

The Effect of Unemployment and Inflation on Economic Growth in Aceh Province

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ABSTRACT

This study aims to see whether unemployment affects economic growth in Aceh Province, and whether inflation affects economic growth in Aceh Province. This study uses a multiple regression method whose data are taken from 1988-2017 per year. For data processing the author uses IMB SPSS statistics 16.0. The results showed that unemployment had a significant effect on economic growth, while inflation had no significant effect on economic growth. Researchers hope that the government should make or encourage entrepreneurs to increase their production. And also improve the payroll system and wage rates, as well as monitor prices and at the same time set maximum prices.

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1. INTRODUCTION

Development is an effort or process of making changes for the better. The development process covers various social, political, economic, and cultural aspects. Development is carried out to create a society that is able to compete in the unitary state of the Republic of Indonesia. Regional economic development is the process by which local governments and communities manage existing resources to create a partnership between the government and the private sector to create new jobs and to stimulate economic activity in a region. The process is the formation of new institutions, the development of alternative industries to improve the capacity of the workforce to produce better products and services, as well as to identify new markets in developing new companies (Rukmana, 2012: 28). Economic growth is one of the economic problems of a country in the long term. In macro analysis, the level of economic growth achieved by a country is measured by the development of national real income achieved by a country/region. Indonesia is one of the countries that continues to improve to improve development, especially in the economic aspect. The economic growth figures for Indonesia and Aceh can be seen in the following table:

Table 1
Number and Percentage of Economic Growth in 2008-2017

Year	Indonesia	Aceh
2008	6.01	-5.24
2009	4.63	5.51
2010	6.81	2.79
2011	6.44	5.02
2012	6.19	5.18
2013	5.56	2.83
2014	5.02	1.65
2015	4.79	-0.72
2016	5.02	4.41
2017	5.07	4.19
Average	5.55	2.56

One of the inhibiting factors for economic growth is unemployment. According to (Sukirno, 2012) unemployment is a condition in which a person belonging to the workforce wants to get a job but has not been able to get it. Unemployment is often an obstacle in terms of the economy, because with unemployment the resources owned will be wasted so that it will hamper productivity and income. With reduced income it will cause poverty and also other social problems. Unemployment is a problem for all countries in the world. Unemployment rates that are too high will disrupt the national stability of each country. So that every country tries to maintain the unemployment rate at a reasonable level. In macroeconomics, The problem of unemployment is discussed in the labor market, which is also related to the balance between the level of wages and labor. (Ningsih, 2011).

Table 2
Percentage of Unemployment Data in Aceh Period 2008-2017

Year	Aceh
2008	9.56
2009	8.71
2010	8.37
2011	7.43
2012	9.06
2013	10,12
2014	9.02
2015	9.93
2016	7.57
2017	6.57
Average	8.63

From the table above, it can be seen that in the last ten years the unemployment rate in Aceh province is very high where the average unemployment rate in Aceh province is 6.57%. In terms of inhibiting economic growth, it is not only unemployment but also other factors, one of which is inflation. Inflation is a process of increasing general prices of goods and services continuously (Budiono, 2008). From this understanding it can be concluded that inflation is an increase in the price of goods in general that occurs continuously.

In the last ten years, inflation in Indonesia has had its ups and downs. Where the average inflation grew by 5.55%. And in the table above, we can also see that inflation growth in Aceh province where in the last ten years the average inflation in Aceh province grew by 3.92%. Unemployment and inflation are the two main economic problems faced by every society, both of these problems can cause a bad economy and will have adverse effects on the economy, politics and society. Kalsum in his research (2017) explains that unemployment has a significant effect on economic growth, while inflation has no significant effect on economic growth. According to research conducted by Nurbaeti (2013) explains that unemployment has a negative effect on the human development index. This means that when unemployment is higher, the human development index will decrease, and vice versa if the unemployment rate is high, the human development index will be high.

The purpose of this study is to determine whether unemployment has an effect on economic growth in Aceh Province and determine whether inflation affects economic growth in Aceh Province and determine whether unemployment and inflation affect economic growth in Aceh Province.

2. RESEARCH METHOD

In this study, the author uses a quantitative approach. Quantitative method is a research method which can be interpreted as a research method based on the philosophy of positivism, which is used to examine certain populations or samples, collect data using research instruments, and analyze quantitative data with the aim of testing predetermined hypotheses (Sugiono, 2014:11). Based on the formulation of the problem in this study, this research is based on explanatory research. This research is a research that explains the position of the variables studied and the relationship between one variable and another. The data used in this research is secondary data. In this case, secondary data comes from data from the Central Statistics Agency for Aceh, namely, unemployment data,

2.1 Operational Research Variables

The variable measurement scale in this study is an interval scale and has a base value that cannot be changed. The data generated from the ratio scale is called ratio data and there are no restrictions on the appropriate statistical test tool. Variables measured by a ratio scale are called metric variables (Sugiyono, 2014). So the scale used in this study to measure the suitable variables is the percentage ratio scale (%). This study uses 2 variables, namely:

a Dependent Variable

The dependent variable is the variable that is influenced or that becomes the result because of the independent variable (Sugiono: 2014). In this study, the dependent variable is economic growth (Y). The data used is annual data in the form of percent.

$$= PDRB = \frac{(PDBT - PDBT - 1)}{IHKO} X100$$

b Independent Variable

The independent variable (independent) which is denoted by (X) is a variable that affects the dependent variable, both with positive and negative effects. The independent variable in this study is unemployment (X1), inflation (X2) the data used is annual data in the form of percent.

1) Unemployment X1

$$TP = \frac{\text{Jumlah Pengangguran}}{\text{jumlah Angkatan Kerja}} X100\%$$

2) X2 . inflation

$$IHK = \frac{IHKn}{iHKo} X100\%$$

2.2 Research Model

The research model uses multiple linear regression, with the formula:

$$Y = a + b1X1 + b2X2 + e$$

Information

Y = dependent variable economic growth

a = constant

b1,. b2 = regression coefficient of independent variables 1 and 2

X1 = Unemployment variable

X2 = Variable inflation

2.3 Data Analysis Techniques

The data analysis technique used in this research is quantitative method. Research data processing in order to obtain a conclusion by using certain formulas. The data processing technique in this study uses the help of the SPSS (statistical package for the social sciences) software because this program has a high enough statistical analysis ability in its operation. The data also uses time series data obtained from BPS (Central Statistics Agency) during the period 1988-2017 in Aceh Province.

2.4 Classic assumption test

Classical assumption test is used to find out whether there is a problem in the regression data. The classical assumption test used is to find out how the influence of the independent variable (x) on the dependent variable (y), then the researcher uses regression analysis to compare the two variables. To obtain a regression model, the authors use the following assumptions:

a Normality test

Normality test aims to determine the distribution of data in the variables that will be used in the study. The method used in this study is the kolmogrovsmirnov method, which is to determine whether the data used is normal or not. The Kolmogrovsmirnov test is a bed test between the data being tested for normality and the standard normal data.

- 1) If Sig > 0.05 then the data is normally distributed
- 2) If Sig < 0.05 then the data is not normally distributed (Sujarweni, 2015:52-56).

b Multicollinearity Test

Multicollinearity test aims to test whether the regression model found a correlation between the independent variables (independent). A good regression model should not have a correlation between the independent variables. If the independent variables are correlated with each other, then these variables are not orthogonal. Orthogonal variables are independent variables whose correlation values between independent variables are zero (Ghozali, 2013).

The basis for making multicollinearity test decisions are:

- 1) Seeing the tolerance value: if the Tolerance value is greater than > 0.10, then there is no multicollinearity in the regression model
- 2) If the tolerance value is less than < 0.10, then multicollinearity occurs in the regression model. Seeing the value of VIF (variance Inflation factor) is:
 - 1) If the value of VIF < 10.00 then there is no multicollinearity in the regression model
 - 2) If the VIF value is > 10.00 then multicollinearity occurs in the regression model (Umar, 2014).

c Heteroscedasticity Test

Heteroscedasticity test aims to test whether in the regression model there is an inequality of variance from the residuals of one observation to another. If the variance and residual from one observation to another observation remain, it is called Homoscedasticity and if different it is called Heteroscedasticity. The basis for decision making in the heteroscedasticity test are:

- 1) If the significance value is > 0.05, it can be concluded that there is no problem in the heteroscedasticity test
- 2) If the significance value is <0.05, it can be concluded that there is a heteroscedasticity problem.

d Coefficient of Determination Test

R Square (R²) or the square of R shows the coefficient of determination. To assess how much influence the X variable has on Y, the coefficient of determination (KD) is used which is a correlation coefficient which is usually expressed as a percentage (%). If the value of the coefficient of determination is getting smaller (closer to zero), it means that the influence of all independent variables on the dependent variable is getting smaller. If the value of R² is getting closer to 100%, the greater the influence of all independent variables on the dependent variable (Priyatno, 2007).

e Hypothesis testing

To test the hypothesis the author uses multiple linear regression analysis. Multiple linear regression is useful for predicting the effect of two or more predictor variables on one criterion variable or for proving the presence or absence of a functional relationship between independent variables (X) or more and the dependent variable (Y) (Husaini & Akbar, 2003).

1) Partial Significance Test (t Test)

After going through some of the tests above, a hypothesis test was conducted to determine whether the independent variable had an effect on the dependent variable. This study used a partial significant test (T-test). The basis for making decisions used in the t-test are as follows:

- a) If the probability value is significant > 0.05, then Ho is rejected because it means that the independent variable has no significant effect on the dependent variable.
- b) If the probability value is significant < 0.05, then Ha is accepted because it means that the independent variable has a significant effect on the dependent variable (Ghozali, 2013)

2) Simultaneous Significance Test (F Test)

The F statistical test basically shows whether all the independent variables included in the model have a joint effect on the dependent variable. Hypothesis used:

- a) If the value of sig < 0.05, then Ha is accepted. So it can be interpreted that the variables X1 and X2 can affect the Y variable together.

- b) If the value of sig > 0.05, then H₀ is accepted. So it can be interpreted that the variables X₁ and X₂ cannot affect the Y variable together.

3. RESULTS AND DISCUSSION

3.1 Classic assumption test

a Normality test

The normality test is actually intended to find out whether the variables studied are normally distributed or not. This distribution normality test uses the Kolmogorov test technique which is said to be normal if ($\alpha > 0.05$) (Sujarweni, 2015). One way to see whether the research model is normally distributed or not can be detected through statistical analysis (one sample Kolmogorov test).

Table 3
Normality Test Results

One-Sample Kolmogorov-Smirnov Test		
		Unstandardized Residual
N		30
Normal Parameters	mean	.0000000
	Std. Deviation	2.53218978
Most Extreme Differences	Absolute	.095
	Positive	.078
	negative	-.095
Kolmogorov-Smirnov Z		.523
asympt. Sig. (2-tailed)		.947

The basis for decision making in the normality test are:

- 1) If the significant value is > 0.05, then the residual value is normally distributed.
- 2) If the value is significant < 0.05, then the residual value is not normally distributed

The results of this test indicate that all variables have a relationship with economic growth. This can be seen from the value of the sig (2-tailed) value in the table above, which is 0.947 > 0.05, it can be concluded that the residual value is normally distributed.

b Multicollinearity Test

Table 4
Multicollinearity Test Results

Model	Collinearity Statistics	
(Constant)	Tolerance	VIF
Unemployment	.987	1.013
Inflation	.987	1.013

From the results of the regression test above, it can be concluded that the independent variable does not occur multicollinearity because the tolerance value > 0.10 is 0.987 > 0.10 and the VIF value < 10.00 is 1.013 < 10.00.

c Heteroscedasticity Test

Table 5
Heteroscedasticity Test

Model	Unstandardized Coefficients			T	Sig
	B	Std. Error	Beta		
1	(Constant)	1,814	753	2.410	.023
	Unemployment	.062	.096	-.121	.524
	Inflation	-.024	.020	-.228	.236

From the table above, it can be seen that in the column the significant value is greater than 0.05 so it can be concluded that there is no heteroscedasticity.

d Coefficient of Determination Test Results (R²)

Table 6
Coefficient of Determination Test Results (R²)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.488a	.238	.181	2.62430

Based on the test results of Table 3.4, the amount of adjusted R² is 0.181, this means that 18.1% of the dependent variable of economic growth can be explained by independent variables which include unemployment and inflation. While the remaining 81.9% is influenced by other variables.

3.2 Hypothesis test

a Analysis Model

Multiple linear regression analysis is used to explain the relationship between the dependent variable and two or more independent variables. In this study, multiple analysis was used to determine the effect of unemployment and inflation on economic growth in Aceh Province. Based on the tests that have been carried out, the following results can be seen:

Table 7
Partial Significance Test Results (T Test)

Model		Coefficients ^a			T	Sig
		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta		
1	(Constant)	8016	1,298		1,298	.000
	Unemployment	-.370	.166	-.377	-2.231	.034
	Inflation	-.055	.035	-.269	-1,589	.124

a. Dependent Variable: Economic Growth

Partial Significant Test Results (t test) Based on table 4.7, the multiple linear regression equation can be written as follows:

$$Y = 8.016 - 0.370 X_1 - 0.055 X_2 + e$$

The above equation implies that:

- 1) A constant of 8,016. This means that if the variables Unemployment (X₁) and Inflation (X₂) are considered constant/equal to zero, then the economic growth rate is 8.016
- 2) The coefficient of unemployment regression (X₁) is -0.367, meaning that if the unemployment variable increases by 1%, while the inflation variable remains constant, the economic growth rate will decrease by 0.367%. The negative sign (-) indicates that there is an inverse relationship or between unemployment and economic growth, that is, if unemployment is high, the rate of economic growth will be low.
- 3) The inflation regression coefficient (X₂) is -0.055, meaning that if inflation increases by 1% while unemployment remains, the economic growth rate will increase by 0.055%. The sign (-) indicates that there is an inverse relationship between inflation and economic growth, that is, if inflation is high, the rate of economic growth will be low and vice versa.

4. CONCLUSION

Based on the results of data analysis that has been carried out on the overall data obtained, the following conclusions can be drawn:

- a Unemployment has a significant effect on economic growth with a significant value of 0.034 < 0.05. So it can be concluded that if unemployment increases, economic growth will decrease.
- b Inflation has no significant effect on economic growth with a significant value of 0.124 > 0.05. So it can be concluded that if inflation rises/high then economic growth will remain because the inflation variable has no significant effect on the variable economic growth.
- c Simultaneous testing of unemployment and inflation through the f test with a significant probability value of 0.026 where the significance level is 0.05 so it can be concluded that 0.016 < 0.05. This means that unemployment and inflation can affect economic growth simultaneously.

REFERENCES

- Abdullah, M Faisal. 2004. Dasar-dasar Manajemen Keuangan. Cetakan Keempat. Penerbit Universitas Muhammadiyah. Malang
- Amri Amir. Analisis Pertumbuhan Ekonomi, Investasi, dan Inflasi di Indonesia, II (Jurnal Kajian Ekonomi, Vol. 1, No. 02 Januari 2013)
- Arsyad, Lincolin. 2015. Ekonomi Pembangunan, Yogyakarta: UPP STIM YKPN
- Badan Pusat Statistik. 2018. Provinsi Aceh Dalam Angka 2016. Banda Aceh: BPS Aceh
- Budiono, 2008, Ekonomi Moneter. BPFE UGM, Yogyakarta.
- Fitri, D. N. E. 2016. Analisis Faktor-Faktor Yang Mempengaruhi Pertumbuhan Ekonomi di Indonesia Tahun 1984-2013. Jurnal Pendidikan dan Ekonomi, 5(3), 219-227
- Ghozali, Imam. 2013. Aplikasi Multivariate dengan program IBM SPSS 23. Yogyakarta: Universitas Diponegoro
- Gilarso. T. 2004. Pengantar Ilmu Ekonomi Makro, Yogyakarta: KANISIUS
- Husaini, U., & Akbar, P. S. 2003. Metodologi penelitian Jakarta: Penerbit Erlangga
- Huda Nurul, Nasution, dkk. 2008. Makro Ekonomi Teori Pengantar Edisi Ketiga. Jakarta: PT. Raja Grafindo Persada.
- Jonnadi, A, Amar, S., & Aimon, H. 2012. Analisis Pertumbuhan Ekonomi dan Kemiskinan di Indonesia. Jurnal Kajian Ekonomi, 1(1)
- Kalsum, U. 2017. Pengaruh Pengangguran dan Inflasi terhadap Pertumbuhan Ekonomi di Sumatera Utara. Jurnal Ekonomikawan, 17(1)
- Kuncoro, Mudrajad. 2006. Ekonomika Pembangunan: Teori, Masalah, Dan Kebijakan. Yogyakarta: STIM YKPN
- Mankiw, G. 2006. Makro Ekonomi. Jakarta: Erlangga
- Ningsih, F. R. 2011. Pengaruh Inflasi Dan Pertumbuhan Ekonomi Terhadap Pengangguran di Indonesia
- Nugrahani Pramesthi, R. O. V. I. A. 2013. Pengaruh Pengangguran dan Inflasi Terhadap Pertumbuhan Ekonomi di Kabupaten Trenggalek. Jurnal Pendidikan Ekonomi (JUPE), 1(3).
- Nurbaeti. 2013. Pengaruh Pengangguran, Pertumbuhan Ekonomi, dan Pengeluaran Pemerintah Terhadap Pembangunan Manusia Kabupaten/Kota di Provinsi Jawa Tengah
- Priyatno, Dwi. 2007. Mandiri Belajar SPSS (Untuk Analisis Data dan Uji Statistik). Yogyakarta: Mediakom.
- Putong, Iskandar. 2010. Economics Pengantar Mikro dan Makro, Jakarta, Mitra Wacana Media.
- Samuelson. 2001. Ekonomi Makro. Jakarta: Media Global.
- Sujarweni, V. W. 2015. Metodologi Penelitian Bisnis & Ekonomi. Paper Plane. Yogyakarta.
- V. Wiratna Sujarweni. 2015. SPSS Untuk Penelitian. Yogyakarta: Pustaka Baru Pers