Analysis of Fiscal Independence in Subulussalam City

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Abstract— Regional expansion is done to open up opportunities for society empowerment efforts and increasing development intensity in order to prosper the community. Economic growth is one of main aim for Subussalam as the city that was formed since 2007, so the government must be able to increase income and reduce poverty. This research was conducted by using multiple linear regression method, where data should be checked by classic assumption test and hypothesis test is the requirement for this method completeness. Classic assumption test is using some of test to its data like normality, multi-collinearity, hereroscedacity, and auto- correlation. Then data was tested by hypothesis test with F-value and T-value. According to T- statistical value test result, the data described that regional income didn't have evident impact for fiscal autonomy, gross domestic product also was not linked into fiscal autonomy while population growth rate had tangible effect to fiscal autonomy. Based on F - significant had 0.033 as its value, therefore F-Value had value below 0.05 (where 0.033 < 0.05) then independent variable had simultaneously tangible effect to dependent variable.

Index Terms— regional expansion, linear regression, growth rate, gross domestic product, regional income, fiscal autonomy

1 Introduction

In the context of implementing regional autonomy and fiscal decentralization, regional governments are given the discretion to manage and utilize resources. The regional revenue they have is accordance with the aspirations of the regional community. The implementation of regional autonomy will have a logical consequence, that each region must be able to empower itself, both in economic interests, social community development, and fulfilling the need to develop its region and be able to carry out improved services to the community [1]–[4].

PAD is important in measuring regional financial independence. The greater the role of PAD in the APBD, it can be concluded that the role of the central government, in this case the transfer of funds to the regions, is getting smaller. The level of regional financial independence is divided into:

- Very low, that is, if a region has a percentage of PAD to regional revenue it is worth 0-25 percent. So that the central government has a dominant role than the regional government itself.
- Low, that is, if a region has a percentage of PAD to regional revenue it is worth 25 to 50 percent. In other words, the intervention of the central government has begun to decrease and the regions are considered to be a little more capable of implementing regional autonomy.
- Medium, that is, if a region has a percentage of PAD to regional revenue it is worth 25 to 50 percent. In the other words, the intervention of the central government has begun to decrease and the regions are considered to be a little more capable of implementing regional autonomy.
- High, that is, if a region has a percentage of PAD to regional revenue that is above 75 percent. It can be interpreted that the regional government is capable and independent in carrying out its regional autonomy affairs [5]–[8].

2 Methodology

The data used in this research is secondary data, which is data obtained from agencies or institutionsrelated to this research, such as the BPS Kota Subussalam and the Subussalam Regional Development Planning Agency. The data analyzed is data from 2013 to 2017 based on quarter.

The method of data analysis in this study was carried out using multiple linear regression. Requirements for doing so must take the classical assumption test and hypothesis test. The classical assumption test uses the normality test, multicollinearity, hereroscedasticity, and autocorrelation. Hypothesis testing using the F test and t test.

3 Discussion

Descriptive statistics are used to provide an overview of the research data that is used as the sample used in the study. Descriptive statistics in this study are focused on the minimum, maximum, average and standard deviation values shown in Table 1:

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TABLE 1. DESCRIPTIVE STATISTICS

	N	Minimum	Maximum	Mean	Std. Deviation
PAD	232	44771256	2187093841100000000	6425802286524 9260000.00	3192930705020 29800000.000
PDRB	340	2681	63816116	8044285.14	12548952.908
Kemandiria_Fiskal	20	193374	1840463	573590.70	377299.591
Laju_Pertumbuhan	100	564.07	12294.80	3562.7300	2705.77297
Valid N (listwise)	20				

Based on Table 4.1 above, it can be concluded that the local revenue of the city of Subussalam in the 2013-2017 period. The regional income that has the lowest PAD value is other legal regional income for the 2017 third quarter of IDR 44,771,256,000. Original regional revenue for the period 2017 First quarter from the aspect of the balance fund amounted to Rp2,187,090,322. The Gross Regional Domestic Product aspect which has the lowest GRDP value in 2017 for the first quarter of Rp.2,681,000.00 is obtained from the fisheries business field. The highest GRDP in 2017 for the first quarter of Rp.63,816,116,000 obtained from the wholesale and retail business fields.

The Aspect of Population Growth Rate which has the lowest GRDP value in 2013 Fourth Quarter of 564.07 Longkib area, the highest Population Growth Rate in 2015 Second Quarter of 1,294.8 is obtained by the Simpang Kiri area. In terms of fiscal independence, the lowest value is the 2013 third quarter with a ratio of local revenue of Rp.1,243,126,803 and total regional revenue of Rp.64,286,186,777.92. The aspect of fiscal independence that has the highest value for the 2016 first quarter with a comparison of local revenue of Rp.14,810,080,012 and total regional revenue of Rp.328,631,146,348.

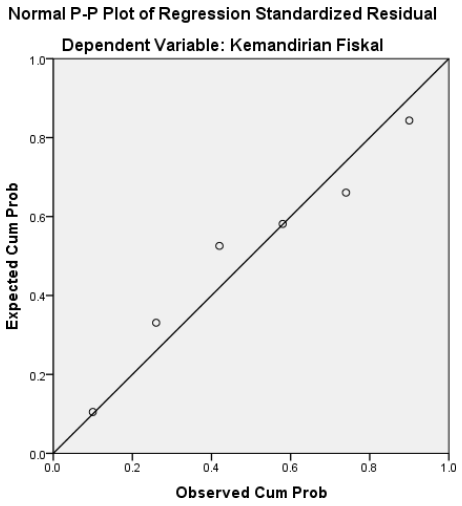

Figure 1. Normal P-P Plot

The results of the normality test through the Normal P-Plot in Figure 4.1 show that the points spread around the diagonal line and the distribution follows the diagonal line, so it can be concluded that the data in the regression model is normally distributed.

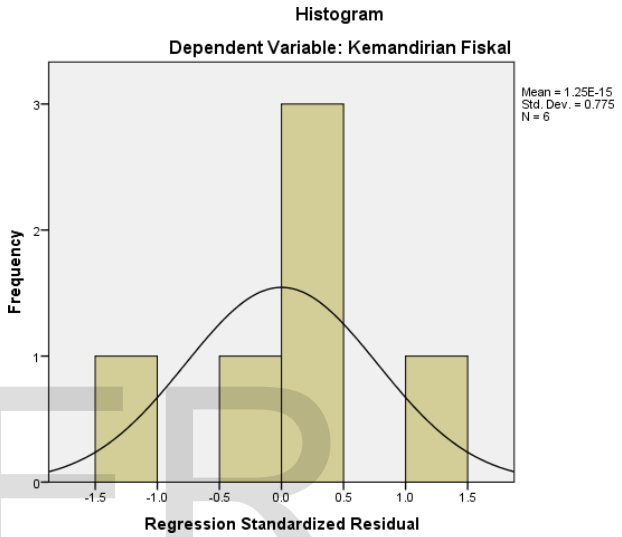

Figure 2. Histogram Graph

The results of the normality test through the second alternative, namely the histogram graph in Figure 4.2 shows that the data distribution follows a bell-shaped curve that does not skewness left or right or it can be concluded that the data is normally distributed. Next, the normality test can be seen from the Kolmogorov-Smirnov test.

TABLE 2. ONE SAMPLE KOLMOGOROV-SMIRNOV TEST

		PAD	PDRB	Growth Rate	Fiscal Autonomy
N		232	340	20	20
Normal Parameters[a,b]	Mean	64258022865249300000.00	8044285.14	0.0000000	573590.70
	Std. Deviation	319293070502030000000.000	12548952.908	0.03384551	377299.591
Most Extreme Differences	Absolute	.537	.261	0.178	.296
	Positive	.537	.248	0.178	.296
	Negative	-.420	-.261	-0.117	-.157
Test Statistic		.537	.261	0.178	.296
Asymp. Sig. (2-tailed)		.000[c]	.000[c]	.096[c]	.000[c]

From the results of the normality test using the Kolmogorov-Smirnov Test using SPSS which shows that the data used is normally distributed with a significance value greater than 0.05, namely 0.000 (0.00> 0.05)

TABLE 3. RESULT OF MODEL TEST

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	PAD	0.962	1.040
	Laju	0.314	1.824
	PDRB	0.313	1.938
d. Dependent Variable: Fiscal Autonomy			

From the results above, it shows that the tolerance value of all variables is greater than 0.1 and the VIF value is less than 10. So that the overall variables above indicate that there is no muclinierity. The breakdown of this value can be explained, namely the variable of local revenue has a tolerance value of 0.962 which is greater than 0.1 (0.962> 0.1) and a VIF of 1.040 which is less than 10 (1.040 <10).

The Population Growth Rate Variable has a tolerance value of 0.314 which is greater than 0.1 (0.314> 0.1) and and a VIF of 1.824 which is smaller than 10 (1.824 <10). The gross regional domestic product variable has a tolerance value of 0.313 which is greater than 0.1 (0.313> 0.1) and and a VIF of 1.938 which is smaller than 10 (1,938 <10).

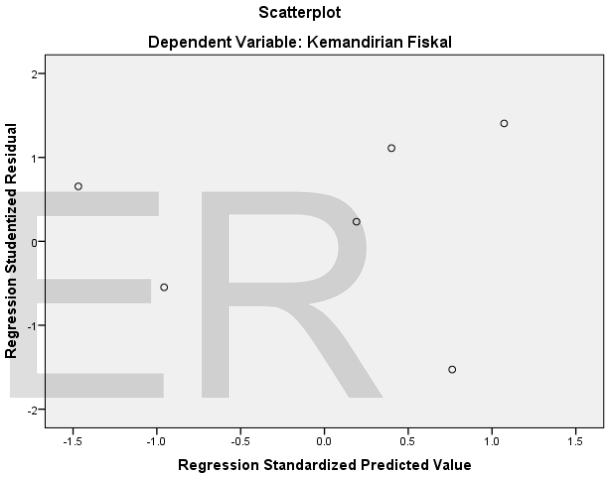

Figure 3. Scatterplot

In Figure 3, the scatterplot graph above shows that the dots spread randomly above and below the 0 on the Y axis, and do not form a certain or irregular pattern. This indicates that there is no heteroscedasticity in the regression model so that the regression model is feasible to use.

TABLE 4. MODEL SUMMARY

Model	Durbin-Watson
1	2,458
e. Predictors: (Constant), Domestic Product Regional, Bruto, PAD	
f. Dependent Variable: Fiscal Autonomy	

From the results of the autocorrelation test using the Durbin Watson Test model with the dU value in the table with total independent variables and total data of 176, the value is 1.8121 and the value of 4-dU is 4 - 1.8121 = 2.1879. The dW value which has a value of 1,838 is between U ≤ d ≤ 4 - dU, namely 1.1821 <1,838 <2.458. So the autocorrelation decision

based on the table above concludes that there is no positive or negative autocorrelation.

TABLE 5. RESULT OF MODEL TEST

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	0.011	0.025		0.435	0.670
	PAD	2.345E-12	0.000	0.333	1.457	0.164
	Laju	1.013E-06	0.000	0.087	0.069	0.040
	PDRB	2.934E-07	0.000	0.225	0.178	0.861
	a. Dependen Variable: Fiscal Autonomy					

$$Y = 0{,}011 + 2{,}345\ X1 + 1.013\ X2 + 2.934\ X3$$

This equation shows that the constant obtained is 0.011. This shows that if all independent variables are zero, then the value of fiscal independence is 0.011. The magnitude of the influence and the level of significance of each independent variable are presented as follows:

1. Original regional income has a positive effect on fiscal independence: Local revenue has a positive effect on fiscal independence. With a coefficient value of 2,345, it means that if the local revenue increases by 1%, then fiscal independence will increase by 2,345. The significance of this variable is 0.164, which is greater than 0.05 (0.057> 0.05), so that local revenue has no and insignificant effect on fiscal independence.
2. Growth rate has a positive effect on fiscal independence: Growth rate has a positive effect on fiscal independence. With a coefficient value of 1,013, it means that if the growth rate increases by 1%, fiscal independence will increase by 1,013. The significance of this variable is 0.040 less than 0.05 (0.040 <0.05) so that the growth rate has an effect on fiscal independence.
3. Regional gross domestic product has a positive effect on fiscal independence: Regional gross domestic product has a positive effect on fiscal independence. With a coefficient value of 2,934, it means that if the regional gross domestic product increases by 1%, then fiscal independence will increase by 2,934. The significance of this variable is 0.861 greater than 0.05 (0.861> 0.05) so that regional gross domestic product has no effect on fiscal independence.

TABLE 6. RESULT OF ANOVA TEST

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	0.005	3	0.002	1.294	.033[b]
	Residual	0.022	16	0.001		
	Total	0.027	19			
	a. Dependent Variable: Kemandirian					
	b. Predictors: (Constant), PDRB, PAD, Rate					

From the results shown in the table above, the significance value is 0.033 which is a smaller result than 0.05 (0.033 <0.05). Simultaneously the independent variable has a significant effect on the dependent variable.

TABLE 7. MODEL SUMMARY

Model	R	R Square	Adjusted R Square
1	.442[a]	.195	.044
a. Predictors: (Constant): Domestic Product Regional Bruto, PAD			
b. Dependent Variable: Fiscal Autonomy			

In the summary model above, the value of the Adjusted R Square or the coefficient of determination is 0.442. This value indicates that 44.2% of the variation or change in fiscal independence can be explained by variations in the variable local revenue, growth rate and gross regional domestic product. While the remaining 45.8% is explained by other causes which were not examined in this study.

4 CONCLUSIONS

Based on the t-statistical test (count), it is known that local revenue has no effect on fiscal independence. In line with regional gross domestic product, it has no effect on fiscal independence. Meanwhile, the population growth rate has an effect on fiscal independence. Based on the value of F-statistics (count), it shows that together (simultaneously), the variable original income and regional gross domestic product are able to significantly influence the variable fiscal independence. The estimation results show that the value (R2) shows that changes in fiscal independence can be explained by variations in the variable regional revenue and gross regional domestic product.

4 RECOMMENDATION

The Government of the City of Subussalam continues to increase revenue, especially local revenue, even though the results achieved are quite good, by exploring potential sources of income that have not become sources of revenue or extensification. In addition, efforts must also be made to expand the objects of Regional Original Revenue or Extensification.

The level of financial management, especially efficiency, almost always exceeds the target, therefore it is suggested that the Subussalam Municipality Government can better recalculate the potential of regional revenues. The level of efficiency should be maintained and increased to be very efficient by re-examining the needs that exist in routine expenditures, that an increase in PAD has a positive effect on the growth of fiscal independence, this indicates that local policies / regulations regarding local taxes and levies are good, for that local government must be wiser in exploring the potential of PAD.

In the context of facing regional autonomy, especially financial management, efforts are made to achieve economic independence, which means that the dependence on transfers from the central government has so far reached 97% on average. In fact, each region has its own problems that affect changes in population. It could be a problem to be a factor.

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