# SECTORAL AGGLOMERATION AS EFFORT REINFORCING REGIONAL STRENGTH: STUDY AT MADIUN REGION, INDONESIA

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## ABSTRACT

*Each region has potential and economic advantages that are source of regional growth. The ability to spur it depends on advantages or competitiveness of economic sectors. Empirically, growth of region is related to the process of specialization, interaction, centrality, rank-size-rule, and dynamics of settlement pattern. Thus, it takes place due to strong inter-regional links, where one region serves as a center and is supported by another region as hinterland.*

*This study analyzed typologies and potential sectors in economic development at some regencies with the smallest contribution of Gross Regional Domestic Product (GRDP) for East Java Province but have some similar potential resources. It namely Regency of: Pacitan, Magetan, Madiun, Ponorogo and Trenggalek, abbreviated PATANDIROLEK. It's location in the Madiun region. Data used is GRDP, GRDP of East Java province in 2013-2016. The method is used by SLQ-DLQ Analysis, Shift Share analysis, and Spatial Analysis. The result is known the leading or superior economic sectors in PATANDIROLEK, the sectoral linkages of the region and East Java, and its implications.*

**Keywords:** Superior Sector, Area Linkage, Spatial Analysis, Madiun Region

## INTRODUCTION

The development of regional superior potential that is conducted in an integrated and sustainable manner in accordance with the regional development plan is expected to increase regional economic productivity. The ability to spur the growth depends on the superiority or competitiveness of the economic sectors in its region (Rice & Marshall, 2010). The region can evolve through the development of a leading sector in the region that encourages the development of other sectors, so that sector development becomes one of the approaches to be considered for regional development Fischer & Getis (2009). Therefore, sectoral approach is one of the strategies in building the regional economic potential.

Growth of the region occurs due to various factors that influence each other. The region develops due to the interaction between the core and periphery or hinterland as proposed by Fiedmann in the Central and Substation relations model (Baldwin & Okubo, 2005). According to (Goschin, 2014), empirically the region's growth is associated with the process of specialization, interaction, centrality, rank-size-rule, and the dynamics of settlement patterns. So that the growth

of the region takes place due to strong inter-regional links, where one region serves as a center and supported other areas as hinterland.

Regional development can be done through sectoral and regional approaches (spatial). The development of the region through sectoral approach emphasizes on the selection of economic sectors of the region that can act as a driver of the regional economy. While the regional approach (spatial) gives emphasis on spatial aspects in developing the region. Both approaches are relevant to be applied in regional development in East Java, which consists of 38 regions/municipalities with different regional economic characteristics, especially, applied at PATANDIROLEK as object of study.

Central Bureau of Statistics (BPS) of East Java Province released economic growth in East Java in the third quarter of 2017 amounted to 7.29% based on Gross Regional Domestic Product (GRDP) at current prices reached Rp. 520.6 trillion. The growth exceeds growth a national economy of only 6.23%. However, in East Java Province, there are gaps, especially in the regional economic sector, which is seen from the value of Gross Regional Domestic Product (GRDP) between urban and regency. The data of regencies/municipalities' GRDP contribution to East Java Province shows that PATANDIROLEK give small contribution (Table 1).

**Table 1**
**GROSS REGIONAL DOMESTIC PRODUCT (GRDP) AT CURRENT MARKET PRICE REGENCIES/ MUNICIPALITIES IN EAST JAVA PROVINCE (2014-2015) (BILLION RUPIAH)**

| No | Regencies | 2014 | 2015 | No | Regencies/ City | 2014 | 2015 |
|---|---|---|---|---|---|---|---|
| 1 | Kab, Pacitan | 10,492.2 | 11,590.6 | 20 | Kab, Magetan | 12,564.7 | 13,875.9 |
| 2 | Kab, Ponorogo | 13,393.6 | 14,912.8 | 21 | Kab, Ngawi | 13,311.5 | 14,996.4 |
| 3 | Kab, Trenggalek | 12,298.0 | 13,632.4 | 22 | Kab, Bojonegoro | 50,542.6 | 46,649.2 |
| 4 | Kab, Tulungagung | 25,780.6 | 28,415.3 | 23 | Kab, Tuban | 43,853.8 | 48,203.5 |
| 5 | Kab, Blitar | 24,140.6 | 26,776.2 | 24 | Kab, Lamongan | 25,724.1 | 28,831.3 |
| 6 | Kab, Kediri | 27,753.8 | 30,483.3 | 25 | Kab,Gresik | 93,785.1 | 100,748.6 |
| 7 | Kab, Malang | 65,949.5 | 73,843.3 | 26 | Kab, Bangkalan | 21,709.2 | 19,048.0 |
| 8 | Kab, Lumajang | 21,983.2 | 24,456.8 | 27 | Kab, Sampang | 14,628.3 | 14,697.2 |
| 9 | Kab, Jember | 50,551.9 | 56,377.0 | 28 | Kab, Pamekasan | 11,078.5 | 12,311.7 |
| 10 | Kab, Banyuwangi | 53,406.3 | 60,218.5 | 29 | Kab, Sumenep | 28,312.7 | 26,998.0 |
| 11 | Kab, Bondowoso | 13,074.1 | 14,484.9 | 30 | City Kediri | 87,704.2 | 97,444.3 |
| 12 | Kab, Situbondo | 13,338.8 | 14,795.7 | 31 | City Blitar | 4,354.1 | 4,819.1 |
| 13 | Kab, Probolinggo | 23,155.1 | 25,678.2 | 32 | City Malang | 46,563.3 | 51,828.0 |
| 14 | Kab, Pasuruan | 94,905.0 | 104,286.2 | 33 | City Probolinggo | 7,260.6 | 8,072.0 |
| 15 | Kab, Sidoarjo | 131,645.3 | 146,372.3 | 34 | City Pasuruan | 5,345.8 | 5,949.4 |
| 16 | Kab, Mojokerto | 53,202.6 | 58,819.9 | 35 | City Mojonegoro | 4,426.8 | 4,881.1 |
| 17 | Kab, Jombang | 26,339.1 | 29,148.0 | 36 | City Madiun | 9,214.2 | 10,191.6 |
| 18 | Kab, Nganjuk | 17,248.5 | 19,124.9 | 37 | City Surabaya | 365,354.8 | 406,196.8 |
| 19 | Kab, Madiun | 12,531.7 | 13,874.7 | 38 | City Batu | 10,259.7 | 11,510.4 |

Region's development has a linkage between the regions with other areas both backward and forward linkage. The existence of diverse potentials and regional advantages in each of 38 regencies/city/municipalities in East Java both in terms of leading sector and the location of economic activities should be a concern in the development of region, so that formulation of this study is how sectoral and spatial linkages in regional development in East Java, especially in PATANDIROLEK.

It is a superior area in the agricultural sector, a wide agricultural landscape and now the center of food barns for other regions. It is needed a study to determine the potential and

identification sectors of regional economics at PATANDIROLEK and review the leading economic sectors, the sectoral linkages of region and identify its implications for urban development.

## LITERATURE REVIEW

### Growth Theory

One of basic theories of economic growth is growth pole theory. The growth pole theory was first put forward by Perroux in 1955. After that, theory developed rapidly and was used as a basis for policy making in both developing and developed countries. The application of the theory seriously began in 1970 (Miyoshi, 1997).

Perroux also indicates that development must be caused by a certain concentration (agglomeration) for economic activities in an abstract space. Boudeville defines growth poles as *"a group of industries that experience expansion located in an urban area and encourages the development of further economic activities throughout the area of influence"* (Glasson, 1978). He also built the concept of growth pole as an operational planning model, which explained a condition in which growth would be created in a region that gave rise to a polar region (Martin & Ottaviano, 2001).

### Agglomeration

In economic growth, there is also a theory of agglomeration known as localized industries triggered by Marshall. Agglomeration is the spatial concentration of economic activity in urban areas due to savings resulting from companies that are located close together (Kuncoro, 2012). The basic objective of agglomeration or concentric theory is to integrate business groups, so that in that location it is expected to be able to attract and bring forth other businesses.

The agglomeration theory and growth poles at least indicate the existence of an effect in every development of economic activity in a region which will result in the surrounding economic region becoming involved. Visualizing the existence of differences in growth between regions can be used by conducting an analysis based on the variables forming the region (Duranton & Puga, 2004).

### Trickle Down Effect Theory

Hirschman and Myrdal explain the impact of drops down and the impact of the spread from development. Similar to Francois Parroux, Hirscman and Myrdal also use the term polarization, but do not use the term pole or pole; they use the term impact drop down (Hisyam Hassan et al., 2011)

The difference is that if the influence of Parroux theory is its polarization, the influencing theory of Hirscman and Myrdal is the point of development. So, when a large and prolonged crisis occurs, the point of development is shaky, the one below or the polarization will be destroyed (Mukhlis et al., 2017).

## Regional Spatial Planning (RTRW) of East Java Province

East Java Province which consists of 38 regencies/cities and as the second province with the highest and largest gross domestic product in Java has very diverse economic potential. East Java Province has geographical and community characteristics that are quite diverse with indications that some districts/cities are the economic center for the East Java region. The northern region of East Java has industrial and fishery potential. The western and central regions of East Java have agricultural and industrial potential, while the eastern and southern regions of East Java have agricultural and tourism potential.

Based on the diversity of potential possessed by each district/city in the East Java region, the East Java provincial government made the RTRW of the East Java Provincial Government. This was done by issuing East Java Provincial Regulation No.5/2012 concerning the RTRW of East Java Province (Peraturan Daerah Provinsi Jawa Timur Nomor 5, 2012). The regulation establishes a Regional Development Unit (SWP), where each SWP is directed to have a regional function in accordance with the potential of each region. The distribution of SWP is presented in Table 2 below.

**Tabel 2**
**EAST JAVA DEVELOPMENT AREA UNIT (SWP)**

| No | SWP | District/ City | Service Center |
|---|---|---|---|
| 1 | Gerbangkertosusila Plus | Surabaya, Tuban, Lamongan, Bojonegoro, Gresik, Sidoarjo, Mojokerto, Jombang, Bangkalan, Pasuruan | Surabaya City |
| 2 | Malang Raya | Malang, Batu and Malang | Malang City |
| 3 | Madiun and surrounding areas | Madiun City, Madiun, Ponorogo,Magetan, Pacitan, Ngawi | Madiun City |
| 4 | Kediri and surrounding areas | Kediri City, Kediri, Nganjuk, Trenggalek, and Tulungagung | Kediri City |
| 5 | Probolinggo-Lumajang | Probolinggo City, Probolinggo and Lumajang | Probolinggo City |
| 6 | Blitar | Blitar City and Blitar Regency | Blitar City |
| 7 | Jember and surrounding areas | Jember, Bondowoso and Situbondo | Jember City |
| 8 | Banyuwangi | Regency Banyuwangi | Banyuwangi City |
| 9 | Madura and Islands | Sampang, Pamekasan and Sumenep | Pamekasan City |

## MATERIALS AND METHOD

The study is located in the regencies/city with smallest GRDP contribution for East Java Province but they have similar potential resource, namely Region of: Pacitan, Magetan, Madiun and Madiun City, Ponorogo and Trenggalek abbreviated PATANDIROLEK. Data used are GRDP and GRDP per capita of East Java Province and PATANDIROLEK Regencies from 2013 until 2016, obtained from Badan Pusat Statistik) of East Java Province (BPS, 2016).

### Location Quotient Analysis

To know the leading sectors that exist in region can be seen from sector that has the ability to export, called the base sector. Method Location Quotient (LQ) is a simple method that can show the ability of export certain sectors in a region to a larger area (Deddy & Irwansyah, 2013). To know the leading economic sector can be calculated LQ with the approach of value added production (GRDP) and labor. The calculation of LQ can be expressed as follows:

$$LQ_i = \frac{E_{ij}/E_j}{E_{it}/E_t}$$

If LQ>1, meaning that the role of the sector in the Regency is greater than in the regional; LQ<1, meaning that the role of the sector is smaller; and LQ=1, meaning that the role of the sector is the same both in the Regency and regional.

The LQ method has limitations because it is static and is only used to estimate the change of sector sectors in certain year only. To overcome the limitations of static LQ methods, it will be used dynamic LQ method that can accommodate changes in economic structure of the region within a certain time. According to (Saharuddin, 2006) in general the dynamic LQ method has in common with the static LQ method, only distinguishing the dynamic LQ model includes the average growth rate to each sectoral added value or GRDP for the period between year 0 to year t. The form of a dynamic LQ mathematical equation is as follows:

$$DLQ = \left\{\frac{(1+g_{in})/(1+g_n)}{(1+G_j)/(1+G)}\right\}^t$$

Where,

| | |
|---|---|
| DLQ | =Index potential sector i at region/county. |
| $g_{in}$ | = Growth of sector i at region/county. |
| $G_j$ | = Average growth of sector j at region/county. |
| $g_n$ | = Growth of sector i at province. |
| G | = Average growth of sector i at province. |
| t | = Differential year end and initial. |

**Spatial Analysis Method**

Statistical tests such as Moran's *I* can be used to formally analyze the existence of spatial dependence. In the Moran test, the spatial structure in the data can be modeled through the spatial weight matrix W. This matrix defines the spatial data structure by specifying the proximity of each region. With Moran 's *I* statistical test can be analyzed whether the proposed model is able to present precisely the spatial relationships between regions (Longhi & Nijkamp, 2007). Moran's *I* is calculated using the following equation:

$$I = \frac{N(x-\mu)'\,W\,(x-\mu)}{S(x-\mu)'\,(x-\mu)}$$

Where, x is the realization vector of the variable interest, $\mu$ is the mean, and *W* is the spatial weight matrix. *N* is the number of observations, while *S* is the standardization factor. Moran's *I* gives a negative value indicating a negative correlation, where an area with a value of *x* higher than the average is generally surrounded by areas with a lower than average *x* and vice versa. A value of 0 indicates the absence of spatial autocorrelation (Takuma & Sasaki, 2000).

## Shift Share Analysis

This analysis aims to determine and describes the performance or productivity of Regency economic work by comparing with the regional economy. The relative change in Regency development performance against the region can be seen from the Differential Shift.

Differential shift is a value to find out how comparative a particular sector of the region than national. If a positive sign (+) means that sector *i* has a speed to grow compared to the same sector at the national level, or it can be stated that the share of a region of national labor in a particular sector is increasing. If a negative sign means that sector *i* has a tendency to retard growth compared to the same sector at the national level. Mathematically, this analysis can be calculated using the formula:

$$D_{r,j,t} = \{(E_{r,j,t} - (EN_{j,t}/EN_{j,t-n})\, E_{r,j,t-n}\}$$

Information:

| | | |
|---|---|---|
| Δ=Growth | E=Employment (unit) | r=Region (Analisys Area) |
| i=Industrial Sector | t=Year | t-n =Initial year |
| $N_s$=National Share | P=Proportional Shift | D=Differential Shift |

## Synthesis Methodology

Systematically based on Table 3, it can be explained that there are four stages of analysis that must be implemented in the study, i.e. sequentially SLQ and DLQ, Spatial analysis, and Shift-share analysis.

**Table 3**
**SYNTHESIS OF ANALYSIS STAGES AND METHODS**

| Stages Analysis | Aim | Analysis Method | Necessary Data | Required Tool |
|---|---|---|---|---|
| I | Knowing the leading economic sectors in PATANDIROLEK | SLQ and DLQ Analysis | Data GRDP of East Java Province and Regencies at PATANDIROLEK 2013-2016 | Microsoft Excel |
| II | Spatialize sector values | Spatial Analysis | Value of analysis results Previous | Arc GIS 9.3 |
| III | Identify Inter-sectoral linkages economy at PATANDIROLEK | Shift Share Analysis | Data GRDP of East Java Province and Regencies at PATANDIROLEK 2013-2016 | Microsoft Excel |

## RESULTS AND DISCUSSION

Data used on LQ analysis is value that added on Gross Regional Domestic Product (GRDP) of East Java Province and PATANDIROLEK Regencies/City, from 2013 until 2016. On this analysis, done counting SLQ and DLQ for so later on it could be compared superior sector among them. SLQ is limited because it is static and could be only used for the estimate change in superior sector on a certain year (Table 4). To resolve, it will be added with dynamic LQ or DLQ that accommodate change structure economy region in the period of time (Saharuddin, 2006).

| Table 4<br>SECTOR CLASSIFICATION BASED ON SLQ AND DLQ VALUE | | |
|---|---|---|
| Criteria | SLQ>1 | SLQ<1 |
| DLQ>1 | Superior Sector | Mainstay Sector |
| DLQ<1 | Prospective Sector | Disadvantage Sector |

It is known that superior sector represent sectors are currently superior and potentially permanent on some years ahead. Mainstay sector are sectors that is not superior at the moment, but have a potential to be superior. Prospective sector are sector that is in superior sector but no potential in some years ahead. While the disadvantage sector represents a sector that is not superior for now and no potential to be superior soon.

To learn the classification sector in PATANDIROLEK, four sectors that is valued to delivers influence is Agriculture, Industry, Trading and Restaurant, and Service Sector. Here is the following explanation.

## Agriculture Sector

Regencies have superior sector but no potential in some years ahead in the farming field are Pacitan, Ponorogo, Magetan, Madiun and Trenggalek Regency. Meanwhile, Madiun City has sector that is not superior for now and no potential to be superior soon (Table 5).

| Table 5<br>REGENCY/CITY CLASSIFICATION BASED ON SLQ AND DLQ IN AGRICULTURE SECTOR | | |
|---|---|---|
| **Criteria** | **SLQ>1** | **SLQ<1** |
| DLQ>1 | | |
| DLQ<1 | Pacitan Regency<br>Ponorogo Regency<br>Magetan Regency<br>Madiun Regency<br>Trenggalek Regency | Madiun City |

It is concluded that there are some regencies in PATANDIROLEK region that has excellence value in agriculture sector. It supports the region development function on East Java Province structure that had set that as a region of agriculture that plant food, plantation, horticulture, forestry, fisheries and farm.

## Industry Processing Sector

Regencies that have industry processing not superior at the moment, but have a potential to be superior on some year ahead are Madiun, Magetan, Ponorogo, Trenggalek Regency and Madiun City. Meanwhile, Pacitan Regency has sector that is not superior for now and no potential to be superior soon.

The processing industry sectors in PATANDIROLEK region except Pacitan Regency have prospects to support the function of the area development in the established East Java Province spatial structure as a mining and industrial area. Meanwhile Pacitan Regency needs to get attention and policy touch to improve the role of the manufacturing industry (Table 6).

| Table 6<br>REGENCY /CITY CLASSIFICATION BASED ON SLQ AND DLQ IN PROCESSING INDUSTRY | | |
|---|---|---|
| **Criteria** | **SLQ>1** | **SLQ<1** |
| DLQ>1 | | Madiun Regency<br>Magetan Regency<br>Ponorogo Regency<br>Madiun City<br>Trenggalek Regency |
| DLQ<1 | | Pacitan Regency |

## Trading and Restaurant Sector

Regencies that have trading and restaurant sector not superior at the moment, but have a potential to be superior on some year ahead are Ponorogo, Madiun City, Madiun, Pacitan, Magetan, Trenggalek and Magetan Regency (Table 7).

| Table 7<br>REGENCY/CITY CLASSIFICATION BASED ON SLQ & DLQ IN TRADING & RESTAURANT SECTOR | | |
|---|---|---|
| **Criteria** | **SLQ>1** | **SLQ<1** |
| DLQ>1 | | Ponorogo Regency<br>Madiun City<br>Madiun Regency<br>Pacitan Regency<br>Trenggalek Regency<br>Magetan Regency |
| DLQ<1 | | |

It is necessary to have a deeper study; how to increase all of regencies in PATANDIROLEK are sectors are currently superior and potentially permanent on some years ahead.

## Services Sector

Regencies that have sectors are currently superior and potentially permanent on some years ahead in services are Madiun City, Pacitan, Magetan, Ponorogo, Madiun and Trenggalek Regency. Although, they have different superiority. Example: Madiun Regency has superior service at education, health, financial meanwhile Madiun City has superior sector at financial service and insurance. Ponorogo has superior services at education, health, real estate (Table 8).

| Table 8<br>REGENCY/ CITY CLASSIFICATION BASED ON SLQ AND DLQ IN PUBLIC SECTOR | | |
|---|---|---|
| **Criteria** | **SLQ>1** | **SLQ<1** |
| DLQ>1 | Madiun City<br>Pacitan Regency<br>Magetan Regency<br>Ponorogo Regency<br>Trenggalek Regency<br>Madiun Regency | |
| DLQ<1 | | |

The existence of industrial activities, state and private higher education institutions in Madiun City and Ponorogo Regency has led to growth of services sector specifically in education and finance. Madiun, Pacitan and Trenggalek excel in government administration. The existence of the Surabaya Solo toll road is expected to open up opportunities to improve the service sector, especially for Madiun and Magetan Regency.

## Spatial Analysis

Analysis spatial is done to see more the details of how mapping of superior sector and its development for each regencies/city at PATANDIROLEK.

### Agriculture sector

This is a mapping sector featured in the agriculture for regencies/city in East Java Province, especially at PATAN Madiun, Pacitan and Trenggalek Regency are part of sectors that moderately growing in East Java. They have prospective's agricultural areas and its have highest agriculture growth sector. However, there are many agricultural areas at Madiun Regency and Ponorogo changed to be industrial area and construction or others (Figure 1).


**FIGURE 1**
**MAPPING SUPERIOR SECTOR AGRICULTURE IN EAST JAVA BASED ON VALUE DLQ VALUE**

The comparison all of results and previous sector classification matrix can be seen in PATANDIROLEK, only Pacitan, Magetan and Trenggalek Regency have high base values and still have a considerable role for the agricultural sector in the next few years. Meanwhile, in Madiun and Ponorogo Regency, there are many agricultural land functions that are converted into industrial and residential land.

### Processing industry sector

Here is mapping of leading sectors in the manufacturing industry. The comparison of all regencies/municipalities in East Java and the result of previous sector classification matrix can

be known that Madiun, Magetan, Ponorogo and Trenggalek and Ponorogo Regency have a mainstay value as leading industrial sector within the next few years. Nevertheless, Madiun, Magetan, Trenggalek and Ponorogo Regency are categorized as sectors that have moderate growth in East Java, except Pacitan (Figure 2).

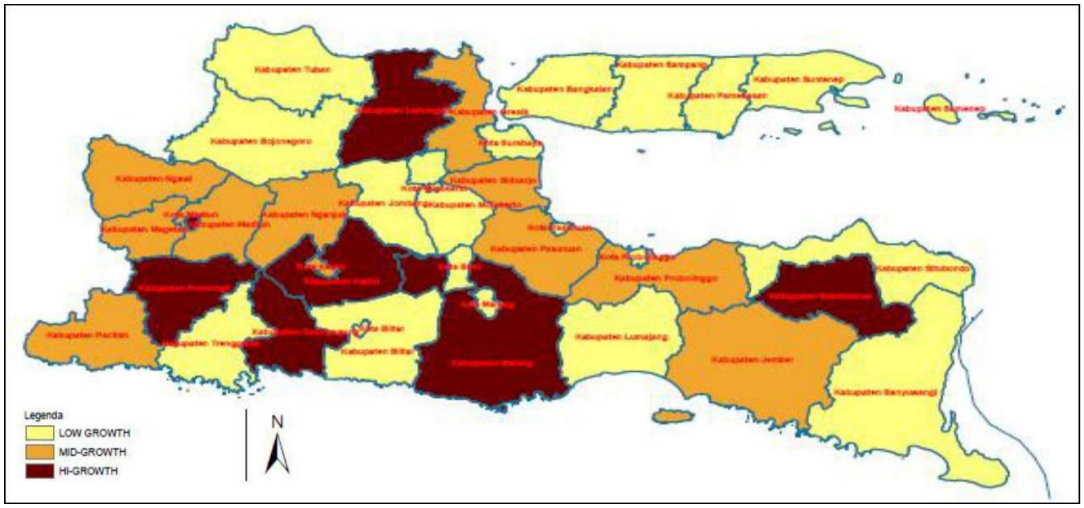


**FIGURE 2**
**MAPPING LEADING SECTOR OF PROCESSING INDUSTRY IN EAST JAVA BASED ON DLQ VALUE**

### Trade, hotel and restaurant sectors

Here is mapping leading sectors in trade, hotels, and restaurants. The result of previous sector classification matrix can be known all regions at PATANDIROLEK have mainstay sector.

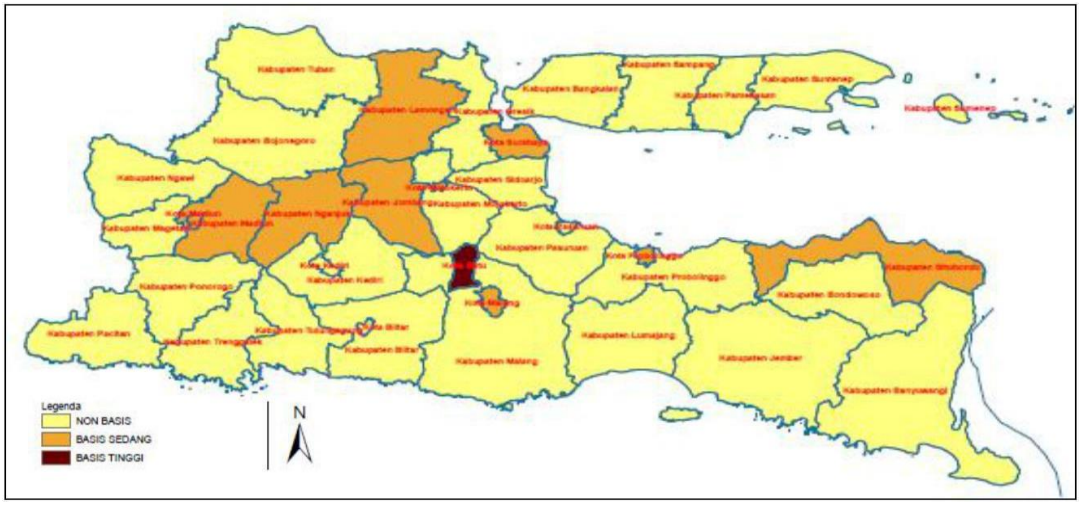


**FIGURE 3**
**MAPPING OF THE LEADING SECTOR OF TRADE, HOTELS AND RESTAURANTS IN EAST JAVA BASED DLQ**

It means trade, hotels, and restaurants have a moderate base value and can be expected as superior sector at next few years. Compare to trade, hotels, and restaurants sector on the other

regencies of East Java, all regencies at PATANDIROLEK are included in the medium growth category (Figure 3).

### Services sector

Here is mapping leading sectors in services for the regencies/city in East Java. The result of previous sector classification matrix can be known that all regencies at PATANDIROLEK have a high base value and still become the leading services sector in East Java in the next few years (Figure 4).

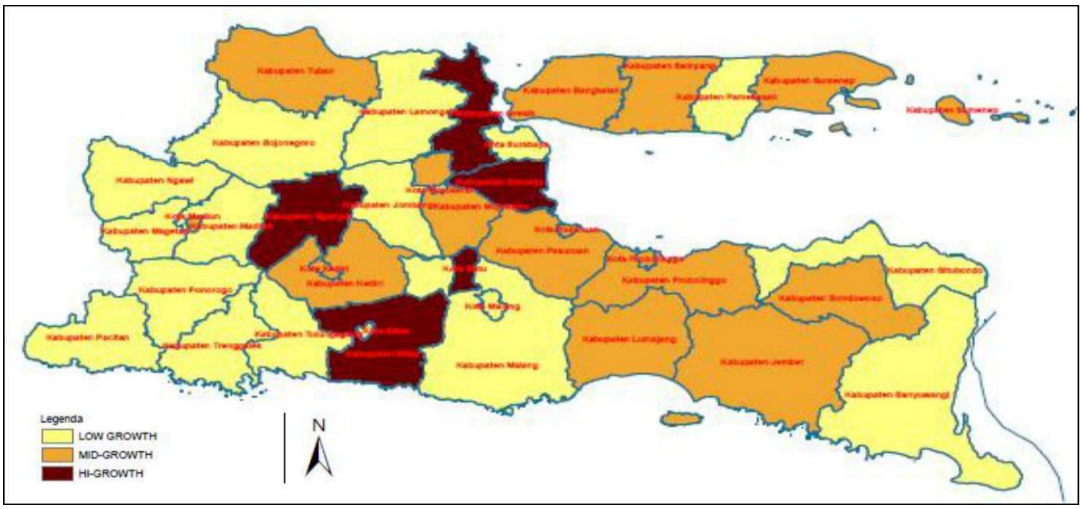


**FIGURE 4**
**MAPPING LEADING SECTOR SERVICES IN EAST JAVA BASED ON DLQ VALUES**

Compare to services sector on regencies/city of East Java, all regencies at PATANDIROLEK are included in the medium growth category.

## Differential Shift Share Analysis

This analysis is done to see detail of mapping superior sector and development of each regencies/city of East Java in such a way.

### Agricultural sector

Based on value of Differential Shift can be seen that the agriculture sector at PATANDIROLEK has a tendency to grow faster than the average growth of agriculture sector in East Java which is in medium rate, especially Magetan and Ponorogo Regency have a fast rate growth at agricultural sector. Madiun City has no prospect of agricultural growth because its no agricultural area.

### Processing industry sector

It can be seen that processing industry sector at all regencies at PATANDIROLEK, except Pacitan have tendency to grow faster compared to sector's average growth processing industry in East Java. However, Pacitan has no prospect's processing industry growth.

### Trade, hotel and restaurant sectors

Trade sector, hotels, and restaurants at PATANDIROLEK have tendency to grow faster than average growth rate sector in East Java.

### Service sector

Sector of services at PATANDIROLEK have a tendency to grow faster than average growth of services sector in East Java.

## CONCLUSIONS

The implications of discussion about linkages of regions in a sectoral manner from leading sectors in PATANDIROLEK to East Java can be summarized as follows:

1. Shift Share Analysis provides an overview of the shifts and roles of the agricultural sector. The growth of the agricultural sector in PATANDIROLEK relies heavily on regional policies so that it is influenced by regional growth. The agricultural sector has competitive advantages and specialization and allocation effects. It's also has strong relationships with other sectors, and has a positive influence on overall regional output growth. This supports the study by Hirschman and Myrdal that explained the impact of drops and the impact of spread from development (Hassan et al., 2011). This is in accordance with the concept of pole growth which explained a condition in which growth would be created in a region that gave rise to a polar region (Martin & Ottaviano, 2001).
2. The agricultural sector is faced with difficult external conditions. To maintain competitive advantage, special attention is needed from the government, both in the regencies/cities in PATANDIROLEK and the provincial government, so that in the future it can survive and further boost the competitiveness of East Java Province.
3. Trade, hotel and restaurant sector and services are the mainstay sectors that have become prime movers in growth of PATANDIROLEK. With the similarity of its sectors, agglomeration of that sector should be carried out, so that it is hoped that new economic activities in the trade and services sector in the region will emerge. As basic objective of agglomeration is to integrate business groups, so that in that location it is expected to be able to attract and bring forth other businesses (Duranton & Puga, 2004). This potential is beneficial for businesses because of new business opportunities.
4. The strategy for establishing a Development Area Unit (SWP) followed by existence of a service center from each SWP by the East Java Provincial Government as outlined in the RTRW as East Java Provincial Regulation No.5/2012 seems has not been able to provide conformity and effects to the real conditions of region.
5. Agglomeration (sector based grouping) can be done by building centers or regions that have superior sectors. Construction of new area will be followed by construction of adequate infrastructure and various facilities.

## Suggestion

Based on the results of the research that has been done, and then some suggestions that can be given include:

1. Regencies/city's governments in PATANDIROLEK need to prioritize the development of superior sectors in each of their regions through more strategic policies so that they become the strength of regional competitiveness.
2. Whereas the regency/city government in PATANDIROLEK which has the same potential or mainstay sector, for developing these sectors in order to have competitiveness requires synergy or cooperation between regional governments supported by the provincial and central government.
3. It needs more in-depth and specific academic studies on the correlation of economic growth at the provincial level with economic development in PATANDIROLEK region. The agglomeration performance parameters need a clearer and more measurable formula, so that the PATANDIROLEK area can have a basic reference in developing a more dynamic and progressive economy.
4. For stakeholders and practitioners, the results of this study are expected to be a driving force for formulation of policies to make sectoral agglomeration more effective and efficient. Various regulations from policy makers are needed to accelerate implementation in the field.
5. The development of a superior sector, potential and/or mainstay in each region in PATANDIROLEK can be synergized. Synergy must be stated in regulations or texts on territorial economic cooperation simultaneously and mutually integrated, so that regional boundaries are not a threat, but rather an opportunity to encourage economic growth, in trade, industry and service sector.

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