

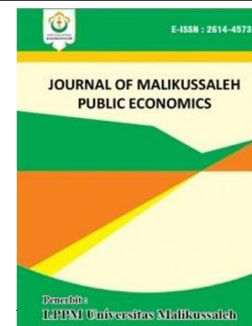
INFLUENCE OF FORMAL SMALL INDUSTRY PRODUCTION AND REVENUE REALIZATION TAX ON ECONOMIC GROWTH IN ACEH UTARA DISTRICT

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ARTICLE INFORMATION ABSTRACT

Keywords:

Economic Growth, Small Formal Industrial Production, Realization Of Tax Revenue, Multiple Linear Regression.

This study aims to determine the effect of Formal Small Industrial Production and Realization of Tax Revenues on Economic Growth in North Aceh Regency. The data used in this study are time series in the period 2010-2017. The analytical model used in this study is the Multiple Linear Regressions Model. The results showed that together with the variables of formal small industrial production and the realizations of tax revenues had a significant effect on economic growth. While partially the formal small industrial production has a significant and positive effect on economic growth and the realizations of tax revenues are significant and negatively affect economic growth in the districts of North Aceh.

1. PRELIMINARY

North Aceh Regency is the largest district in Aceh Province which has industrial potential, such as the oil and gas industry that was once victorious in this region and several other large industries such as PT. Pupuk Iskandar Muda (PIM) and PT. Arun NGL, this has the potential for the development of small industries that can contribute to these large industries. Production as well as the high production of small industries can increase the GRDP of North Aceh so that it can increase economic growth in North Aceh. For more details, as shown in the table below regarding formal small industry production, the realization of tax revenue and economic growth in Aceh Utara District are as follows:

Table 1

Economic Growth, Formal Small Industry Production and Realization of Tax Revenues in North Aceh District 2010 - 2017

YEAR	ECONOMIC GROWTH (PERCENT)	FORMAL SMALL INDUSTRY PRODUCTION (RUPIAH)	REALIZATION OF TAX REVENUE (Rp)
2010	2.53	47,522,001	13,876,067,033
2011	7.5	150,391,413	7,253,679,916
2012	5.38	52,003,878	11,099,944,020

2013	3.3	52,003,878	12,997,494,023
2014	4.18	644,965,932	17,957,243,166
2015	4.65	644,965,932	19,883,019,543
2016	3.27	94,362,408	21,671,743,611
2017	1.6	94,362,408	26,143,329,652

Source: (BPS Aceh Utara Regency, 2020)

Data Table 1.1 above shows that in 2010 the production of formal small industries was Rp. 47,522,001 rupiah. In the same year, the realization of tax revenue was Rp. 13,876,067,033 rupiah. The economic growth of North Aceh is 2.53 percent. In 2011, there was a problem with the realization of tax revenues which decreased from the previous years, namely Rp. 7,253,679,916 rupiah due to a decrease in tax revenues for advertisements, restaurants and entertainments. However, this decline actually led to an increase in economic growth from the previous year, namely 7.50 percent. The reasons for the increase in economic growth was one of the reasons that in the same year the production of formal small-scale industries increased dramatically.

The second phenomenon occurred in 2012, which is the opposite of the phenomenon

that occurred in the previous year, namely the realizations of tax revenues increased from the previous year, namely Rp. 11,099,944,020 rupiah, the increase in the realization of tax revenues actually caused a decline in economic growth from the previous year, namely by 5.38 percent. The causes of the decline in economic growth were due to many problems in North Aceh, namely the decline in industrial productions in the same year.

The third phenomenon occurred in the realizations of tax revenues in 2016 which increased from the previous year which was Rp 21,671,743,611 rupiah, however the increase in tax revenues actually caused economic growth to decline from the previous year which was 3.27 percent. The realizations of tax revenues should increase, it will increase economic growth.

This research's purpose is to know and analyze the effects of formal small industry productions and tax revenue realizations on economic growth in Aceh Utara districts.

2. THEORETICAL REVIEW

Economic growth

Economic growth is the development of activities in the economy that causes goods and services produced in society to increase and the welfare of society to increase in the long term (Hotman, 2013). Sukirno and Sutrisna (2016) define economic growth as the development of activities in the economy that causes an increase in goods and services produced in society. This increase is caused by production factors that are always experiencing an increase in quantity and quality. Economic growth can be achieved if all sectors in one region can carry out all production processes well, they must encourage each other, because each production process requires cooperation from various sectors, so that between industries will have a positive relationship.

Formal Small Industrial Production

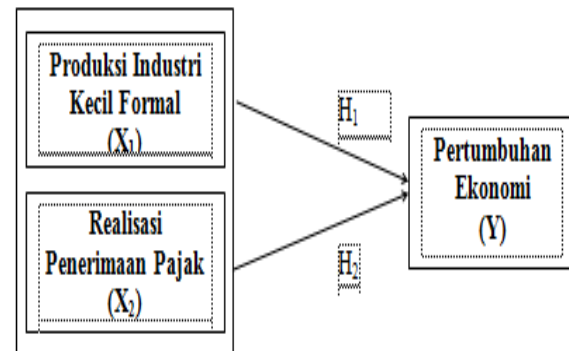
Production is an activity that increases the value of an item. Each country has its own flagship production sector in order to increase economic activity. In the world of trade, the output produced in the production process is very important because the results of these

production activities will determine the wheels of trade (Wibisono, 2015). In other words, foreign agricultural activities, namely exports, are largely determined by production activities. If production activities weaken, it is certain that the production results are only able to meet domestic needs and are unable to sell overseas.

Realization of Tax Revenue

The definition of tax according to Brotosdihardjo in Apriansyah & Bachri (2016) is a contribution to the state that can be forced on the taxpayer to pay it according to regulations, without getting any achievement. This fee is intended to be used to finance general expenses related to the state's task of running the government. Understanding tax according to Sommerfeld (Mar, 2017) is a mandatory transfer of resources from the private sector to the government sector based on regulations without a direct and balanced return. This tax is intended so that the government can carry out its duties in running the government.

conceptual framework



Picture 1.

conceptual framework

The conceptual framework in Figure 1 above explains the influences between the independent and dependent variables, namely the effect of formal small industry production (x₁) and the realization of tax revenues (x₂) on economic growth (y) which will be tested partially by using the t test, and together all the independent variables on the dependent using the f tests.

Hypothesis

The alternatives hypotheses given in this study are as follows:

- H1 : It is suspected that Formal Small Industry Production has a positive and significant effect to Economic Growth in Aceh Utara Districts.
- H2: It is suspected that the Realizations of Tax Revenues has a positive and significant effect to Economic Growth in Aceh Utara Districts.

3. RESEARCH METHOD

Research object and location

The research objects used in this study are the Formal Small Industry Production and Tax Revenue Realizations in North Aceh Regency as independent variables and Economic Growth in North Aceh Regency as the dependent variable. The research location is in North Aceh Regency.

Types and Sources of Data

The types of data to be analyzed in this study is quantitative data, namely secondary data during the 2010-2017 period obtained from various related agencies, namely the Central Statistics Agency (BPS) in North Aceh Regency.

Data collection technique

The data used in this research is secondary data, which is taken directly from the BPS of North Aceh Regency in the form of the Aceh Utara Reports in Figures 2010-2017 which contains data on the production of formal small industries, the realization of tax revenues and the economic growth of North Aceh.

Operational Definition of Variables

The research variables that will be examined in this study can be defined as follows:

1. Economic Growth (Y)
Economic growth, namely the process of increasing production capacity or the amount of real remuneration for the use of production factors in a certain year is greater than in the previous year, economic growth in this study is the amount of economic growth in North Aceh Regency each year in percentage units.
2. Formal Small Industrial Production (X1)

Formal small industrial production is an effort to make or improve the functions of goods or to create a product from various raw materials used into one high-value product. The amount of formal small industry production in North Aceh Regency is in rupiah units.

3. Actual Tax Revenue (X2)

The realization of tax revenues is an obligatory contribution paid by the public to the state directly or indirectly and used for state needs. The amount of realized tax revenue in North Aceh Regency is in rupiah units.

Data analysis method

Regression Analysis

The general form of multiple linear regressions can be written as follows:

$$Y_t = \beta_0 + \beta_1 X_{1t} + \beta_2 X_{2t} + e_t$$

Meanwhile, to determine the significance level of each of the regression coefficients of the independent variables on the dependent variable, the researcher used the classical assumptions test, t-statistical test, F-statistic test, and analysis of the coefficient of determination (R²).

Classic assumption test

Normality test

According to Gujarati (2009) states that the normality test is a test where if the probability is greater than alpha 1 percent, the normality test is accepted. Another justification for this test is to compare the calculated JB values with χ^2 table, if JB count < 2 table then the residuals are normally distributed. Meanwhile, according to (Sunyoto, 2011) The normality test is a test that will test the independent variable data (X) and the dependent variable data (Y) in the resulting regression equation that is normally distributed or not normally distributed.

Autocorrelation Test

According to (Ghozali, 2010) Autocorrelation test aims to test whether the linear regression model has a correlation between the confounding error in period t with the confounding error in period t-1 (before). If there is a correlation, it is called an autocorrelation problem. Autocorrelation can occur because successive observations over time are related to one another. This problem arises because the residual (disturbance error) is not free from time

series (time series) because disturbances in an individuals / group tends to affect the same individuals / group in the next periods. In this study, to test the presence or absence of autocorrelations symptoms using the Durbin Watson test (DW test).

Multicollinearity Test

Multicollinearity is a condition where there is a strong correlation between the independent variables (X) which is involved in the formation of the linear regression model. (Gujarati, 2006). The multicollinearity test was carried out to see whether the regression model finds a correlation between the independent variables (X). If there is a high correlation, then the regression model will occur multicollinearity.

Heteroscedasticity Test

This heteroscedasticity problem arises when the residuals of the regression model we observe have variations that are not constant from one observation to another (Hasan, 2002). This means that each observation has a different reliability due to changes in the underlying conditions not included in the model specifications. In fact, one of the important assumptions in the OLS or multiple regression models is that the variance is homoscedastic.

Hypothesis test

To test the correctness of the regression model, statistical testing is required including:

T-statistic test

According to Ghazali (2006), statistical test or t test aims to see the significant effect of the independent variable individually on the dependent variables by assuming the other independent variables are constant.

1. If $t_{\text{arithmetical}} > t_{\text{table}}$, then the explanatory variable individually affects the described variable significantly.
2. If $t_{\text{count}} < t_{\text{table}}$, then the explanatory variable individually does not affect the explained variable significantly.

F-statistic test

To determine the overall significance level at the 95% confidence level, hypothesis testing is

done by using the F test. Gujarati (2006), the F test is carried out by comparing the F counts with the F tables, if $F_{\text{count}} > F_{\text{table}}$, look for in tables F with a significance level of 1%, meaning that (X1), (X2), and (X3), together affect (Y).

Coefficient of Determination (R²)

This coefficient value ranges from 0 (zero) to 1 (one). The greater the coefficient value, the more independent variables are able to explain the variations in the dependent variable. The value of the coefficient of determination is a measure that shows the contributions of the independent variable to the dependent variable, or in other words the coefficient of determination measures the variations of the derivatives of Y which is explained by the effects of X. dependent variable R^2 (Gujarati, 2009).

Correlation Coefficient (R)

According to Supranto (2009) Correlation analysis is a way to determine whether or not the relationship between the independent variable (X) and the dependent variable (Y) is strong, if it is stated by a linear function and measured by a value called the correlation coefficient. The correlation coefficient can be expressed by the following formula:

$$r = \frac{n(\sum XY) - (\sum X)(\sum Y)}{\sqrt{\{n(\sum X^2) - (\sum X)^2\}\{n(\sum Y^2) - (\sum Y)^2\}}}$$

Information :

n = Amount of data

X = Independent Variable

Y = Dependent Variable

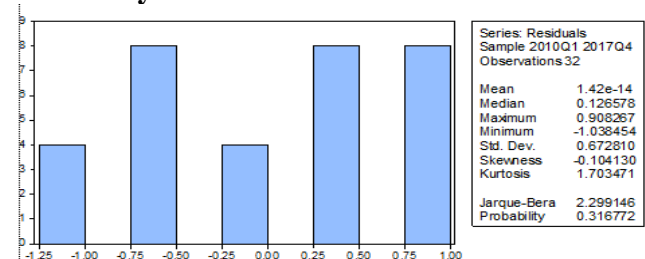
r = Correlation Coefficient

4. RESEARCH RESULTS AND DISCUSSION

Research result

Classical Assumption Test Results

Normality Test Results



Source: Processed Data (2019)

Figure 2

Histogram-Normality Test Results

Based on the test results shown in the picture above, the Jarque-Bera value is 2.29, while the Chi Square value by looking at the number of independent variables we use, in this case 2 independent variables and the significant value we use in this case is 0.01 (1%), the Chi Square value is 9.21, which means that the Jarque-Bera value is smaller than the Chi Square value ($2.29 < 9.21$) and the probability is $0.31 > 0.01$. It can be concluded that the production of formal small industries and the realization of tax revenues on economic growth in North Aceh Regency, the residual data in this study are normally distributed.

Autocorrelation Test Results

Table 2
Autocorrelation Test Results

Hipotes Nol	Keputusan	Jika
Tidak ada autokorelasi positif	Tolak	$0 < d < dl$
Tidak ada autokorelasi positif	No Decision	$dl \leq d \leq du$
Tidak ada korelasi negatif	Tolak	$4 - dl < d < 4 - du$
Tidak ada korelasi negatif	No Decision	$4 - du \leq d \leq 4 - dl$
Tidak ada autokorelasi, positif atau negatif	Tidak ditolak	$du < d < 4 - du$

Sumber: Ghazali, 2011

Nilai DW	1.84
Nilai signifikansi (α)	1%
n = tahun	32
k = variabel independen	2
Nilai dl	1.30
Nilai du	1.57
Nilai 4-dl	2.70
Nilai 4-du	2.43

Sumber: Data diolah, 2020

The results obtained are the Durbin Watson value of 1.84, comparison using a significance value of 5%, the year used 32 (n), and the number of independent variables 2 (k = 2), then the Durbin Watson table will get the dl value of 1.30 and the value du value of 1.57, then the 4-dl value of 2.70 and the 4-du value of 2.43. Because the DW value of 1.84 is greater than the upper limit (du) 1.57 and less than $4 - 1.57$ (2.23), it can be concluded that there is no positive and negative autocorrelation.

Multicollinearity Test

The test results are as follows:

Table 3
Multicollinearity Test Results

Covariance Analysis: Ordinary			
Date: 02/27/20 Time: 11:40			
Sample: 2010Q1 2017Q4			
Included observations: 32			
Correlation	Y	X1	X2
t-Statistic			
Y	1.000000		

X1	0.189862	1.000000	
	1.059185	-----	
X2	-0.730584	0.245536	1.000000
	-5.860346	1.387324	-----

Sumber: Hasil Olah Data, 2020

Based on the table above, it can be seen that the x1 correlation coefficient is 0.18 or ($0.18 < 0.8$), and the x2 correlation coefficient is 0.73 or ($0.73 < 0.8$) because the correlation coefficient is smaller than 0.8, and x1 with x2 = 0.25 which means $0.25 < 0.80$ then in this model does not indicate multikolineritas. This shows that there is no multicollinearity in the production of formal small industries and the realization of tax revenues in Aceh Utara District.

Heteroscedasticity Test Results

Table 4
Heteroscedasticity Test Results

Heteroskedasticity Test: White			
F-statistic	5.111563	Prob. F(2,29)	0.0125
Obs*R-squared	8.340489	Prob. Chi-Square(2)	0.0154
Scaled explained SS	2.409371	Prob. Chi-Square(2)	0.2998

Sumber: Hasil Olah Data, 2020.

The Obs * R-Square value is 8.34, compared to the X2 table at df (2) with $\alpha = 1\%$ is 9.21. So based on these results it can be concluded that $8.34 < 9.21$, so in this model there is no indication of heteroscedasticity. This can also be seen from the probability value of $0.0154 > 0.01$.

Multiple Linear Regression Test Results

Table 5
Multiple Linear Regression Test Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	106.6384	9.024268	11.81684	0.0000
LOG(X1)	0.823580	0.109280	7.536428	0.0000
LOG(X2)	-5.034870	0.353241	-14.25337	0.0000
AR(1)	0.869208	0.158634	5.479340	0.0000
SIGMASQ	0.154735	0.036721	4.213784	0.0003

Sumber: Hasil Olah Data tahun, 2020.

The basic model of research is: $Y_t = \beta_0 + \beta_1 \text{Ln}X_{1t} + \beta_2 \text{Ln}X_{2t} + e_t$
and the result is:
 $PE_t = 106.64 + 0.82 \text{Ln}X_{1t} - 5.03 \text{Ln}X_{2t}$, namely where:

Constant = 106.64

If the formal small industrial production and the realization of tax revenue are constant, then the economic growth will be constant at 106.64 percent.

Parameter $\beta_1 = 0.82$

The variable of formal small industry production is 0.82. If the formal small industry production increases by 1%, then the economic growth will increase by 0.82%, assuming constant tax revenue realization.

Parameter $\beta_2 = -5.03$

The variable of tax revenue realization is -5.03 is that if the tax revenue realization increases by 1%, then the economic growth will decrease by 5.03%, assuming constant small formal industrial production.

Hypothesis Test Results

Partial Test Result (t test)

The statistical test is a partial test of the coefficient of the independent variable. This test is done to see the significance level of the independent variables individually in influencing the variation of the dependent variable. This test is done by comparing $t_{\text{statistics}}$ on the regression results with t table. that is :

1. If $t_{\text{count}} > t_{\text{table}}$, then H_1 is accepted, which means that the explanatory variable individually affects the explained variable significantly.
2. If $t_{\text{count}} < t_{\text{table}}$, then H_1 is rejected, which means that the explanatory variables individually do not significantly influence the variables explained.

The partial test is obtained by looking at t_{table} at $\alpha = 1\%$, is $(nk) = 32 - 3 = 29 = 2.75639$ is = 2.76. Partial test results can be seen in table 4.6 above by comparing the t-count value with the t-table value. To get the t-table $(nk) = (32-3) = 29$ at $\alpha = 1\%$, then the t-table is 2.75639 or 2.76.

1. The formal small industry production variable has a value of $t_{\text{count}} > t_{\text{table}}$ or $7.53 > 2.76$, then reject H_0 and accept H_1 , this means that the production of formal small industries has a significant and positive effect on economic growth in North Aceh District. This can also be seen from the probability of $0.00 < 0.01$.
2. Furthermore, the tax revenue realization variable has a value of $t_{\text{count}} > t_{\text{table}}$ or $-14.25 > 2.76$, then H_0 and accept H_2 , meaning that the realization of tax revenue has a significant and negative effect on economic growth in Aceh Utara Regency. This can also be seen from the probability of $0.00 < 0.01$.

Concurrent Test Results (Test F)

Table 6
F-Test Results

F-statistic	121.5672
Prob (F-statistic)	0.000000

Source: Results of data processing, 2020.

Based on the test results simultaneously or jointly from the table above, it can be concluded that the Fcount value of 121.56 is greater than Ftable, which is 5.42, meaning that the variables of formal small industry production and the realization of tax revenue are jointly influential and significant. on economic growth in North Aceh District. This can also be seen from the prob. A total of $0.00 < 0.01$.

Coefficient of Determination R2

Table 4.8
R2 Test Results

R-squared	0.947396
Adjusted R-squared	0.939603

Source: Results of data processing, 2020.

From the results of data processing Adjusted R-Squared (R2) of 0.9396 so the amount of influence formal small industry production variables and the realization of tax revenues on economic growth in North Aceh District is 0.9396 (93.96%), and the remaining 0.0604 (6.04%) is influenced by other variables outside this model.

Correlation Coefficient (R)

According to Supranto (2009) Correlation analysis is a way to determine whether or not the relationship between the independent variable (X) and the dependent variable (Y) is strong, if it is stated by a linear function and measured by a value called the correlation coefficient.

From the results of the correlation coefficient test in Table 4.8, it can be seen that $(R) = \sqrt{R^2} = \sqrt{0.9474} = 0.9733$. So the relationship between Formal Small Industry Production and the realization of tax revenue has a very strong positive relationship because the correlation value of 0.9733 is close to positive one (+1).

Discussion

The Relationship between Formal Small Industry Production and Economic Growth

Based on partial testing, it can be concluded that the formal small industry production

variables have significant and positive effects on economic growths in North Aceh Regency, the ups and downs of small industrial production do not result in fluctuations in economic growths. This is in accordance with previous research conducted by Putra & Sutrisna (2017). Effect of Production and Inflation on Economic Growth. The results showed that production had a positive effect on economic growths.

The Relationship between Tax Revenue Realization and Economic Growth

Based on the partial test, it can be concluded that the tax revenue realization variable has significant and negative effects on economic growths in North Aceh Regency. This is in accordance with the research conducted by Dewi & Budhi (2018) Analysis of the Effects of Local Taxes, Regional Charges on Labor and Economic Growths in Palangka Raya City, Central Kalimantan Province. Where local taxes affect economic growth.

PAD, especially from the regional tax sector, will encourage the economy and developments in a region and can run smoothly and can encourage the growths of the private sectors and households in allocating existing resources in an area which will lead to increased economic growth.

The Relationship between Formal Small Industry Production and Tax Revenue Realization and Economic Growth

Based on the simultaneous regression results, the variables of Formal Small Industry Production and Tax Revenue Realization have significant and significant effects on Economic Growths. From the results of data processing Adjusted R-Squared (R²) of 0.9396 so the amount of influence of formal small industry production variables and the realizations of tax revenues on economic growths in North Aceh District is 0.9396 (93.96%), and the remaining 0.0604 (6.04%) is influenced by other variables outside this model.

5. CONCLUSIONS AND SUGGESTIONS

Conclusion

Based on the results of the research that has been done, the following conclusions can be obtained:

- a. Based on the results of tests carried out simultaneously or jointly, it is known that the production of formal small industries

and the realizations of tax revenues have a simultaneous effect on economic growths in North Aceh Regency. Based on the F-count value obtained from the regression results, which is 121.56 then compared to the F-table, which is 5.42 ($121.56 > 5.42$). Then looking at the prob value for all independent variables is 0.00, where the value is greater than 0.01 ($0.00 < 0.01$). From the results of data processing Adjusted R-Squared (R²) of 0.9396 so the amount of influence of formal small industry production variables and the realizations of tax revenues on economic growths in North Aceh District is 0.9396 (93.96%), and the remaining 0.0604 (6.04%) is influenced by other variables outside this model.

- b. The results of the research partially show that the production of small formal industries has significant and positive effects on economic growths in North Aceh Regency, has a value of $t_{count} > t_{table}$ or $7.53 > 2.76$ and can also be seen at a probability value of $0.00 < 0.01$.
- c. The results of the research partially show that the realization of tax revenue has significant and negative effect on economic growths in Aceh Utara Regency, has a value of $t_{count} > t_{table}$ or $-14.25 > 2.76$ and can also be seen at a probability value of $0.00 > 0.01$.

Suggestion

Based on the results of research conducted by researchers, there are several suggestions, namely:

- a. For academics, there is a need for further research using the same variables in all districts and cities throughout Indonesia. This aims to have a wider coverage and not only parts of the area. So that every incident in these regions can be known by the public.
- b. For the North Aceh District Governments to be able to maximize its efforts to increase economic growth, this development is very important, because it can increase production and consumption of the community, as well as the welfare of the people in the future.
- c. The government needs to make changes in the development of economic growth, in these cases collaborating with all elements of society so that regional achievements reach the community in the form of regional welfare in North Aceh Regency.

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