

Research Article

Growth and Inequality of Inter-Regional Economic Development in Aceh Province, Indonesia

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Abstract: This study is aimed to analyze the growth and inequality of economic development among 23 cities of Aceh Province in the period 2012 to 2016 and identify economic growth among 23 cities in Aceh Province that significantly affected the inequality. The data used by researchers are secondary data consisting of sequential data from 2012 to 2016 obtained from the Central Bureau of Statistics and Bank of Indonesia in Aceh. The results of this study concluded that the economic development inequality in Aceh as measured by the Entrophy Theil Index in the period 2012 to 2016 tended to relatively increased. Based on calculations and graphs of trendlines, it is known that the impact of high economic growth might lower economic development imbalance and activates the distribution of economic growth in an area. Meanwhile, if economic growth is low the economic development imbalance will be higher and inequality of economic growth in a region. So that for the overall trendline results 23 cities in Aceh Province are negative and the value of $R^2 = 0.087$ percent, is relatively weak, because the independent variable cannot explain 0.087 percent of the variation in the dependent variable. Based on these findings, the government policy of Aceh Province needs to be taken to reduce the imbalance of economic development that makes an inequality in economic growth by increasing human resources (HR) and the source of capital of an area.

Keywords: Growth And Inequality Of Inter-Regional Economic Development, Entrophy Theil, Trendline.

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INTRODUCTION

Economic development in Aceh has taken place in a comprehensive and sustainable manner with efforts to improve the social economy in Aceh. The results of the achievement of the development felt by the community are that the aggregate development of 23 cities in Aceh is inseparable from the joint efforts of the government and society. On the other hand, there are various obstacles faced by policy makers at the provincial and city level in Aceh Province in maximizing the potential of human resources (HR) and the sources of capital. The most important thing in regional development is that the area is able to identify every potential sector it has, so that it can analyze these sectors and have added value for regional economic development.

Arsyad (2010), argues that regional economic development is a process in which local governments and communities manage existing resources and form a partnership pattern between local governments and the private sector to create new jobs and stimulate the

development of economic activities (economic growth) in the region while economic development is a development that essentially aims to improve the welfare of the community, it is necessary to increase economic growth and more equitable income distribution. The problem of economic growth in a region depends on many factors, one of them is government itself, the government policy must be recognized and correctly identified so that economic growth can be achieved in an area and there is no occurrence of income inequality between regions.

LITERATURE REVIEW

Raswita and Made, (2013), explained that economic development aims to improve the welfare of the community, and improve the welfare of society because of that it needs increased economic growth and a more equitable distribution of income because the increase and the level of economic growth in a region will have an effect on increasing welfare people in the area. As stated by Sukirno, (2004) concluded that economic growth is a change in the level of economic

activity that lasts from year to year. To find out the level of economic growth must compare national income calculated based on real value, where the real

PDRB of a year must be distinguished from the real PDRB of the previous year.

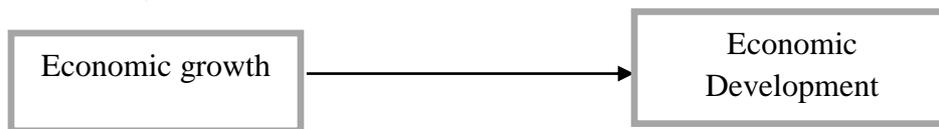


Figure 1. Framework

$$Y = \{(PDRB_{t-1}-PDRB_t)/PDRB_t\} \times 100\%$$

Where:

Y = Regency/City Economic Growth year t
 PDRBt = PDRB ADHB Regency/Cityyear t
 PDRBt-1 = PDRB ADHB Regency/Cityyear t-1 (the previous year)

The use of *Theil Entropy Index* is commonly used in measuring development inequality between regions. The advantages in using this index, first this index calculates inequality in the regions and between regions at once, so the scope of the analysis becomes wider. Secondly, using this index can also calculate the contribution (in percentage) of each region to the imbalance of regional development as a whole so that it can provide important policy implications (L.G. Ying, 2000).

The hypothesis in this study alleged that inequality in economic development is influenced by economic growth.

RESEARCH METHOD

Data

The data used in this study is data for 5 years from 23 regencies/cities of Aceh Province from 2012 to 2016.

Analysis Techniques

Analysis of the data used in this study using the Descriptive approach, and Calculation of Inequality Index. Whereas to calculate the inequality index using the Entropy Theil analysis tool.

$$I = \sum (y_i/Y) \cdot \log \{ (y_i/Y) / (n_i/N) \}$$

Where:

I = Indeks Entropi Theil intra region
 Yi = Regional PDRB per capita i
 Y = Average Province of Aceh PDRB
 ni = Number of inhabitants of the Region i
 N = The total population of Aceh Province

RESULTS AND DISCUSSIONS

Analysis of Description of Economic Growth Against Economic Development Inequality in 23 Cities of Aceh.

Aceh has 23 cities, the economic performance of each cities can be seen from the Gross Regional Domestic Product on Current Prices (ADHB). The results of the data in the period 2012-2016 using the calculation of the Theil Entropy Index, from 23 districts / cities in Aceh Province used in this study, there are imbalances in economic development that affect economic growth in a region as shown in Table 4.

The development of economic growth and economic development inequality in the period 2012-2016 in 23 cities of Aceh are fluctuated. This is the affect of Gross Regional Domestic Product and the development of employment opportunities. During the period of 2014-2015 the economic growth has decreased dramatically in City Lhokseumawe by -2.76 percent in 2014 and in 2015 by -22.07 percent, followed by North Aceh city at -0.70 percent in 2014 and in 2015 amounted to -22.04 and in the city of east Aceh in 2015 decreased by -6.09 percent. However, for other cities there is an increase in economic growth. Economic factors that affect the economic growth of a region depend on its natural resources, human resources, business capital, technology and so on (Kuncoro, 2004).

Furthermore, the highest income inequality increases every year in City Banda Aceh, followed by the city of Nagan Raya, Central Aceh and West Aceh. Then for low income inequality among 23 cities in the province of Aceh in the period 2012-2016 found in the city of Aceh Singkil, Subulussalam and Pidie Jaya.

Factors that cause inequality in 23 cities between regions in Aceh Province are due to differences in natural resource content, differences in demographic conditions, lack mobility of goods, concentration of regional economic activities, allocation of development funds between regions (Sjafrizal, 2012).

Table 4. Economic Growth and Entropy of Theil Per Capita of Districts / Cities in Aceh Province in 2012-2016

Number	Districts / Cities	Economic growth					Entropy Theil				
		2012	2013	2014	2015	2016	2012	2013	2014	2015	2016
1	Simeulue	8,31	8,65	8,20	7,52	7,47	0,16	0,16	0,17	0,18	0,19
2	Aceh Singkil	8,23	7,66	7,27	7,17	8,29	0,14	0,15	0,15	0,16	0,16
3	Aceh Selatan	7,33	8,66	7,19	7,04	7,17	0,17	0,18	0,18	0,20	0,20
4	Aceh Tenggara	7,60	8,51	7,90	7,10	8,19	0,17	0,17	0,17	0,19	0,19
5	Aceh Timur	4,87	4,09	3,01	-6,09	3,69	0,25	0,25	0,24	0,23	0,22
6	Aceh Tengah	7,28	8,46	7,16	7,02	6,85	0,28	0,28	0,29	0,31	0,31
7	Aceh Barat	1,50	6,12	7,60	6,17	5,76	0,28	0,28	0,29	0,31	0,31
8	Aceh Besar	6,89	8,72	7,83	6,56	5,82	0,26	0,27	0,28	0,29	0,29
9	Piddie	7,47	7,91	7,33	7,72	7,40	0,19	0,19	0,20	0,21	0,22
10	Bireuen	7,04	7,13	5,47	6,72	6,12	0,24	0,24	0,25	0,26	0,26
11	Aceh Utara	4,81	1,67	-0,70	-22,04	2,13	0,45	0,43	0,41	0,33	0,32
12	Aceh Barat Daya	4,47	5,38	4,95	6,34	6,50	0,20	0,20	0,20	0,21	0,22
13	Gayo Lues	8,62	7,50	7,02	6,82	7,75	0,21	0,21	0,22	0,23	0,24
14	Aceh Tamiang	5,88	8,48	5,14	2,00	4,95	0,21	0,22	0,22	0,22	0,22
15	Nagan Raya	1,72	3,83	5,53	5,52	6,24	0,36	0,35	0,35	0,37	0,38
16	Aceh Jaya	5,08	5,88	7,09	7,16	6,45	0,21	0,21	0,21	0,23	0,23
17	Bener Meriah	7,56	7,60	7,41	6,71	6,63	0,24	0,24	0,25	0,26	0,26
18	Pidie Jaya	7,07	7,59	7,14	8,08	6,21	0,16	0,16	0,17	0,18	0,18
19	Banda Aceh	7,07	7,91	6,92	6,85	8,34	0,55	0,56	0,56	0,60	0,62
20	Sabang	6,30	6,94	7,11	7,33	7,63	0,27	0,28	0,29	0,31	0,31
21	Langsa	7,22	7,82	7,94	8,07	8,23	0,21	0,21	0,22	0,24	0,24
22	Lhokseumawe	2,91	2,69	-2,76	-22,07	1,21	0,56	0,54	0,50	0,41	0,39
23	Subulussalam	6,77	7,10	7,16	7,27	7,76	0,15	0,16	0,16	0,17	0,17

Source: BPS, 2012-2016 (data processed)

Trendline Analysis of Overall Economic Growth of Entropy Theil in 23 Cities of Aceh

Based on table 4, there are overall economic growth and economic development inequality in 23 cities of Aceh in 2012-2016 and produce a negative trendline, namely the ratio shows the inequality (Entropy Theil) affects economic growth and experiences a slowdown in sectors that can increase economic growth in 23 cities of Aceh.

The level of inequality in the period 2012-2016 has increased by 0.62 percent. However, for the

coefficient of income inequality if an intervention policy is implemented in overcoming inequality, the income inequality will suffer as much as -12.2 percent, but if the intervention policy is not carried out, income inequality will be 9.0 percent. Then for the relationship between the independent variable (economic growth) and the dependent variable (entropy theil) indicated by the value $R^2 = 0.08$ percent, it is relatively weak, because the independent variable cannot explain 0.08 percent of the variation in the dependent variable (Figure 4).

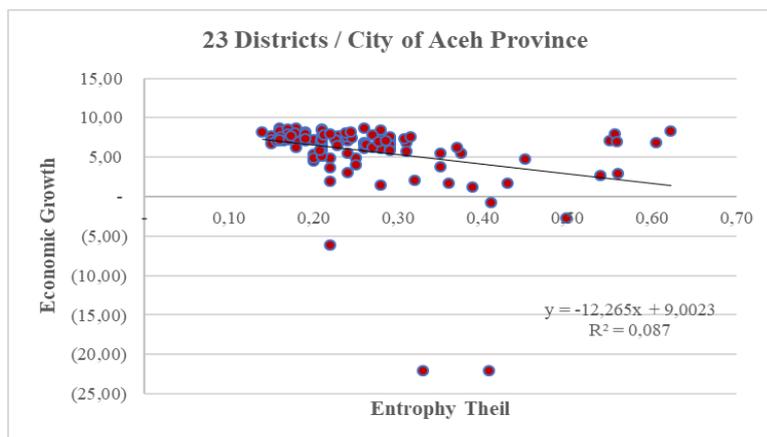


Figure 2. Trendline 23 Regencies / Cities in Aceh Province in 2012-2016

CONCLUSIONS AND RECOMENDATIONS

Conclusions

1. Economic development inequality between regions of 23 cities of Aceh calculated using Entropy Theil during the period 2012-2016 shows that inequality is widening.
2. Among 23 cities in Aceh Province which have negative growth values, namely the city of Lhokseumawe, North Aceh and East Aceh.
3. Economic growth and income inequality analyzed using the Theil Entrophy Index shows that there are progress improvements in each year from 2012-2016 in the city of Subulussalam, Langsa, and Sabang.
4. Factors that cause inequality in 23 cities between regions in Aceh Province are among the differences in natural resource content, differences in demography conditions, lack mobility of goods, concentration of regional economic activities, allocation of development funds between the cities.

Recomendations

1. Economic development in region needs serious attention from the government to deal with problems related to the economy, especially to equalize economic growth in a city, namely to increase the economic activities of the community or economic centers in the region through empowering community economic activities and increasing the sector sector in each cities of Aceh.
2. The Aceh Provincial Government can consolidate between regions and cities so that the implementation of development can be carried out comprehensively so that equitable development can be achieved and inequality in

economic development can be minimized in each district / city in Aceh Province.

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