THE ANALYSIS OF LOCAL REVENUES AND THE AFFECTING FACTORS IN THE IMPLEMENTATION OF REGIONAL AUTONOMY IN ACEH PROVINCE

Abstract

This study aimed to determine the effect of population numbers, GRDP and inflation on local revenues. The model used was the OLS method using panel data. The results showed that the population had a positive and significant effect on the Local Revenue of regencies and cities t-test which showed that the population had positive regression coefficient of 5.728641 and significance value smaller than 0.05, that is equal to 0.0001. GRDP had positive and significant effect on the local revenues of regencies and cities in Aceh. It can be seen in the results of the calculation of the t-test which showed that GRDP had positive regression coefficient of 4.473196 and significance value smaller than 0.05, that is equal to 0.0001, while inflation had a negative and significant effect on the local revenues of the regencies and cities. The regression coefficient value of -0.023161 that inflation had a negative effect on local revenues. If there is an increase in inflation of 1%, it will cause a decrease in local revenues of 0.023161%. Based on the 2-sided test on the individual parametric significant test on the inflation rate variable, The t-count value was smaller than the t-table which was -0.886238 and a significant value of 0.3905 > 0.05. The coefficient of determination or goodness of fit is obtained by a number of 0.888824. The contribution of all independent variables in explaining the dependent variable is 88.8 percent. The remaining 11.2 percent is explained by other variables outside this research model.

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Local Revenues, Number of Population, GRDP, Inflation, Regional Autonomy
INTRODUCTION

The period of sustainable development in this decade provides a chance to an alteration of national development concept; from the growth concept to the concept of a fair and balanced equitable development. This concept alteration is implemented through the regional autonomy policy and financial balancing of the central government and local government that regulated in the law. According to Halim (2001) and Sentosa (2005) stated that the local own-source revenue (Pendapatan Asli Daerah/PAD) is the revenue earned from the revenue bases in its own territorial which cited on the local regulation bases according to current regulation. PAD is divided into several kinds of revenue, including local tax, regional retribution, local corporate outcome, and the outcome of distributed regional wealth management, and other legitimate PAD.

Specifically for Aceh Province, they accept 70 percent of their revenue from the oil and gas sector, hydrocarbon and other natural resources, as well as the additional revenue from 2 percent of national general allocation funds (DAU) for 15 years and 1 percent for the next 5 years. It can be assumed that Aceh got the more source of revenues compared to other provinces to fund the development.

Aceh province is located at the western edge of Indonesia, the latitude of 2° to 6° in the north and longitude of 95° to 98° in the east, an area of 56,770.81 km², directly adjacent to the Indian Ocean in the west and the Malacca Strait in the east. It also consists of 18 regencies and 5 cities with 280 districts, 755 sub-districts and 6,423 villages, having a total population of 4,494 million people. The equitable development between each regency/city is not optimal yet, as the ability of regencies/cities to absorb and manage the PAD is still varying from each other. Regarding the difference in the regencies/cities ability to absorb the PAD, the regencies/cities that could optimally absorb and manage it in the south-west area of Aceh are Aceh Barat Regency. Other than that, Banda Aceh city located at the capital of Aceh province is also one of the cities that capable of absorbing the PAD optimally. Meanwhile, for the east area, Lhokseumawe is one of the cities that could utilize the PAD well.

The phenomenon is when each regency/city in Aceh has enormous potential natural resources available such as plantation, fishery, and mining. The local government required to create an innovation in its governance, leading it to a better government; independent in managing and improving the financial performance that accountable to the people of Aceh.
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Table 1.1
GRDP of Aceh Barat Regency based on the Constant Price of 2010 According to Business Field 2011 to 2016 (in Millions Rupiah)

<table>
<thead>
<tr>
<th>Year</th>
<th>PDRB</th>
<th>Growth (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>4.569.067,05</td>
<td></td>
</tr>
<tr>
<td>2012</td>
<td>4.594.543,92</td>
<td>0,55</td>
</tr>
<tr>
<td>2013</td>
<td>4.773.693,84</td>
<td>4,45</td>
</tr>
<tr>
<td>2014</td>
<td>4.935.274,15</td>
<td>3,41</td>
</tr>
<tr>
<td>2015</td>
<td>5.151.377,64</td>
<td>4,38</td>
</tr>
<tr>
<td>2016</td>
<td>5.315.210,05</td>
<td>3.18</td>
</tr>
</tbody>
</table>

Source: Central Bureau of Statistic, Aceh Province

From the table above, it is shown that GRDP of Aceh Barat Regency from the year of 2011 to 2016 is growing in every year, starting from 2011 the GRDP of Aceh is as much as Rp.4.569.067,05 and it grows in 2013 as much as 4.45 percent becoming Rp.4.773.693,84 and constantly increasing until in 2015 the GRDP of Aceh Barat reach the number of Rp.5.151.377,64 by the growth rate of 4.38 percent.

The local own-source revenues are also influenced by the population; the more the population growth in one area, the more people working in every sector and indirectly affect the local revenues. Total population is one of the affecting factors in planning and implementing economic development. The development in every sector executed by the government is intended for public welfare which means the people is the object of development receiving benefits from the development itself.

A total number of population at Aceh Barat Regency, Lhokseumawe city and Banda Aceh city from 2011 – 2016 has been grown annually. In 2011, the population of Aceh Barat regency is 178.173 million people and keeps growing to 190.244 million people in 2014. Likewise, the population of Banda Aceh city also keeps on growing; in 2012 the population of Banda Aceh is 234.517 million people and considerably increases to 250.303 million people in 2015.
In principle, the economic development of an area is the economic growth system which should lean to the local economic performance as a country’s economic development should stand on the economy of its own country. The increase of need to improve the development would escalate the financing needs of development. On the other hand, natural resources and human resource is limited. Jhingan (1994:53) defined that economic development in one area should meet the needs and the ability of its own specific place. Funding resources meant before include the local own-source revenue (PAD), balanced fund, regional loans, and other legitimate acceptances.

The provision of regional autonomy expected to raise the ability, capability, as well as could be held responsible generally to the public of Indonesia and specifically the regency of Aceh Barat, Lhokseumawe city, and Banda Aceh city. Moreover, a local government supposed to review other options of financing source for development by not giving up on any possible help and profit-sharing from the central government, and using public funds according to the public needs and their aspirations.

THEORETICAL REVIEW
The Definition of Regional Autonomy

Regional autonomy defined as region’s capability to manage its own place specifically regarding the governance and the development, which previously managed by the central government. The affairs classified between the government at province level and at the regency/city in order to strengthen the authority of each government in executing this authority and managing own household. Generally, based on one of the article in government regulation No 38 of 2007 about “Division of Government Affair between the governments, province government, and regency/city
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government”, the government that belongs under the authority of local government includes the mandatory activities and optional activities.

The Definition of Local Own-Source Revenue

This local own-source revenue is the entire things that could be local revenue which comes purely from the regional economic base” (Halim, 2007). Lestari (2016) also described that the local own-source revenue is the income sourced and collected by the own local government.

The local own-source revenue according to Yani (2013) is the income obtained by the region collected based on the local regulation according to the law. While referring to Djaenuri (2012), he stated that the local own-source revenue is a kind of revenue that acquired by a local government from the PAD base in its own region which collected based on the local regulation and all applicable laws.

The correlation between population, government expenditure/GRDP and inflation to the Local Revenue

The people are one of the main factors in economic activities. An upsurge in population number causes the ratio of the population who categorized as immature is rising. The higher a population, the more needs in goods and services to fulfill population necessities which lead to an increase in the amount of consumption that would eventually increase the income per capita of one region. Usually, the need for consumption could be fulfilled by people’s own income, so it would be an excessive income that could be saved for an investment fund.

“The total number, as well as the ability of people in each region, is the determining factor which very influential to the capacity of producing and as the life parameter of a country or a region. However, the most basic reason of a population problem that attracts the prominent member of economics is because the people themselves are the element of labor, a human resource, beyond a source of skill production factor” (Rosyidi, 2002:87).

“When a region or territory has a low population, the community could not maximize the use of their sources appropriately as what they could achieve if the population is high. At this kind of condition, an effort to create mass production is impossible. Though, if a region had overpopulation, the people are capable of utilizing their land or their asset as efficient as possible. Nonetheless, because the population number is too high, the result obtained by the people would also be very small” (Batik, 2013).
“The affiliation between GRDP as the benchmark of community income with the local own-source revenue reinforced by an opinion from Atmaja (2007) who stated, “the greater community income, the greater tax increase capacity set by the government. In the allocation of fixed income level, the greater the real GRDP per capita of one region, the higher the community’s ability of this area to pay for routine expenses and government development expenses.”

“GRDP could be exchanged through three approaches, the first one is based on the production approach; GRDP is the total value of goods and services produced by every aspect of a production unit in a region within a certain period of time. The second approach is the expense approach, which is the entire part of end demand of household consumption expenditure and a private body who choose to not gaining any benefit. The third approach is the income approach; GRDP is the total goods and services obtained in the production factor which participate in a production process at a region within a certain period of time.” (Sukirno, 1994)

The correlation of GRDP and local revenue is a functional relationship. By the increase of GRDP, local government income for funding the development program is also increasing. Furthermore, it also spurs an improvement of local government service to the community whom productivity is also expected to be improved” (Batik, 2013)

Lestari (2016) discuss that “GRDP per capita is a part of the public income proxy that would influence the consumption, which is in another word the increase of public income will lead to an increase of local revenue. Since people are bound to their need for goods and services after all. Accordingly, the local revenue would positively be influenced by the surge of GRDP per capita”.

Part of the research indicates that inflation is both positively and negatively affecting the local revenue. Inflation could increase the capital costs, decrease capital accumulation and lower its productivity which leads to declining local revenue. On the other side, the inflation that expected to be higher could escalate the capital per capita because the household diverts their assets from a real money balance to a real capital” (Slesman, 2016).

The Klasik Keynes assumption (Mankiw, 2006:75) mentioned that “inflation is a condition where there is an increase in average price level”. Samuelson (Muchtholifah, 2010:4) in his theory also described that in a taxation method, the obligation of people to pay their tax is higher if their nominal income is also high which means that the inflation would directly increase the average of the community tax rate. Halim (2001:101) explained: “inflation could boost local revenue that determined on a sales profit bases, such as hotel tax and restaurant tax”. “The inflation is a process of rising prices occurs in an economic system” (Sukirmo, 2004:15).
Mankiw (2006:87-88) stated that inflation will affect local government incomes and expenditures. He also mentioned that “Every central government and local government spends money. A portion of these expenses is to purchase the goods and services (for a government worker, public needs), and other portions to make a payment for less fortunate people and the elderly. The government could pay for its expenses through three ways; first, through the taxes, such as individual income tax and corporate income tax. The second is by selling government bonds. The third is by printing more money. From those sources mentioned, the government can get the amount of fund needed for paying the local government expenses.”

Therefore, the correlation between high inflation would cause a bigger problem towards local government income and also influences the economic productivity level in a community. On the contrary, a low inflation could positively affect the income of local own-source revenue as mentioned in a research by Muchtholifah (2010:4) that one’s income that normally increasing could impact in the increase of local revenue income and the inflation cannot be separated from the existence of increased wages or the money circulating in a community. The higher value of money available in a community, the higher inflation rate would increase and the local revenue gained by the local government would be higher as well.

RESEARCH METHODOLOGY

The scope of research

This research is conducted to analyses the existing factors affecting local revenue. Hence, the aspects analyzed include the dependent variables such as local own-source revenue (PAD) and independent variables such as a total number of population, GRDP, and the inflation rate from 2011 to 2016.

Research Variables

Variable is the object of research which becomes a focal point of particular research” (Sanusi, 2011). Variables used in this research are the independent variables: the population, GRDP, and inflation. In addition, the dependent variables in this research are the local own-source revenue / local revenue (PAD).
The Data and the Data Source

The type of data used in this research is the secondary data which is the data of GRDP, total number of population, and the inflation occurred in 2011 until 2016 collected from relevant instances such as Aceh Financial Service, Aceh Revenue and Welfare office, Aceh Central Bureau of Statistic (BPS) and the books for supporting the research, journal, and other written reports.

Data Analysis Method

After collecting the data, data processing and analyzing will be conducted using the OLS method with the panel data. “The panel data is a mixture of the time series data and the cross-section data” (Tarno, 2013).

Considering the panel data is the combination of cross section and time series data, the model could be illustrated by using the following equations” (Tarno, 2013):

\[ Y_{it} = \alpha + \beta_1 X_{1t} + \mu_{it}; i = 1,2,...,N; t = 1,2,......................... (1) \]

Maka :

\[ \log\text{PAD}_{it} = \alpha + \beta_1 \log\text{JP}_{it} + \beta_2 \log\text{PDRB}_{it} + \beta_3 \log I_{it} + \mu_{it}. \quad \text{........... (2)} \]

Dimana :

- \text{PAD} = Local revenue
- \alpha = Constants
- \text{JP} = Total Population
- \text{PDRB} = Gross Regional Domestic Product
- \text{I} = Inflation
- \beta(1,2,3) = Regression Coefficient value of each independent variables
- \mu = Error term
- \text{t dan i} = Time and Regency/City

RESULT AND DISCUSSION

The development of local revenue of Aceh Province

The sustainability of Aceh Barat government is not only relying on the availability of government officials but also correspond with the existing financial funds. In 2011, the execution of Aceh Barat’s local revenue reached the number of 23,3 billion rupiahs. In 2016, the government income gained was 1,3 trillion rupiahs. This number keeps increasing compared to previous years. The contribution of local revenue as an essential component to note is still very small, yet still quite encouraging. In 2016, it could absorb the fund as much as 140 billion rupiahs.
Banda Aceh city, which is also the capital city of Aceh Province, was able to absorb local revenue that relatively higher than Aceh Barat Regency and Lhokseumawe city. In 2013, Banda Aceh could absorb the local revenue to 129,2 billion rupiahs, which came from the advertisement and retribution tax sector. The local revenue of Banda Aceh escalated considerably to 110,5 percent in 2016 equal to 258,5 billion rupiahs. This upsurge is the result of intensification and extension process of revenue bases in Banda Aceh.

The total regional income of Lhokseumawe city in 2014 is 762,22 billion rupiahs. From this regional income, about 61,6 percent of it comes from the general allocation fund, while the local revenue contributes about 6 percent of it which equal to 48,7 billion rupiahs. In 2016, the absorption of local revenue was declining compared to a year before with a contribution of merely 6 percent. Regional tax absorption in 2016 was decreasing as much as 1,3 billion rupiahs from the previous year. This local revenue development is listed in the following Table 1.3:

<table>
<thead>
<tr>
<th>Years</th>
<th>Kabupaten/Kota</th>
<th>Aceh Barat</th>
<th>Banda Aceh</th>
<th>Lhokseumawe</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>23,389,029,000</td>
<td>85,559,779,620</td>
<td>29,173,670,000</td>
<td></td>
</tr>
<tr>
<td>2012</td>
<td>17,841,606,089</td>
<td>99,022,803,953</td>
<td>28,230,834,000</td>
<td></td>
</tr>
<tr>
<td>2013</td>
<td>39,583,182,000</td>
<td>129,170,160,462</td>
<td>36,213,933,082,26</td>
<td></td>
</tr>
<tr>
<td>2014</td>
<td>101,37,283,570,03</td>
<td>171,777,275,449</td>
<td>48,730,000,000</td>
<td></td>
</tr>
<tr>
<td>2015</td>
<td>118,648,569,000</td>
<td>205,636,417,436</td>
<td>56,650,454,282,49</td>
<td></td>
</tr>
<tr>
<td>2016</td>
<td>140,614,480,000</td>
<td>258,591,409,669</td>
<td>56,348,631,000</td>
<td></td>
</tr>
</tbody>
</table>

*Source: Central Bureau of Statistic, Aceh Province*

The development of the Population of Aceh Province

Increase in population of three regencies/cities will leads to an expansion of population density from year to year. The distribution of age group of Aceh Barat population could be categorized as the expensive type which characterized as dominated by a young population and a high number of birthrate and death rate. In 2012, the total population of Aceh Barat was 181,887 people and continues to rise every year. The total population in the middle of a year in Aceh Barat in 2016 is estimated at around 197,791 people with the growth rate of 1,86 percent. This rapid growth of
population was caused by a high number of people immigrating to Aceh Barat, especially to the urban area.

Banda Aceh is a city with a relatively dense population. In 2013, the population of Banda Aceh reached the number of 239,404 people and keeps increasing through 2016 with 254,904 people. This growth of population was also caused by the increasing immigration rate of people moving to Banda Aceh, where the capital city of Aceh is located.

The second densest city after Banda Aceh is Lhokseumawe, where every km² is inhabited by a population of 1,035 people. A total number of population of Lhokseumawe in 2014 was 187,455 people, which increase as much as 2.3 percent from the last year. The population distribution according to the age indicated that 65.64 percent is the productive age population. In 2016, the total population developed to 254,904 people.

The development of GRDP of Aceh Province

The development of GRDP in Aceh Barat Regency, Banda Aceh city and Lhokseumawe city is listed at table 1.4 below:

<table>
<thead>
<tr>
<th>Years</th>
<th>Produk Domestik Regional Bruto (PDRB) Kab/Kota</th>
<th>Aceh Barat</th>
<th>Banda Aceh</th>
<th>Lhokseumawe</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>4.569.067,05</td>
<td>10.518.849,16</td>
<td>4.530.603,09</td>
<td></td>
</tr>
<tr>
<td>2012</td>
<td>4.594.543,92</td>
<td>11.074.680,15</td>
<td>4.727.608,09</td>
<td></td>
</tr>
<tr>
<td>2013</td>
<td>4.773.693,84</td>
<td>11.649.576,21</td>
<td>4.893.015,07</td>
<td></td>
</tr>
<tr>
<td>2014</td>
<td>4.935.274,15</td>
<td>12.119.047,30</td>
<td>5.096.270,08</td>
<td></td>
</tr>
<tr>
<td>2015</td>
<td>5.151.377,64</td>
<td>12.725.924,01</td>
<td>5.367.767,04</td>
<td></td>
</tr>
<tr>
<td>2016</td>
<td>5.315.210,05</td>
<td>13.528.294,07</td>
<td>5.431.204,08</td>
<td></td>
</tr>
</tbody>
</table>

Source: Central Bureau of Statistic, Aceh Province

The economic growth shows a transformation of the economic rate occurred from year to year. To understand this economic growth, the national income value could be examined. GRDP of Aceh Barat Regency in 2014 with the price in 2010 is 4,93 trillion rupiahs with the economic growth achieved is 3.36 percent. Meanwhile, in 2015 with economic growth of 4.24 percent an added value
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is gained up to 5,15 trillion rupiahs. In 2016, the economy of Aceh Barat was still expanding to 3,35 percent so the total number of production in Aceh Barat Regency was 5,31 trillion rupiahs. The economic growth of Aceh Barat in 2016 was highly related to the agriculture and mining sector.

The real development of Banda Aceh’s GRDP in 2016 reached the number of 13,53 trillion rupiahs, upsurge as much as 803,13 billion rupiahs from the year of 2015. The economic condition of Banda Aceh City perceived from its economic growth is still developing from time to time. In 2016, the economic growth rate of Banda Aceh city was 6,31 percent, which showed a better acceleration compared to 5,01 percent in 2014.

The GRDP of Lhokseumawe city in 2014 without its oil and gas was 5,09 trillion rupiahs. As the national GRDP, the manufacturing sector is still the one that supports Lhokseumawe’s economic growth. In 2016, the GRDP of Lhokseumawe city happened to be increased from the previous year which reaches 5,43 trillion rupiahs.

The development of Inflation of Aceh Province

Throughout 2016, the inflation rate of Banda Aceh city was quite fluctuated. The annual inflation rate of Banda Aceh based on the change in the consumer index price in December 2016 to December 2015 is 3,13 percent. This number is considered a growth compared to the number in the previous year which is 1,27 percent. From the year 2011 until 2016, the highest rate of inflation occurred in 2014 with the inflation rate of 7,83 percent.

The general inflation rate of Lhokseumawe in 2014 is reasonably high. The highest inflation arose in January and the deflation occurred in February. The high number of inflation rate was caused by the price increased in groceries and health category. Comparing it to the inflation rate of Aceh Barat and Banda Aceh, the inflation occurs in Lhokseumawe is considered higher which reach to the number of 8,53 percent. In 2016, the inflation rate of Lhokseumawe was also the highest rate than Aceh Barat and Banda Aceh, which was 5,6 percent.

Estimated Panel Data Model

Pooled Least Square (PLS) Approach

The first step conducted in processing the data is using the Pooled Least Square approach, which is one of the requirements of applying F-Restricted test.
Fixed Effect Model (FEM) Approach

Furthermore, data is processed by the Fixed Effect Model approach system, in order to compare the result with the previous Pooled Least Square approach in the F-Restricted test.

Chow Testing

The first thing to do is estimating the panel data using the fixed specification effect, and then the chow testing is performed. This testing is conducted to compare which approach below is better in the application.

\[ H_0 : \text{Pooled Least Square} \]
\[ H_a : \text{Fixed Effect Model} \]

If the result of chi-square probability is less than alpha 0.05, \( H_0 \) will be rejected. On the contrary, if the chi-square is more than 0.05 \( H_0 \) will be implemented.

As for the result in this research, it is found that the value of chi-square probability is 0.4840 which is more than the alpha 0.05. Thus, \( H_0 \) is accepted. So the Pooled Least Square model is the best model to be implemented in this case.

Uji Chow

<table>
<thead>
<tr>
<th>Cross-section F</th>
<th>0.6165</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cross-section Chi-square</td>
<td>0.4840</td>
</tr>
</tbody>
</table>

For the result of 5 percent significance, it can be concluded that there is no individual effect in each variable in the equation model. It is also indicated in the result that the probability of variable JP
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of total population and PDRB for Gross Regional Domestic Product is significant in the error rate of 5 percent. Meanwhile, the probability of inflation variable is 0.3905 which means that this variable is not significant. The result of CEM model estimation is listed in table 1.5 below.

Table 1.5
Analysis Result of CEM using the OLS Approach

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>-159.4326</td>
<td>28.44032</td>
<td>-5.605865</td>
<td>0.0001</td>
</tr>
<tr>
<td>LOG(JP?)</td>
<td>21.92094</td>
<td>3.826551</td>
<td>5.728641</td>
<td>0.0001</td>
</tr>
<tr>
<td>INFLASI?</td>
<td>-0.023161</td>
<td>0.026135</td>
<td>-0.886238</td>
<td>0.3905</td>
</tr>
<tr>
<td>LOG(PDRB?)</td>
<td>5.314501</td>
<td>1.188077</td>
<td>4.473196</td>
<td>0.0005</td>
</tr>
</tbody>
</table>

From the result, it is indicated that the probability of variable JP of total population and PDRB for Gross Regional Domestic Product is significant in the error rate of 5 percent. Meanwhile, the probability of inflation variable is 0.3905 which means that this variable is not significant.

Significance test

Simultaneous testing

The result of research using Eviews 9 indicates that the F-value is 34.05735 and the probability of F is 0.000001. With the significance rate is 5 percent, the F testing is considered significant. Therefore, it can be concluded that the independent variables together are significantly affecting the dependent variables. The variable of the total population, GRDP, and inflation rate together influence the local revenue of Aceh Province.

Partial testing

From the result of the partial testing analysis, it is illustrated that every independent variable individually is significantly affecting the dependent variable, except the inflation rate variable. The result shows that the variable inflation has a t-value of -0.886238 and a probability of 0.3905. In the significance rate of 5 percent, the inflation variable individually is not significant enough in influencing the local revenue of Aceh Province. The regression coefficient value of -0.023161 indicates that inflation is negatively affecting the local revenue. It could be assumed that a 1% increase in inflation causes a decrease in local revenue as much as 0.023161 percent. At the GRDP
variable, the t-value result is 4.473196 and the probability is 0.0005. In the degree of significance equal to 5 percent, the GRDP variable individually is significant enough to affect the local revenue of Aceh Province. The analysis result of total population variable indicates that t-value is 5.728641 while the probability is 0.0001. At the degree of significance equal to 5 percent, the variable of total population individually is significant enough to influence the local revenue.

**Coefficient of Determination (R²)**

The value of determination coefficient acquired is 0.888824. It could be assumed that the overall contribution of independent variables in influencing the dependent variable is 88.8 percent. The rest of 11.2 percent are influenced by other variables outside the model in this particular research.

**Result of the Research**

The use of panel data analysis in this research is intended for recognizing the effect of the total population, GRDP, inflation in Aceh Province at the period of 2011 – 2016. The result of panel data processing by implementing Pooled Least Square system indicates that:

\[
\log{PAD_{it}} = -159.4326 + 21.92094\log{JP_{it}} + 5.314501\log{PDRB_{it}} - 0.023161\log{I_{it}} + \mu_{it}
\]

By this regression model, it is shown that the constant coefficient is -159.4326 indicating another variable that also affects the local revenue of Aceh Province. However, this variable is not included in the equation. The independent variables used in the model in this research that affecting the local revenue of Aceh Province are described as follows:

**Total Population**

From the result, it appears that the total population is positively affecting and significant to the local revenue of Aceh Province. The boost of the population also causes addition in income received by the regencies/cities in Aceh Province. This is shown by the result of t-test calculation, which illustrates the total population has a positive coefficient regression as much as 5.728641 and a significance value less than 0.05 which is 0.0001.

This result is also in line with the result of research conducted by Santosa and Rahayu (2005) who discussed that the total population is positively affecting local revenue. This fact also supported by a research conducted by Yeny and Taufik (2014) who mentioned that a total number of population is positively influenced the local revenue. Therefore, the first hypothesis (H₁) generated in this research stating that the total population would positively affect local revenue is proven to be true and could be accepted.
Gross Regional Domestic Product

From the testing process conducted, it is indicated that the GRDP is positively affecting and significant to the local revenue of regencies/cities in Aceh Province. This means that the greater the GRDP obtained, the realization of local revenue gained by the regencies/cities in Aceh Province will also increasing. This is proven in the result of t-testing calculation which illustrates that the GRDP variable has a positive coefficient regression as much as 4.473196 and a significance value less than 0.05 which is 0.0001.

Yeny and Taufik (2013) stated that economic growth is often measured by the growth of GRDP. In 2011 – 2016, the GRDP of regencies/cities in Aceh Province was rising specifically dominated by the trade, hotel, restaurant, and mining sector (Central Bureau of Statistic Aceh Province, 2017). In line with the increase of GRDP, the development of trade and hospitality businesses could also increase the regional tax and retribution receipts which later would affect the local revenue of regencies/cities in Aceh Province.

Result of this research agrees with the opinion expressed by Halim (2004) where one of several parameters implemented in observing the performance of collecting local revenue is the comparison of total local revenue income gained and the GRDP. The increase in local revenue by the number of regional taxes and retributions obtained from the increasing GRDP every year would affect the report on the realization of the local government budget (APBD). High local revenue would increase the APBD inside the regional income section which further will be used to finance government spendings such as direct expenditure, indirect expenditure, and local financing.

This research is also acknowledging the research conducted by Santosa and Rahayo (2005) which indicates that the GRDP positively affecting local revenue. Moreover, research by Lestari (2016) also mentioned that local revenue will be affected positively along with the increase of GRDP. Hence, the second hypothesis (H2) from this research stating that GRDP is positively affecting local revenue is proven as true and could be accepted.

Inflation

From the testing process mentioned above, it is obtained that inflation is negatively and significantly affecting local revenue of regencies/cities in Aceh Province. The regression coefficient value is -0.023161 which defined that inflation negatively influences the local revenue. This means that an increase of 1% inflation leads to a decrease in local revenue as much as 0.023161%. From the
2-sides testing in t-testing for variable inflation, it is also found that the t-value is less than t-table which is -0.886238 with the significance value is 0.3505>0.05.

Therefore, it can be assumed from this result that the third hypothesis (H₃) stating that inflation is positively affecting local revenue is not proven to be true. This result also in line with the one obtained in a research conducted by Eni and Iin (2012) which mentioned that the inflation partially is not significantly affecting the local revenue.

Hence, this research is not in line with the research conducted by Simanjuntak who expressed that the inflation would enhance the local revenue which arranged based on sales turnovers, such as hotels and restaurants taxes. This research also could not support the theory stated by Mankiw that inflation would influence local government income through corporate income and individual income. By the existence of inflation, the wage or salary will increase. It is because the real wage depends on the marginal productivity of workers. Consequently, the higher the money supply for a community, the higher inflation would surge and the higher income could be gained by the local government. In other words, inflation has no significant value and merely has a low affecting level in local revenue, since the inflation is caused by the economic movement biased positively or negatively.

So, the theory of inflation and local revenue relationship stated by Mankiw and in the research conducted by Simanjuntak and Muchtholifah is not applicable in the condition of regencies/cities in Aceh Province. Differed from the regencies/cities in Aceh Province, the inflation raises because of the increase in production cost, so the price of raw materials to meet the output or market need in the community would indirectly become higher because of it, in order to gain more benefits. With a soaring price of goods and services when inflation occurs, the purchasing power of people in the regencies/cities in Aceh is also declining. Hence, the corporates could not meet their targeted sales turnover. This also leads to the decline of regional income gained by the government and declining taxes. Therefore, the inflation rate would not affect the local revenue significantly in the regencies/cities in Aceh Province.

CONCLUSION AND SUGGESTION

Conclusion

Based on the result of this research and the hypotheses testing conducted, several conclusion could be drawn as follows:

1. The Gross Regional Domestic Product (GRDP) has a positive and significant effect on the realization of local revenue in Aceh Province in 2011 – 2016. Therefore, this testing result
accepts the second hypothesis which states that GRDP is positively affecting the realization of local revenue. GRDP is one of the variables that could positively affect the local revenue, so stimulation from local government is needed in increasing the GRDP which would directly affect the increase of regional income.

2. Total population number has a positive and significant effect on the realization of local revenue in Aceh Province in 2011 – 2016. Therefore, this testing result accepts the first hypothesis which states that the total population is positively affecting the realization of local revenue. The population number is an essential asset when it supported with a good quality of human resource and the availability of adequate employment.

3. Inflation has a negative effect on the realization of local revenue in Aceh Province in 2011 – 2016. Therefore, this testing result rejects the third hypothesis which states that inflation is positively affecting the realization of local revenue. High inflation is very much resulted in the decrease of local government income, and the role of government is needed in maintaining the price stability.

Suggestion

Based on the result of research and the conclusions obtained, some suggestion recommended by the author of this research is expressed as follows:

1. The government, as well as related parties, are expected to maintain the stability of inflation rate by a fiscal decentralization policy. It is also hoped that the government could develop some sectors which absorb more workers. This is important to lessen inflation but keeps improving in the real sectors which also improve the regional GRDP.

2. If there is any boost in population number, it has to be followed by the increase in people’s quality and provision of adequate employment. This is essential since a big number of populations could not provide any significant benefit for a region, otherwise harming and could inhibit the development process.

3. The object of this research is still not comprehensive yet since it only uses a small time series and the number of independent variables applied in this research is merely 3 (three) variables. Therefore, it is recommended for further research to add more independent variables that are not limited to the external factors only, but also some internal factors such as facilities and infrastructure, incentive, subsidies income, and development income.
REFERENCES


