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ANALYSIS OF THE EFFECT OF REGIONAL ORIGINAL INCOME (PAD) ON ECONOMIC GROWTH IN TOJO UNA-UNA REGENCY IN 2010-2018

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Abstract: This study aimed to find out the influence of regional original income (PAD) on economic growth in Tojo Una-Una district in 2010-2018. This study is a quantitative study. This study uses secondary data obtained from existing sources, namely in the form of documents at the Tojo Una-Una district of the Central Bureau of Statistics (BPS). The data was analyzed by quantitative analysis procedures to process numerical data so that it may be formed using statistical formulas. The findings revealed that calculations utilizing non-linear regression analysis provide the equation LnY = 1,006 + 0,42LnX. This demonstrates that Regional Original Income (X) positively influences Economic Growth (Y). This is demonstrated by the regression coefficient X, which is equal to 0,42. The calculation of the correlation coefficient (R) reveals that the correlation between the Regional Original Income variable (X) and the Economic Growth Variable (Y) is in the very strong category, with a value of 0,831. In addition, the coefficient of determination reveals that the regional original income variable (X) has a 69,1% effect on economic growth, while remaining 30% is affected by other variables beyond this study. According to the hypothesis test, the $T_{statistic}$ value was 3,957 whereas the T_{table} value was 1,89457. In other words, there is a partial significant influence between the variables of Regional Original Income (X) on Economic Growth (Y) in Tojo Una-Una district in 2010-2018 period.

Keywords: *Economic Growth, Regional Autonomy, Regional Original Income*

1. Introduction

Regional autonomy was a form of government program created with the aim of being able to solve regional problems in managing regional information, making local governments in a better position, to mobilize resources independently and to achieve regional development goals. The implementation of full regional autonomy was the dream of all regions in Indonesia (Ule et al., 2020).

Regional Original Income (hereinafter referred to as PAD) was defines as the capability to discover their own financial resources and this was one of the regions' primary sources of revenue, collected in compliance with regional and legislative laws (Asteria, 2015). In this era of fiscal decentralization, PAD may be allocated for public activities, one of the community's demands of the government (Insukindro et al., 1994). In practice, not all regions were able to break away from the central authority, as the level of demand in each region varies. Consequently, the central government cannot abandon its autonomy strategy easily.

According to Pelealu (2013), that regional power over PAD optimization led to an increase in regional revenue. Accumulating more PAD, which was a form of capital, would enhance the number of positive externalities and hasten economic expansion (Dewi & Purbadharmaja, 2013).

This was consistent with Rori (2016), that the rise of PAD was sustainable and contributes to regional economic expansion. Nonetheless, if PAD was used excessively, it would impose an even greater cost on the community, became a deterrent for the community and the region, and harm the macroeconomy.

Economic growth refers to the expansion of economic activities that increases the quantity of goods and services produced and the standard of living of the populace (Saraswati, 2018). Economic growth may also be understood as the process of growing an economy's productive capacity, which manifests as a rise in national income.

2. Research Method

This research was carried out in the Tojo Una-Una Regency area. The data was comes from Regional Original Income or PAD and GRDP data which obtained from BPS Tojo Una-Una district. The reason for choosing this research location was because Tojo Una-Una district carried out Regional Autonomy in the process of economic development, which evidenced by building a region based on the ability and independence of its own region, and Regional Original Revenue (PAD) has contributed in the welfare of economic development in Tojo Una-Una district.

Quantitative analysis approaches were employed in this study to analyze the issue and prove the proposed hypotheses. By quantitative analysis, the data was processed into numerical form so that it may be expressed using statistical formulas. Following analyses were employed in this research, namely:

1) Non Linear Regression Analysis

The first method of analysis employs non-linear regression analysis with the exponential model, also known as the "growth model" because it is frequently used to analyze data in response to observations of growing symptoms, in this case the impact of PAD as an independent variable (variable X) on economic growth (GDP) in the 2010-2018 period with the following formulation (Sugiono, 1999):

$$\text{Ln } Y = \text{Ln } \beta o + \beta 1 \text{ Ln } X$$

Where:

Y = Economic growth

X = Regional Original Income (Rupiah)

β = Regression coefficient

ε = Term error

2.1. Correlation Coefficient (r)

The correlation coefficient (r) quantifies the degree to which two variables were related. The correlation coefficient (r) between X and Y can be defined as follows (Nugroho et al., 2008).

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

The value of the correlation coefficient (r) has a value between -1 to +1. A positive value means that it has a correlation in the same direction, while a negative value means that it has a correlation in the opposite direction.

2.2. Coefficient of Determination (R^2)

The coefficient test (R^2) determines how well the independent factors can explain the dependent variable in the SPSS (Statistical package social solution) output. The coefficient of determination was a component of the summary model and is denoted by (R^2) square. For multiple nonlinear regression, however, it is preferable to use the adjusted (R^2) square or written adjusted (R^2) square because it is adjusted for the number of independent variables included in the study. Because Adjusted (R^2) can fluctuate if an independent variable is introduced to the model. If Adjusted (R^2) square equals 1, it indicates that all variations in the dependent variable can be explained by the independent variables and that no other factors contribute to oscillations in the dependent variable. Because the value of (R^2) square spans from 0 to 1, indicating that the greater the ability of the independent variable to explain the dependent variable, a value of 0,5 for (R^2) square was considered to be favorable and vice versa. In general, samples with time series data (R^2) square and Adjusted (R^2) square were quite high above 0.5, whereas samples with item data called cross data have (R^2) square quite low below 0,5. However, this does not rule out the possibility that cross-sectional data also has (R^2) square and Adjusted (R^2) square that are quite high (Ghazali, 2011).

2.3. Statistical t test

The aim of this analysis was to determine the correlation between each independent variable and the dependent variable. A statistical t test may be conducted in two ways: by examining the significance level or by comparing the t table values. To determine whether or not each independent variable individually affects the dependent variable, a significance level of 0,05 was used. Meanwhile, to compare the t statistical value with the critical point according to the table, the provision was used that “if the t-statistic value was greater than the t -table value, then the alternative hypothesis stating that each independent variable affects the dependent variable must be accepted” (Ghazali, 2011). As for the interpretation can be seen as below.

t statistic > t table: the HO hypothesis is accepted, which means there is no significant influence of Regional Original Income (PAD) on Economic Growth in Tojo Una-Una Regency.

t statistic < t table: the HA hypothesis is rejected, which means there is a significant influence of Regional Original Income (PAD) on Economic Growth in Tojo Una-Una Regency.

3. Results and Discussion

3.1. Non-linear Regression

Table 1. The results of the regression coefficient on the effect of regional original income on economic growth

Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(constant)	1.006	.237		4.243	.004
LN_X	.042	.011	.831	3.957	.005

Source: Processed Data, 2020

From table 1, the regression equation obtained as below:

$$LnY = 1.006+0.42LnX$$

The equation above can be interpreted as follows:

1) If the constant is 1.006, it means that if the variable X (Regional Original Income) is 0, then Economic Growth (Y) in Tojo Una-Una Regency is 1.006%.
2) The value of the non-linear regression coefficient X (Regional Original Income) is 0,042, which means that if the value of Variable X (Original Local Income) is added, the Economic Growth of Tojo Una-Una Regency increases by 0,042 or 4,2.

3.2. Correlation Coefficient (R)

The correlation coefficient is an index of the closeness of the relationship between all variables (Milang & Rini, 2020). To find out how close the relationship between the two variables is, it can be seen in the calculation results table below.

Table 2. Correlation Coefficient (R) on The Effect of Regional Original Income on Economic Growth

Model summary				
Model	**R**	**R Square**	**Adjusted R Square**	**Std. Error of the estimate**
1	.831	.691	.647	.08634
Predictions: (Constant), LN_X				

Source: Processed data, 2020

As shown in table 2, the value of the regional original income variable (X) in relation to the economic growth variable (Y) was shown to have a correlation value of 0,831. Due to the fact that the value was 0,831, or 83,1%, it can be deduced that the correlation between regional original income (X) and economic growth (Y) falls within the very strong category since "if R is close to 1", the stronger the relationship between the two variables as it is in the interval 0.80 – 1.000.

3.3. Coefficient of Determination (R^2)

Table 3. Determination Coefficient (R^2) The Effect of Regional Original Income on Economic Growth Summary models

Model	R	R Square	Adjusted R Square	Std. Error of the estimate
1	.831[a]	.691	.647	.08634

Source: Processed Data, 2020

According to table 3 above, the R-squared value or coefficient of determination (KD) was revealed for the regression formed by the interaction of the Regional Original Income variable (X) and the Economic Growth variable (Y). The R-square value of 0,691 indicates that the Regional Original Income variable (X) contributes to Economic Growth by 69,1%. Meanwhile, the remaining 30,9% was influenced by other variables.

3.4. Hypothesis Testing

Table 4. T Test Results (Partial Test)
Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(constant)	1.006	.237		4.243	.004
LN_X	.042	.011	.831	3.957	.005

Source: Processed Data, 2020

According to the data above, there was a significant relationship between Regional Original Income and Economic Growth. The findings are proven by the results of the t test, as $T_{statistic}$ value > T_{table} value (3,957 >1,89458. In other words, the $T_{statistic}$ value was 3.957% higher than the T_{table} value 1,89458.

The T_{table} can be determined be the estimation as follows.

Df = nk

= 9 – 2 = 7

= 1.89458 (viewed at the presentation point of the t distribution).

Local taxes and levies are one of the attempts to finance regional activities, especially the Tojo Una-Una district, which is included in the sources of regional original revenue (PAD). Local taxes constitute a sizable income in the Tojo Una-Una district because this collection is a contribution that must be paid by the community to the local government for facilities that are used in general so that this revenue can support regional expenditure. In addition, levies have a second contribution that helps regional activities, which is very helpful for the Tojo Una-Una district because there are still many objects for collecting levies that the government collects on the community such as hospital levies and other public services.

The development of local taxes has increased and decreased every year. In 2010, local taxes amounted to 2.383.703.294 and in 2011 taxes decreased slightly to 1.494.304.868 but increased again in 2012 until 2018 taxes continued to increase. Likewise with levies, in 2010 it was

5.714.382.011.90 which increased until 2014 and in 2015 regional levies decreased by 23.946.434 million until 2017 but in 2018 regional levies again increased by 1.488.387.310 M.

From the results of the research the writer did with the aim of knowing how the influence of Regional Original Income on Economic Growth in Tojo Una-Una Regency by Using a Non-Linear Regression model, the results of the Regression Coefficient of the two variables namely the Regional Original Income Variable (X) have a significant influence on Economic Growth (Y) in Tojo Una-Una district within 2010-2018 period, and there is also a very strong relationship between Regional Original Revenue (PAD) and Economic Growth in Tojo Una-Una district within 2010-2018 period.

4. Conclusion

Based on the findings above, several conclusions can be drawn as follows:

a. Based on calculations using non-linear regression analysis, the equation obtained LnY = 1.006+0.42LnX. This shows that Regional Original Income (X) has a positive effect on Economic Growth (Y), this is indicated by the regression coefficient X which is equal to 0.42
b. Based on the calculation of the correlation coefficient (R), it is found that the correlation between the Regional Original Income variable (X) and the Economic Growth Variable (Y) is in the very strong category because its value is 0.831.
c. Based on the calculation of the coefficient of determination (R^2), it was found that the regional original income variable (X) had a contribution of 69.1% to economic growth. Meanwhile, the remaining 30,9% was influenced by other variables beyond this research.
d. From the hypothesis test, it was found that the T-statistic value was 3.957 while the T-table value was 1.89458. In other words, there is a partially significant effect between the variable Regional Original Income (X) on Economic Growth (Y).

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