

## ACCELERATING ECONOMIC DISTRIBUTION BY DETERMINING GROWTH POLE AREA

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Received: 07.03.2020

Revised: 09.04.2020

Accepted: 10.05.2020

### Abstract

The Williamson index value of Central Java Province increases every year, which indicates that the development imbalance among the regions in the province belongs to the high category. Such high imbalance in a region is not positive, but indeed it is a big problem that must be solved soon by the government of Central Java Province. One appropriate effort is the acceleration of balance through adding the growth pole area. This research has several objectives among others are: 1) identifying the growth pole regions existing in Central Java Province, 2) determining the new growth pole regions in Central Java Province. This research applies the quantitative and qualitative analyses using the primary and secondary data source. The analysis uses Klassen typology, Balassa index, Scalogram, Human Development index, and overlay. The findings of this research is the regions in Central Java Province that are categorized as the old growth pole regions are Semarang City, Pekalongan City, Cilacap Regency, Karanganyar Regency, Magelang Regency, Surakarta City, and Salatiga City. While the regions that are recommended as the new growth pole regions are Semarang Regency, Tegal Regency, and Sukoharjo Regency. With the development of growth pole regions, equitable distribution of economic conditions in the Central Java region will occur and the problem of inequality will be overcome.

**Keywords:** accelerating economic distribution, williamson index, growth pole region, development.

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### INTRODUCTION

The integrated regional development effort through the spatial planning arrangement must be directed to the imbalance problem solving among the regions in the welfare and economic growth level. The difference, whether the natural or artificial one among the regions in an area, leads to the difference in opportunity to grow and develop. The difference has encouraged the creation of trend for the people in their socio-economic activities to make groups or agglomerate in certain areas, which are the central regions in a spatial region.

Central Java is a Province that has wide area and many regencies/cities. There are 35 regencies or cities in Central Java. A lot of regencies or cities having different geographical, natural resource, and human resource conditions lead to the different potency and economic conditions among the regions.

Bruto Regional Domestic Product (PDRB) per capita can be one indicator to see the economic development success in an area. The development of PDRB per capita in Central Java, the Current Prices (ADHB) and the Constant Prices (ADHK) indicate that there is an increase every year. In 2017 PDRB per capita ADHB Central Java is 17.14 rupiahs or increases 11.44 % since 2016.

Seen from the condition of each regency/city in Central Java Province, eleven regencies/cities have higher PDRB per capita than others in Central Java, those are Pekalongan City (Rp 16.42 millions), Magelang (Rp 22.07 million), Surakarta (Rp 24.35 millions), and Semarang (Rp 34.79 millions), and Karanganyar Regency (Rp 14.06 millions), Semarang (Rp 14.81 millions), Sukoharjo (Rp 14.84 millions), Kendal (Rp 14.88 millions), Cilacap (Rp 30.33 millions), and Kudus (Rp 47.35 millions). Kudus Regency does not have the biggest PDRB but has the highest PDRB per capita amounted Rp 47.35 millions. On the other hand, not having the fewest PDRB, Blora Regency has the lowest PDRB per capita amounted Rp 6.12 millions. From the data, it can be seen that there is a high enough gap among regions' economic conditions in Central Java Province. This is indicated by the region that has the highest PDRB per capita amounted Rp 47.35 millions that is Kudus Regency, however, on the other side, there is another region with much lower PDRB per capita amounted Rp 6.12 millions that is Blora Regency. This indicated the imbalance of welfare level among the regions. The following is the figure of value of PDRB per capita in 2017 for each regency or city in Central Java Province.

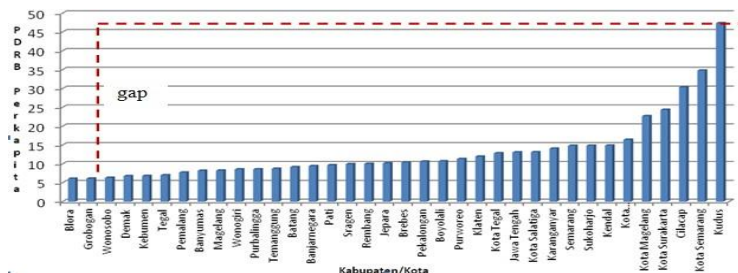


Figure 1: Bruto Regional Domestic Product (PDRB) per capita in 2017 each regency/city in Central Java Province.

From the figure of PDRB value based on the valid price of the Regencies/Cities in Central Java Province above, we can see that each region has different amount of income per capita. But the income difference among the regions in Central Java Province is very significant. There is a very high gap between the region with the highest income and the one with the lowest income. Based on such a fact, it can be indicated that there is an economic imbalance among the regions in Central Java Province. This is indicated by a region with the very big value of PDRB per capita

that is Kudus Regency, while on the other side there is another region with the very few value of PDRB per capita that is Blora Regency.

The high imbalance in a region certainly is not a positive thing, but it is a big problem that must be solved by the government of Central Java Province. The imbalance implied in the data of PDRB per capita above has been strengthened by the accounting result of Gini Index as follows:

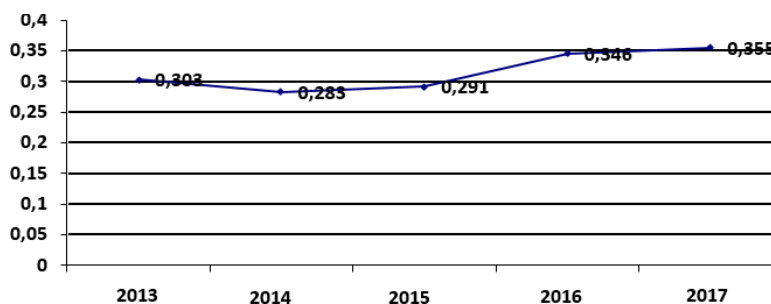


Figure 2: Gini Index, Central Java Province, in 2013-2017

Gini Index is a measure to see the income imbalance among the society. Gini Index in 2013 amounted 0.303 increased to 0.355 in 2017. The increase indicates that there is an income imbalance among the society during 2013-2014 as the logical consequence of the economic growth increase in Central Java.

imbalance among the regions narrowed during 2013-2015 but became wider in 2016-2017. In 2016-2017 Williamson increased to 0.6972 and 0.7042, which indicates that the imbalance among the region in Central Java becomes wider. Williamson Index above 0.5 indicates that the development imbalance among the regions in the regencies/cities in Central Java belongs to the high category. The development of Williamson Index of Central Java can be seen in the following figure:

The proof of imbalance happening in Central Java is strengthened by the analysis index of Williamson Index. The imbalance among the regions of regencies/cities in Central Java measured by Williamson Index indicates that in the period of 2013-2017 the

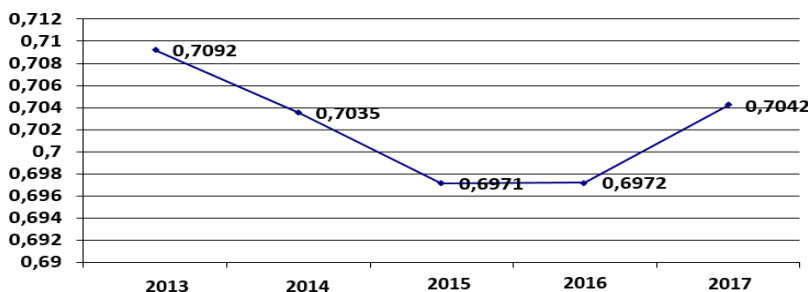


Figure 3: Williamson Index, Central Java Province, in 2013- 2017

Based on the problems described above, it requires a solution to solve the imbalance problem. One effort that can be done is by determining the growth pole regions according to the Growth Pole theory, which states that a country needs to choose one regional growth center or more that have the strongest potency. After the growth pole regions have been determined, an economic and regional planning should be arranged in each growth pole region by concerning the basic potency it owns. It aims to make the economy of the growth pole region more developed and afterwards extend to the underdeveloped regions around it. Hopefully, there will be an economic balance and economic improvement in Central Java Province that will solve the imbalance and disparity problems in Central Java Province. The objectives expected to reach from this research are to identify the growth pole regions already existing in Central Java Province and to determine the new growth pole regions in Central Java Province.

**METHOD**

The type of research to be conducted here is a combination of qualitative and quantitative research, in which it uses the analysis basic of numeric account in analyzing the growth pole region determination and planning that will be explained in a mapping. The type of data used in this research is the primary and secondary data. The primary data of this research is taken by interviewing those who make the regional planning in each of growth pole region. The secondary data is taken from various sources those are Central Bureau of Statistics (BPS) of Central Java and of the regencies/cities and the Bureau of Regional Development Planning of Central Java Province (BAPPEDA). The analysis method to be applied in this research is as follows. The qualitative method using Delphi method is applied in formulating the regional improvement planning in this research. The quantitative method in this research applies the analytical tool of Klassen typology Scalogram, Balassa Index, Human Development Index, Overlay, and mapping.

Klassen typology, Scalogram, Balassa Index, Human Development Index, and Overlay are used to determine the growth poles, while the planning mapping is conducted by GIS (Geographic Information System) that aims to describe the result of determining the growth pole regions.

**RESULT**

The growth pole regions that have existed in Central Java Province are analyzed based on the economic conditions of the regencies/cities in Central Java Province, which are analyzed using Klassen Typology. It is conducted by comparing the growth rate of PDRB in each regency/city with the growth rate of PDRB of Central Java Province, and also by comparing PDRB per capita in each regency/city with PDRB per capita of Central Java Province in time series.

Those stated as the existing growth pole in this research are the regions belonging to the yearly consistent quickly developed and quickly growing category. Those regions are Semarang City, Pekalongan City, Cilacap Regency, Karanganyar Regency, Magelang Regency, Surakarta City, and Salatiga City.

The growth pole regions will be strong if having several aspects of strength, among others are: included in the quickly developed

and quickly growing regions, the industrial agglomeration regions, having complete infrastructure, and having good Human Development Index. Based on the growth pole determination, the followings are the figure of each region based on several aspects determining it as the growth pole regions:

**Industrial Agglomeration Regions**

Industries will concentrate on a region to shape the industrial agglomeration when an industry chooses a location for its production activity that makes it possible to continue in a long term, so that the people will gain the benefit if following the action to establish a business around the location. The agglomeration account in this research uses Balassa Index, in which the higher the value of Balassa index, the stronger the agglomeration will be. The industrial agglomeration is called strong if the value of Balassa index is above four, it is called medium if the value is between two and four, and it is called weak if the value is between one and two, while the value between zero and one indicates that there is no agglomeration or it can be said that the region has no comparative advantage to be an agglomeration. The following is a table of industrial agglomeration classification based on Balassa index.

**Table 1: Classification of Big and Medium Industrial Agglomeration of Regencies/Cities in Central Java Province in 2013-2017**

Industrial Agglomeration Classification	Regions
Industrial agglomeration is strong/high if Balassa index is more than 4	-
Industrial agglomeration is medium if Balassa index is between 2 and 4.	Purbalingga Regency, Sukoharjo Regency, Kudus Regency, Jepara Regency, Pekalongan Regency, Pekalongan City.
Industrial agglomeration is weak if Balassa index is between 1 and 2.	Cilacap Regency, Banyumas Regency, Banjarnegara Regency, Kebumen Regency, Purworejo Regency, Wonosobo Regency, Magelang Regency, Magelang Regency, Boyolali Regency, Klaten Regency, Karanganyar Regency, Sragen Regency, Pati Regency, Demak Regency, Semarang Regency, Temanggung Regency, Kendal Regency, Batang Regency, Pemasang Regency, Tegal Regency, Magelang City, Salatiga City, Semarang City, and Tegal City.

Based on Table 1, it can be seen that the agglomeration level in the regencies/cities of Central Java Province on average is still weak and medium, even only six regencies/cities belonging to the medium industrial agglomeration with the value of Balassa index of two, while 24 regencies/cities having the value of industrial agglomeration of one belong to the medium, and five other regencies have the value of industrial agglomeration of zero. It can be concluded globally that the industrial agglomeration in Central Java Province is still very low from year to year. The increase in economic growth of the regencies/cities

in Central Java Province cannot be parted from the great contribution of nine sectors.

**Infrastructure**

Infrastructure has an important role for the regional development. The development success and the good economic growth achievement also depend on the infrastructure condition owned by each region. The following is the infrastructure completeness figure in each regency/city in Central Java Province based on the Scalogram analysis.

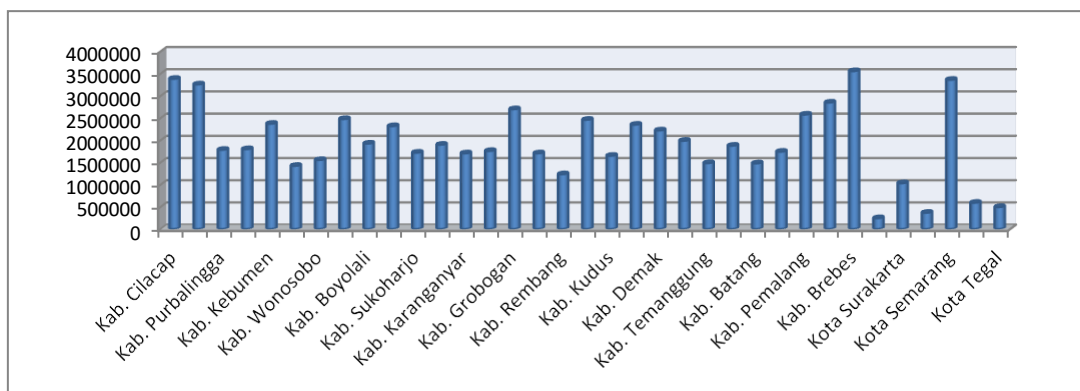


Figure 4: The Infrastructure Completeness of Regencies/Cities in Central Java Province 2017.

Seen from the graph of infrastructure amount of each regency/city in Central Java Province above, some regions have high amount of infrastructure, among others are Cilacap Regency, Banyumas Regency, Brebes Regency, and Semarang City.

**Index of Human Development**

One indicator to measure the success in an effort to build the quality of human life is Human Development Index (IPM). Human development needs to perform to encourage the economic growth in the context of regional economic improvement. It is important because the development policy that does not encourage the quality improvement of Human Resources will only make the region under developed from other regions, including in the economic performance. So human resources has important role in moving the regional economic sector to decrease the disparity in regional development.

The human development achievement of all regencies/cities in Central Java Province experienced fluctuating improvement during the period of 2010-2014. However, the amount of regencies/cities with bigger value of IPM than the average value of IPM of all regencies/cities in Central Java Province are only 16, while the rest amounted 19 only have the value of IPM under the

average value of IPM of all regencies/cities in Central Java Province. The amount of regencies/cities with the value of IPM above the average value of IPM of all regencies/cities describe that there is still a development disparity of human resources among the regencies/cities, in other words, the difference of IPM value is one factor that makes the economic growth of each regency/city different.

The highest value of IPM in 2013-2017 is Surakarta City, which always got increased trend in IPM value, in 2013 it got 77.49 and increased to 79.10 in 2017. The second level is Semarang City of 77.59, followed by the third one that is Magelang City of 76.49. Whereas, Brebes Regency, although experienced increasing trend of IPM value, the achievement is always the lowest from 2013-2017. The IPM value development of Brebes Regency in 2010 is 67.69 to 69.85 in 2017. The second lowest level is Banjarnegara Regency of 70.15, and the third lowest one is Pemalang Regency of 70.21.

Based on the results at the analysis, the determination of the new growth pole area can be determined from the results of the overlay analysis. The following is the result of the overlay analysis of determining the new growth pole area.

Table 2: Overlay Analysis Result

Quickly Developed and Quickly Growing Regions	Industrial Agglomeration Regions	Infrastructure	IPM	Recommendation
Cilacap Regency	Pekalongan City	Brebes Regency	Tegal City	Growth Pole : 1.Semarang City, 2.Pekalongan City, 3.Cilacap Regency, 4.Karanganyar Regency, 5.Semarang Regency, 6.Magelang City, 7.Surakarta City, 8.Salatiga City, 9.Tegal Regency, 10.Sukoharjo Regency.
Karanganyar Regency	Pekalongan Regency	Cilacap Regency	Pekalongan City	
Semarang Regency	Jepara Regency	Semarang City	Semarang City	
Kendal Regency	Kudus Regency	Banyumas Regency	Salatiga City	
Magelang City	Sukoharjo Regency	Tegal Regency	Surakarta City	
Surakarta City	Kebumen Regency	Grobogan Regency	Magelang City	
Salatiga City	Purbalingga Regency	Pemalang Regency	Temanggung Regency	
Semarang City		Pati Regency	Semarang Regency	
Pekalongan City			Karanganyar Regency	

			Sukoharjo Regency	
			Klaten Regency	

From the overlay result above, there are ten regencies/cities in Central Java Province that can be stated as the growth pole regions. Those are Semarang City, Pekalongan City, Cilacap Regency, Karanganyar Regency, Semarang Regency, Magelang Regency, Surakarta City, Salatiga City, Tegal Regency, and Sukoharjo Regency. Those ten regions can be grouped into two categories. The old growth pole regions are Semarang City,

Pekalongan City, Cilacap Regency, Karanganyar Regency, Magelang Regency, Surakarta City, Salatiga City. And the new growth pole regions are Semarang Regency, Tegal Regency, and Sukoharjo Regency. The following is the table of grouping the old and new growth pole regions.

**Table 3: Grouping of Old and New Growth Pole Regions in Central Java Province**

Growth Pole Regions	
Old	New
Semarang City	Semarang Regency
Pekalongan City	Tegal Regency
Cilacap Regency	Sukoharjo Regency
Karanganyar Regency	
Magelang City	
Surakarta City	
Salatiga City	

## CONCLUSION

From several things explained previously, there are some conclusions that can be taken from the research activities, among others are;

- i. Regions in Central Java Province are categorized as the old growth pole those are Semarang City, Pekalongan City, Cilacap Regency, Karanganyar Regency, Magelang Regency, Surakarta City, Salatiga City.
- ii. Regions recommended as the new growth pole regions are Semarang Regency, Tegal Regency, and Sukoharjo Regency.

With the development of growth pole regions, equitable distribution of economic conditions in the Central Java region will occur and the problem of inequality will be overcome.

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