Economic Growth and Regional Development Inequality in Jambi Province 2008-2017

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Abstract

The purpose and method of analysis of this study are the first is to analyze the patterns and structure of economic growth in each regency / city in Jambi Province in 2008-2017 and the second is to analyze the imbalance of regional development in Jambi Province in 2008-2017, the analysis method used are Klassen's Tipology and the Williamson Index. The results showed that the Klassen typology method produced quadrant I (advanced) are Jambi City and Sungai Penuh City, both regions have an average per capita GRDP level and high growth rate, Quadrant II (Forward but depressed), namely Tanjung Jabung Timur and Tanjung Jabung Barat, both regions despite having a high average GRDP per capita but having an average low growth rate, Quadrant III (growing fast) are Kerinci, Merangin, Sarolangun, Batang Hari and Bungo, where these regions have an average the growth rate is high but has a low average GRDP per capita, quadrant IV (relatively lagging) i.e. Tebo and Muaro Jambi where both regions have an low average growth rate and a low GRDP per capita. Based on the results of the analysis of the Williamson Index in Jambi Province during 2008-2017 shows that there is an average development imbalance of 0.389, this indicates that the value of the development inequality index in Jambi Province is of medium category. Based on the western and eastern regions of Jambi Province where the eastern region has a higher level of inequality than the western regions of Jambi Province.

Keywords: Klassen Typology Analysis; Economic Growth; Williamson Index Analysis; Regional Inequality.

Introduction

Development is a multidimensional process that includes various fundamental changes in social structure, attitudes of society and national institutions, while still pursuing accelerated economic growth, handling income inequality, and alleviating poverty. (Todaro and Smith 2006) [13] Further said, economic development has the main goal of creating high growth, eliminating and reducing poverty, reducing income inequality and the unemployment rate. Indicators of economic development success can be seen from the achievement of equity, efficient growth and balanced sustainability in economic development. Jhingan (2010) [6] states that, economic growth is a long-term increase in the ability of a country to provide more types of economic goods to its population. However, development that prioritizes the acceleration of high economic growth can affect development disparities between regions [11]. Kindleberger and Herrick (1977) [7] stated that economic growth (economic growth) is a process of increasing output as a result of increasing the quantity of inputs as well as the efficiency in the use of these inputs.

Regional inequality allegedly emerged not only due to the lack of equity in economic development, but also by the existence of developed regions with backward or underdeveloped regions, meaning that this development inequality can be caused by differences in the physical characteristics of the region [5]. According to Myrdal (1957) [9] differences in the level of economic progress between regions will result in adverse effects (backwash effects) dominating the beneficial effects (spread effects) which in this case can cause an imbalance. Actors who have power in the market normally will tend to increase, not decrease, resulting in imbalances between regions.

The phenomenon of development inequality between regions can lead to economic inefficiencies, because of high inequality, there is a tendency for overall saving rates in the economy to be low. The impact of regional development with economic growth pro-

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vides different income inequalities between provinces. Likewise, Jambi Province is a province that has a high income inequality on the island of Sumatra and indications of regional disparity within the Jambi Province can be seen from the per capita GRDP and inter-regency/city poverty rates (BPS 2016) [4]. In addition, Figure 1 explains that the coefficient of variation in regencies / cities in Jambi Province experienced a fluctuating GRDP change in 2012-2017. This indicates the existence of regional inequality in Jambi province during that time period.

Based on these facts, this research focuses on two things, namely: (1) how the pattern and structure of regional economic growth in Jambi Province is based on the typology of regency/city area typology and (2) analyzes the disparity of regency/city area in Jambi Province during the period of 2008- 2017. The results of this study are expected to be beneficial for the local government in taking policies related to development planning so that the problem of regional inequality can be reduced and addressed properly.

Research Methods

This research was conducted in Jambi Province which covers 9 (nine) regencies and 2 (two) cities, with the following considerations: 1) In 2016 the Jambi Province's coefficient of 0.349 placed Jambi Province as the province that experienced fourth income inequality on the island of Sumatra, 2) There is an economic gap between regencies/cities in Jambi Province, it can be seen from the large gap between regencies/cities of the highest per capita GRDP and lowest GRDP per capita, 3) In some districts in Jambi Province having high GRDP but poverty rates are also high.

The data used in this study are secondary data. Secondary data was obtained from the publication of the Central Statistics Agency (BPS) on various economic indicators of the regency/city area in Jambi Province during the period 2008-2017.

The analytical method used to look at patterns and structures of economic growth based on the typology of district/city typology is to use Klassen Typology analysis which is carried out annually and analyzed in 2008 and 2017 to see the development of regency/city economic growth in Jambi Province. The analysis is done by determining the average economic growth as a vertical axis and the average GDP per capita as a horizontal axis. The regional approach

produces four regencies/cities classifications, each of which has different economic growth characteristics, namely:

Note: r = average provincial economic growth
         y = provincial average GRDP per capita
         r_i = district / city economic growth observed
         y_i = regency / city GRDP per capita observed

To see the level of regional inequality the Williamson Index is used, which is one of the indexes most often used to look at regional disparities. The greater the index produced the greater the level of inequality between districts/cities in a province. Williamson (1975) developed a regional inequality index which was formulated as follows:

$$V_w = \frac{\sqrt{\sum (Y_i - \tilde{Y})^2 P_i}}{\tilde{Y}}$$

Where is the equation:

V_w = williamson inequality index of Jambi Province
Y_i = GRDP per capita Year 2008-2017 Regency/city i
$\tilde{Y}$ = average GRDP per capita in 2008-2017 in Jambi Province
P_i = f_i/n, where fi is the population of regency/city i and n is the population of the province.

Results and Discussion

Analysis of the pattern and structure of regional economic growth based on the typology of regencies/cities in Jambi Province

The results of the analysis of patterns and structures of economic growth based on the classification of regional typologies using the Klassen typology in regencies/cities in Jambi Province by determining the average economic growth as a vertical axis and the average GRDP per capita as a horizontal axis. This analysis was conducted during the 2008-2017 period and was analyzed in 2008 and 2017 to see the development of economic growth in each regency/city in Jambi Province. Klassen's typology model classifies

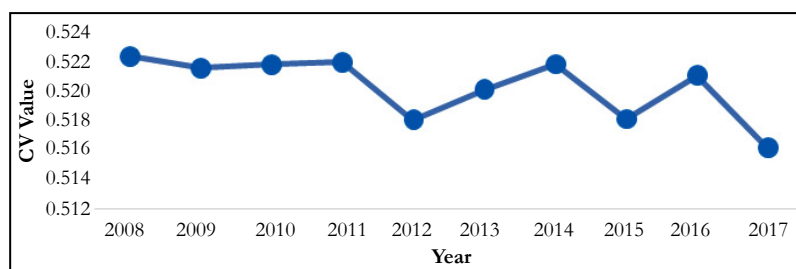**Figure 1. Variance coefficient of regency/city GRDP in Jambi Province.**

Table 1. Typology of the Klassen Typology Region.

GRDP per capita (y) / Growth Rate (r)	$(y_i < y)$	$(y_i > y)$
$(r_i > r)$	Quadrant III (third) is a fast developing area	Quadrant I (first), which is a region that is fast progressing and fast growing
$(r_i < r)$	Quadrant IV (fourth) is a relatively left behind area	Quadrant II (second) is a developed but depressed area

Source: Kuncoro (1996)

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regions into four parts, namely: fast-growing and high-income areas, high-income but low-growth areas, fast-growing areas (high-growth but low income), and relative areas low growth and low income (Syafrizal 1997; Kuncoro 1996) [8, 12].

Table 2 shows the average rate of economic growth of regencies / cities in Jambi Province in the period 2008-2017, the highest was Bungo District at 7.33 percent, while the lowest average growth rate was Tanjung Jabung Timur Regency at 4.42 percent, but when viewed from the average regency/city GRDP per capita in Jambi Province in the period 2008-2017 where Tanjung Jabung Timur Regency had the highest average GRDP per capita of Rp. 13,006,944, - while the lowest average per capita GRDP is Tebo Regency of Rp. 3,517,336.

In general, based on table 3, seen in quadrant I (advanced) are Jambi City and Sungai Penuh City, both regions have an average per capita GRDP level and high growth rate, Quadrant II (Forward but depressed), namely Tanjung Jabung Timur and Tanjung Jabung Barat, both regions despite having a high average GRDP per capita but having an average low growth rate, Quadrant III (growing fast) are Kerinci, Merangin, Sarolangun, Batang Hari and Bungo, where these regions have an average the growth rate is high but has a low average GRDP per capita, quadrant IV (relatively lagging) ie Tebo and Muaro Jambi where both regions have an low average growth rate and a low GRDP per capita. In this case Jambi City and Sungai Penuh City have advanced regional classification because they have sufficient infrastructure, skilled human resources and have sufficient public facilities. This is in line with (Pratiwi, 2016) [10] which says the typology of regencies / cities that are included in developed and rapidly developing regions are regions that have high per capita income, employment and have adequate infrastructure.

The results of the Klassen Typology analysis based on year 2008 and 2017 are as follows:

Based on table 6, the growth patterns of districts/cities in Jambi Province have increased. In the initial period of 2008 there were no districts/cities in quadrant I, namely fast-growing and fast-growing regions. However, in the 2017 quadrant I period filled by Jambi City, Sungai Penuh City and Kerinci Regency, where in the previous period Jambi City and Sungai Penuh City were in quadrant II, while Kerinci Regency was in quadrant IV, meaning there

was an increase in economic growth patterns during 10 year for Jambi City, Sungai Penuh and Kerinci regencies. Next, Batang Hari Regency, Merangin Regency, Muaro Jambi Regency and Tebo Regency increased to Quadrant III, a fast developing area where at the beginning of the year of 2008 research was in quadrant IV, which is a relatively underdeveloped area. Finally, the regions that at the beginning of the 2008 study were in quadrant II but the 2017 equivalent remained in quadrant II.

Analysis of regional development inequality

The results of the Williamson index analysis using the GRDP per capita data and the population of each regency/city in Jambi Province within a period of ten years namely from 2008 to 2017, where in general the level of inequality of the Williamson Index in Jambi Province during 2008-2017 shows that there is an imbalance of development with an average of 0.389, this indicates that the value of the development inequality index in Jambi Province is of medium category. This is because there are differences in the ability of each region and also from various factors of natural resources, human resources and population distribution that have implications for gross added value (GRDP) in the economy between regions in Jambi Province such as in some regencies/cities having oil and gas and some other regencies/cities and only rely on the agriculture, plantation and other sectors. The occurrence of regional disparity is triggered by differences in the endowment factor.

Inequality refers to the relative standard of living of the whole community. This difference causes the level of development in different regions and regions, causing a gap or welfare gap in various regions (Sukirno, 1976). The highest level of regional inequality in 2012 was 0.402 and the lowest in 2008 was 0.361.

If seen from the closeness between regencies/cities as well as west and east territorial positions, the percentage of population distribution in the two regions looks relatively balanced, where 51% for the eastern region (Batanghari, Muaro Jambi, Tanjung Jabung Barat, Tanjung Jabung Timur and Jambi City), and 49% for the western regions (Kerinci, Sungai Penuh, Merangin, Sarolangun, Bungo and Tebo). To see the imbalance between the Eastern and Western Regions in Jambi province in the 2008-2017 period the Williamson Index is used as shown in table 7.

The results of the Williamson Index analysis in table 7 based on

Table 2. Klassen typology of regencies / cities in Jambi Province in 2008-2017.

Number	Regency/city	Average GRDP Per capita	Average Growth Rate	Typology
1	Kerinci	5.612.502	6.52	III
2	Merangin	4.053.627	6.65	III
3	Sarolangun	5.654.731	6.58	III
4	Batang hari	5.705.522	6.72	III
5	Muaro jambi	3.928.484	6.25	IV
6	Tanjung jabung timur	13.006.944	4.42	II
7	Tanjung jabung barat	9.196.885	5.5	II
8	Tebo	3.517.336	6.43	IV
9	Bungo	4.817.465	7.33	III
10	Jambi	7.528.382	6.76	I
11	Sungai penuh	7.862.976	6.8	I
	Jambi Province	**6.158.651**	**6.45**	

Table 3. Typology of regencies / cities in Jambi Province in 2008-2017.

GRDP per capita(y) / Growth Rate (r)	$y_i < y$	$y_i > y$
$r_i > r$	**(Quadrant III)** **Rapidly Developing Areas** - Kerinci - Merangin - Sarolangun - Batang Hari - Bungo	**(Quadrant I)** **Fast-Forward and Fast-Growing Areas** - Kota Jambi - Kota Sungai Penuh
$r_i < r$	**(Quadrant IV) Relatively Disadvantaged Areas** - Tebo - Muaro Jambi	**(Quadrant II)** **Advanced But Depressed Areas** - Tanjung Jabung Timur - Tanjung Jabung Barat

Note: r = average provincial economic growth
y = provincial average GRDP per capita
r_i = district / city economic growth observed
y_i = regency / city GRDP per capita observed

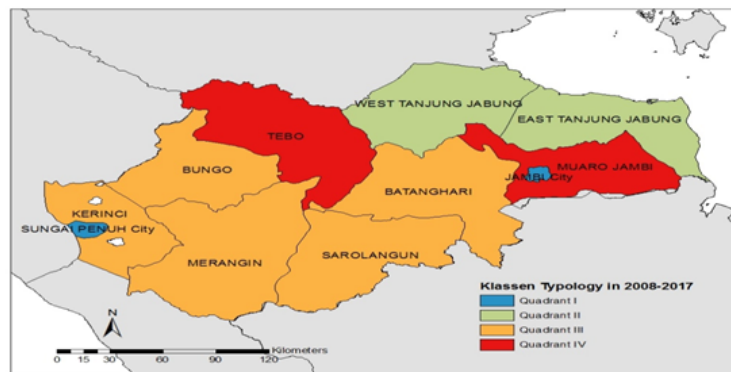**Figure 2. quadrant map typology Klassen Jambi Province 2008-2017.**

Table 4. Tipologi Klasen Kabupaten/Kota di Provinsi Jambi Tahun 2008.

Kabupaten/Kota	PDRB Perkap 2008	Pertumbuhan 2008	Kuadran
Kerinci	3227831.65	5.86	IV
Merangin	3532434.45	5.99	IV
Sarolangun	4916144.95	7.62	III
Batang hari	4879099.92	6.24	IV
Muaro jambi	3409220.54	5.23	IV
Tanjung jabung timur	10215261.42	5.71	II
Tanjung jabung barat	7969219.85	5.99	II
Tebo	3227064.45	6.08	IV
Bungo	4294357.93	11.13	III
Jambi	6461434.12	6.14	II
Sungai penuh	6413675.69	5.61	II
Provinsi Jambi	**5172856.07**	**7.16**	

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Table 5. Tipologi Klasen Kabupaten/Kota di Provinsi Jambi Tahun 2017.

Kabupaten/Kota	PDRB Perkap 2017	Pertumbuhan 2017	Kuadran
Kerinci	7447088.71	6.03	I
Merangin	4807996.44	5.55	III
Sarolangun	6376432.15	4.69	III
Batang hari	6782166	4.82	III
Muaro jambi	4519123.46	5.06	III
Tanjung jabung timur	15127606.91	3.13	II
Tanjung jabung barat	10427960.18	4.25	II
Tebo	4117569.12	5.60	III
Bungo	5544214.85	5.67	III
Jambi	9127724.35	4.68	I
Sungai penuh	9887135.6	6.24	I
Provinsi Jambi	**7204894.61**	**4.64**	

Table 6. Typology of regencies/cities in Jambi Province year 2008 and 2017.

GRDP per apita (y) / Growth Rate (r)	$y_i < y$ 2008	$y_i > y$ 2008	$y_i < y$ 2017	$y_i > y$ 2017
$r_i > r$	(Quadrant III) Rapidly Developing Areas - Sarolangun - Bungo	(Quadrant I) Fast-Forward and Fast-Growing Areas	(Quadrant III) Rapidly Developing Areas - Merangin - Bungo Tebo - Muaro Jambi	(Quadrant I) Fast-Forward and Fast-Growing Areas - Kota Jambi - Kota Sungai Penuh - Kerinci
$r_i < r$	(Quadrant IV) Relatively Disadvantaged Areas - Tebo - Muaro Jambi - Kerinci - Batang Hari - Merangin	(Quadrant II) Advanced But Depressed Areas -Tanjung Jabung Timur -Tanjung Jabung Barat -Kota Jambi -Kota Sungai Penuh	(Quadrant IV) Relatively Disadvantaged Areas - Sarolangun - Batang Hari	(Quadrant II) Advanced But Depressed Areas - Tanjung Jabung Timur - Tanjung Jabung Barat

Figure 3. The level of regional inequality in the Williamson Index of Jambi Province in 2008-2017.
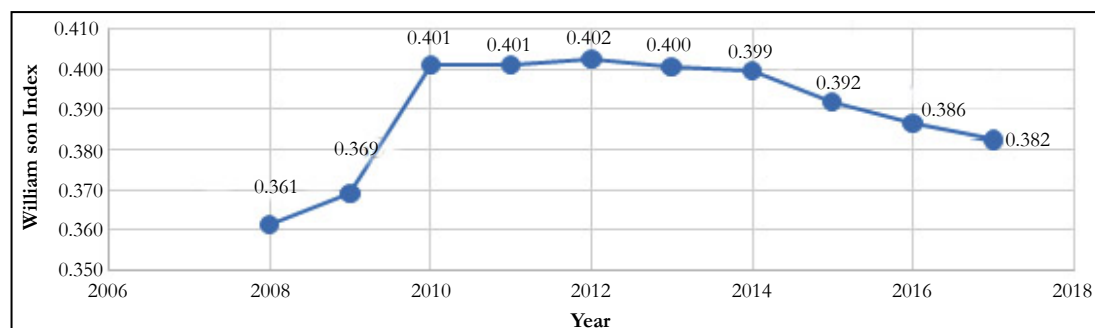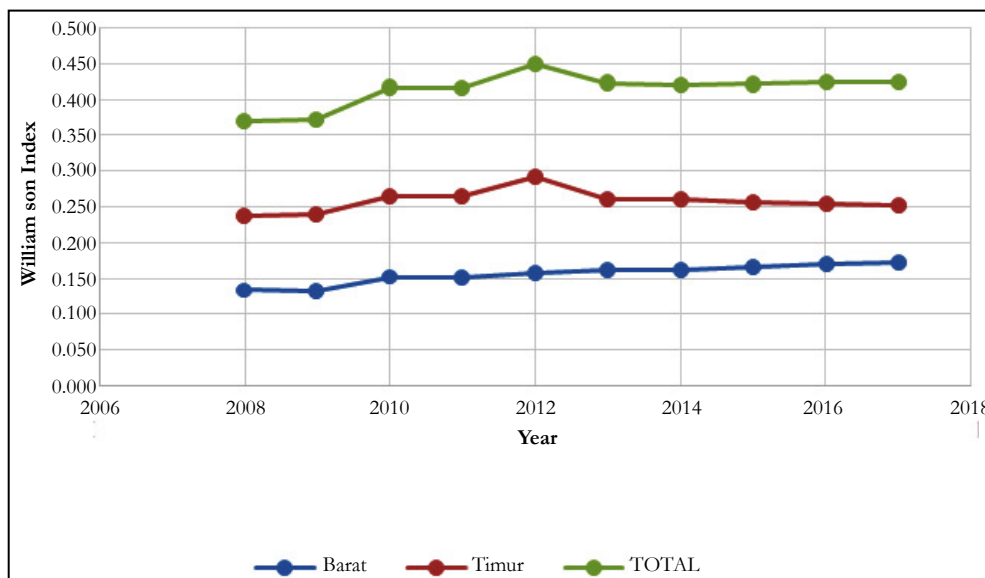

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Table 7. The level of regional inequality of the Williamson Index in the western and eastern regions of Jambi Province in 2008-2017.

Year	West Region	East Region	TOTAL
2008	0.133	0.238	0.372
2009	0.132	0.241	0.373
2010	0.153	0.266	0.418
2011	0.153	0.265	0.417
2012	0.158	0.293	0.45
2013	0.162	0.262	0.424
2014	0.162	0.261	0.422
2015	0.166	0.256	0.423
2016	0.171	0.255	0.427
2017	0.173	0.252	0.425

Figure 4. Graph of regional inequality development in the Williamson Index in the west and east regions of Jambi Province in 2008-2017.

the western and eastern regions of the Jambi Province resulted that the eastern region of the Jambi Province had a higher level of inequality compared to the western region of the Jambi Province. This is because the eastern region of the Province is an area that is close to the provincial capital, the City of Jambi. And this is in line with (Rustiadi et al., 2009) [11] where the imbalance of development produces a structure of relations between regions that form a mutually weakening interaction. The hinterland region is weakened due to excessive drainage of resources (backwash), which results in a net flow and accumulation of added value directed to the development centers on a massive and excessive scale so that there is accumulation of added value in the central growth regions. As a result of crushing is the inability of an area to be able to develop better due to the abandonment of qualified human resources and poor value-added natural resource management. The role of local government is needed to move the potential sector as a driver of the regional economy [2].

Inequality in development between regions is a universal phenomenon in all countries regardless of the size and level of development. Efforts that can be made so that inequality between regions can be reduced or decreased is by increasing cooperation between regions so that a balanced economic increase occurs [3].

According to Anwar (2005) [1], development inequality both in the aspects of inter-community groups and according to spatial aspects between regions is an uneven regional development problem and must receive serious attention.

Conclusions and Recommendation

Conclusion

The results of this study illustrate that the regional income/Gross Regional Domestic Product of Kabupeten/city in Jambi Province in the period 2008 - 2013 shows that there are differences in the level of economic growth between regions, The Factors - Causes of development imbalances between regions due to differences in the ability of each region and also from various factors of Natural Resources, Human Resources and population distribution which have implications for gross value added (GRDP) in the economy between regions in Jambi Province.

The results of the analysis of the pattern and structure of economic growth in the regency/city area in Jambi Province in 2008-2017 based on the Klassen Typology show that the quadrant I, namely the developed and fast-growing regions, is Jambi City and Sun-

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gai Penuh City, Quadrant II, the developed but depressed area is the Tanjung Jabung Timur Regency and Tanjung Jabung BaratRegency, Quadrant III, which are fast developing regions, are Kerinci Regency, Merangin Regency, Sarolangun Regency, Batang Hari Regency and Bungo Regency, Quadrant IV is a relatively underdeveloped area of Tebo Regency and Muaro Jambi Regency.

While the results of the Klassen Typology analysis based on 2008 and 2017 are where in 2008 there were no regencies/cities in quadrant I. However, in the period of 2017 Quadrant I was filled by Jambi City, Sungai Penuh City and Kerinci Regency, where in the previous period Jambi City and Sungai Penuh City is in quadrant II, while Kerinci Regency is in quadrant IV, meaning there is an increase in the pattern of economic growth for 10 years for Jambi City, Sungai Penuh City and Kerinci Regency. Next Batang Hari Regency, Merangin Regency, Muaro Jambi Regency and Tebo Regency increased to Quadrant III in 2008, which was in quadrant IV. While the area at the beginning of the 2008 study was in quadrant II, the 2017 equivalent remained in the second sanctuary.

Based on the results of the analysis of the Williamson Index in Jambi Province during 2008-2017 shows that there is an average development imbalance of 0.389, this indicates that the value of the development inequality index in Jambi Province is of medium category. This is because there are differences in the ability of each region and also from various factors of natural resources, human resources and population distribution that have implications for gross value added (GRDP) in the economy between regions in Jambi Province. While the results of the Williamson Index analysis based on the western and eastern regions of Jambi Province yielded that the eastern regions of Jambi Province had a higher level of inequality compared to the western regions of Jambi Province.

Recommendation

At the macro level, local government intervention in increasing regional economic growth can be done through increasing factors that can increase GRDP and economic growth rates and issuing policies that can reduce inequality in regional development in regencies/cities in Jambi Province, especially in regions included in the regional classification relatively behind and areas of high inequality.

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