### Data Analysis Method

Multiple regression analysis is used to determine how much influence the independent variables, namely Population (X1), and Education (X2) have on the dependent variable, namely Unemployment (Y). This analysis uses the help of the E-views 10 programme. The equation model used in this study is as follows:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + e$$

Aceh Barat Daya District is one of 23 districts/cities in the administrative area of Aceh Province. It is located in the western part of Aceh Province, connecting the western corridor with the open sea (Indian Ocean), downstream of major rivers and has a very fluctuating topography, ranging from flat (coastal) to undulating (mountains and hills).

Based on the results of data processing with Eviews 10, the descriptive statistical values of unemployment, population, and education variables are as follows:

Table 1 Descriptive Statistical Analysis

Descriptive Analysis	Unemployment	Growth Residents	Education
Mean	5,88	94363,38	7,99
Maximum	12,30	162512,1	8,71
Minimum	2,00	-12760,25	6,55
Std. Dev.	3,15	69831,09	0,52
Observations	52		52

Source: Processed with Eviews 10

Unemployment is the dependent variable used in this study, the measurement of unemployment using the labour force participation rate in 2010-2022 with the number of observations as many as 52 obtained an average of 5.88 with maximum unemployment of 12.30 and minimum unemployment of 2.00 And also the standard deviation on unemployment of 3.15.

Population growth is an independent variable used in this study, the measurement of population growth using the total population in 2010-2022 with 52 observations obtained an average of 94363.38 with maximum population growth of 145684.6 and minimum population growth of -12760.25. And also the standard deviation on population growth is 69831.09.

Education is an independent variable used in this study, the measurement of education using the average length of schooling in 2010-2022 with 52 observations obtained an average of 7.99 with a maximum education of 8.71 and a minimum education of 6.55. And also the standard

deviation on education is 0.52.

**Classical Assumption Test**

Based on the results of the study, the output results show that the Jarque Bera value is 4.832739 with a probability of 0.089245 where the value is > 0.05 in the sense that the residual data is normally distributed. So it can be concluded that both the independent variable and the dependent variable in this study are normally distributed, so the data in this study are residually normally distributed and suitable for use.

Based on the multicollinearity test, the output results obtained by the Centered VIF value show that the population (X1) is 2.653412 and education (X2) is 2.653412 where the value is less than 10 in the sense that there is no multicollinearity problem.

Based on the heteroscedasticity test, the output results obtained show that the probability value is 0.0000 (Prob. Chi square (2) on Obs \* R-Squared). The probability value is smaller than the alpha level (0.0000 < 0.05), so this regression model is heteroscedasticity in research.

Based on the results of the autocorrelation test, the output results show that the Chi Squared (2) Probability value of the Breush Pagan-Godfrey Serial Correlation LM test has a value of 0.0000 where the value is greater than 0.05 so that this model has an autocorrelation problem in this study.

**Multiple Linear Regression Analysis**

The following are the results of multiple linear regression analysis:

Table 2 Multiple Linear Regression Analysis Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	27.82996	6.679358	4.166562	0.0001
JP	-1.84E-05	6.62E-06	-2.775747	0.0078
LS	-2.528703	0.895242	-2.824602	0.0068

Source: Processed with Eviews 10

Based on the results of multiple linear regression analysis shown in the table above, it can be concluded as follows:

1. The constant value of 27.82996 means that the effect of the poverty rate in Indonesia is 27.82996 with the assumption that other variables are considered constant.
2. The regression coefficient value of population growth variable (X1) is -1.84, which means that if every additional population growth is 1 unit, it will decrease unemployment in Southwest Aceh Regency by 1.84 units, assuming other variables remain constant. Where, population growth has a negative influence on unemployment in Southwest Aceh Regency during the period 2010-2022.
3. The regression coefficient value of education variable (X2) is -2.52.

The results show that education has a negative effect on unemployment, meaning that if every increase in education is 1 unit, it will decrease unemployment in Southwest Aceh Regency by 2.52 units, assuming other variables remain constant. Where, education has a negative influence on unemployment in Southwest Aceh Regency during the period 2010-2022.

### **Hypothesis Test Results**

Based on the table above, it can be seen that the influence of each independent variable partially on the dependent variable can be seen above, it tends to be seen that the population growth variable has a prob of 0.0078  $< 0.05$  or 5% and a coefficient value of -1.84. This tends to reason that population growth has a negative effect on unemployment, the education variable has a prob of 0.0068  $> 0.05$  or 5% and a coefficient value of -2.52. This shows that education has a negative effect on unemployment.

Based on the simultaneous test results, it is known that the value of the F measurement is 0.00000  $< 0.05$  or 5%, this tends to reason that so far the autonomous factors are specific. Population growth and education have an effect on the dependent variable, unemployment.

Based on the results of the study, it is known that  $R^2$  in this study is 0.603104 So it tends to be estimated that the influence of the independent factors on the dependent variable is 60.31 satan, which means that 60% of the autonomous factors in this study can affect the dependent variable. The remaining 40% is influenced by various factors outside this study.

### **Discussion**

In this study, it is known that population has a negative effect on the open unemployment rate. This is proven by the trend of the unemployment rate in Southwest Aceh Regency in 2010-2022 which decreased from 11.97 per cent to 4.21 per cent along with the increase in population in 2010-2022 by 7107 people to 155046 people. When the population increases, it will be easier to get labour. The more labour that is absorbed will reduce the number of unemployed. It is expected that the increase in population will continue to be able to be absorbed by employment so that it can make improvements in the economy and reduce unemployment in Southwest Aceh Regency. So the need for improvement in human resources to be able to compete in employment. A policy is needed to balance population growth with the number of jobs so that jobs can be absorbed.

This research is supported by research conducted by Ayu (2018) entitled poverty in East Java Province which explains that the population variable has a negative influence on the open unemployment rate in regencies / cities in East Java Province in 2014 - 2019. In line with research conducted by Usman and Diramita (2018) entitled the effect of population and economic growth on unemployment in Riau Islands Province which explains that population has a negative and significant effect on unemployment in Riau Islands Province.

The result of the research shows that population has a negative effect on unemployment in Southwest Aceh, in the sense that although the population in Southwest Aceh Regency increases every year, it does not cause the open unemployment rate to continue to increase from 2010-2022. In this study, it is known that population has a negative effect on the open unemployment rate. This is proven by the trend of unemployment rate in Southwest Aceh Regency in 2010-2022 decreased from 11.97 per cent to 4.21 per cent along with the increase of population in 2010-2022 by 7107 people to 155046 people.

This research is supported by research conducted by Ayu (2018) entitled poverty in East Java Province which explains that the population variable has a negative influence on the level of open unemployment in regencies / cities in East Java Province in 2014 - 2019. In line with research conducted by Usman and Diramita (2018) entitled the effect of population and economic growth on unemployment in Riau Islands Province which explains that population has a negative and significant effect on unemployment in Riau Islands Province. negative effect on unemployment even though the population in North Sulawesi Province increases every year, this does not cause the open unemployment rate to continue to increase from 2003 to 2017. The results of this study indicate that education has a negative effect on unemployment in Southwest Aceh Regency.

According to Cahyono, (2014) revealed that the more graduates of the education level in a region, the greater the number of unemployed. The increase in new graduates, especially at the high school and undergraduate levels, will increase the competitiveness of human resources. This is in line with the research of Soebagyo et al, (2016) explaining that the level of higher education has a negative effect on unemployment. This means that an increase in the level of higher education is also followed by a decrease in the unemployment rate. This result is in accordance with the human capital theory (Mankiw, 2006: 57). The human capital theory states that with an increase of 1 year of education level owned by a person, employment opportunities to reduce unemployment for someone who has a higher education are more open compared to the lower education group. The results of this study are in line with research conducted by Agustina, (2018) which explains that the level of education has a negative impact on unemployment.

From the results of data analysis of all data obtained, the conclusions of this study are as follows:

1. Population growth has a negative influence on unemployment in Southwest Aceh Regency and if there is an increase in population then unemployment will decrease by 1.84 one unit.
2. Education has a negative influence on unemployment in Southwest Aceh Regency and if there is an increase in the level of education then unemployment will decrease by 2.52 one unit.

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