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LEADING SECTOR RELATIONSHIP TO INTER-REGIONAL ECONOMIC GROWTH IN THE SUBOSUKAWONOSRATEN REGION

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ABSTRACT

This study aims to analyze the relationship between economic growth regency in Subosukawonosraten Region with leading sector approach. The linkage of leading sectors towards economic growth of other regions in the Subosukawonosraten Region determined by Multiple Linear Regression analysis. The results of the Multiple Linear Regression analysis is the most sector that has a significant influence on the other regional economic growth is sectors industry. In addition, sectors that have a significant influence on regional economic growth are real estate, agriculture, construction, information and communication, accommodation provision, trade, government and water supply, respectively.

Keywords: Economic Growth, Spatial Interaction, Leading Sectors,

INTRODUCTION

The regional government of Central Java Province established Central Java Provincial Regulation No. 21 of 2003 concerning Spatial Plan of Central Java Province year 2009-2029 which stipulates 8 flagship areas as strategic areas for regional development. The eight areas consist of Kedungsapur, Barlingmascakeb, Purwomanggung, Subosukawonosraten, Banglor, Wanarakuti, Tangkallangka and Bregas. This region has a goal for regions in this region can cooperate with each other and strive to increase economic growth and increase regional income equality (Fikri and Fafurida, 2018).

This regulation is in line with the determination of regional systems written in the Final Draft RPJMD central Java Province in 2018-2023 which stipulates 8 regional systems with regional development direction that aims to be able to further optimize the potential in the region, maintain the diversity of regional product results and equalize development with regional superior products. The area consists of Barlingmascakeb Region (Banjarnegara, Purbalingga, Banyumas, Cilacap, and Kebumen) which has

development direction in agrominapolitan, tourism, processing industry and service trade. Bregasmalang area (Brebes, Tegal City, Tegal, Pemalang) which has the direction of development in agrominapolitan and processing industry. Petanglong area (Pekalongan City, Batang, Pekalongan) which has the direction of development in minabatik, fisheries, and batik industry, agriculture and tourism. Kedungsapur area (Kendal, Demak, Semarang City, Ungaran-Semarang, Salatiga, Purwodadi-Grobogan) which has development direction in service trade, processing industry, agriculture and tourism. Purwomanggung area (Purworejo, Wonosobo, Magelang City, Temanggung) which has the direction of agricultural development, tourism and agricultural industry. Wanarakuti area (Juwana, Jepara, Kudus, Pati) which has the direction of development in the processing industry, agropolitan and tourism. Banglor (Rembang and Blora) areas that have development direction in industry, agroforestry and tourism. Subosukawonosraten area (Surakarta, Boyolali, Sukoharjo, Karanganyar, Wonogiri, Sragen, Klaten) which has development direction in tourism, processing industry and agriculture.

Subosukawonosraten region has the highest total growth of districts / cities in Central Java Province of 5.65 percent (BPS Central Java). However, the contribution to the economy of Central Java Province, Subosukawonosraten Region has the second largest value of 19 percent after Kedungsapur Region by 26 percent (BPS Central Java). This can indicate that Subosukawonosraten region has the best economic growth and potential to contribute to economic growth in Central Java Province, so more efforts and analysis of the factors that can drive this potential are needed.

Subosukawonosraten region has one city that becomes the center of growth and six districts that become the area (*hinterland*) area around the center of growth. Surakarta city has been designated as the center of growth or development of the region with the establishment of RTURK Kodya Surakarta 1993 for Subosukawonosraten development area. As a strategy and policy of the central and regional governments in realizing regional autonomy and regional development, Surakarta city is designated as the center of development of east-south Central Java as the growth center of region IV.

Growth center as an alternative mobilizer, booster and supporter of economic development of the surrounding area to increase the income equality of the community. In addition, the center of growth is also a bridge to the difference in economic activity opportunities. The growth center is formed from several dynamic sectors that are able to provide high output ratios in certain regions and can provide a wide impact (*spread*

effect) and multiple effects(*multiple effects*)in other sectors with a wider area. In the implementation of the creation of a growth center that will have an impact on the surrounding area needs to be followed by *trickledown effect* (downward impact) or welfare from urban to lower areas (*hinterland* and rural) with the mechanism of urban hierarchy and spread effect (*spread effect*) of harmonious activity between the growth center and the superior resources of *hinterland* region (Imelda, 2013).

The existence of interactions related to inter-regional activities in the Subosukawonosraten Region can lead to interrelationships between regions. Interrelationships between regions that have close proximity within a region can create spatial interrelationships. Autocorrelation or spatial *autocorrelation* is a space object that has interrelationship between regions so that something that happens in one area is related to another thing that happens in the back area or neighboring areas. According to the law put forward by Tobler, The Law of Geography I reads "*Everything is related to everything else, but near things are more related than distant things*", in terms of geography the statement indicates that everything that happens has a related relationship, especially events that have a close distance will have the highest connection or more related (Wibisono and Kuncoro, 2015).

In this regard, economic activity is closely related to the economic sector. The economic sector that is able to impact economic growth in other regions is the regional leading sector. The leading sector is also a simple and useful form of income as a means of clarifying the structure of the region concerned, while also providing a strong foundation for regional income studies. The leading sector can be used to look at factors that can drive the growth of the surrounding region. The superior sector can be formed from the development of production produced by the potential owned by each region. In addition to being able to meet the demand from within the region, the superior sector can also meet the demand from outside the surrounding area. A sector can be said to be a superior sector if the sector has an advantage both comparatively and competitively (Erawati and Yasa, 2011).

Various theories and research results related to the leading sectors in inter-regional relations are still important to continue to conduct continuous analysis to be able to know how the influence of the regional leading sector on the economic growth of other regions around it to know how the interrelationship and interaction between districts / cities in Subosukawonosraten region.

METHOD

This research method is descriptive quantitative. This research was conducted in districts / cities located in Subosukawonosraten Region (Surakarta, Boyolali, Sukoharjo, Karanganyar, Wonogiri, Sragen and Klaten) using publication data from Badan Pusat Statistik Central Java Province and district / city in Subosukawonosraten Region in 2007-2019. The method of analysis used in this study is multiple linear regression analysis. In analyzing the relationship between the leading sectors as independent variables to the growth of regions as dependent variables, data processing is carried out by multiple linear regression analysis methods. Multiple linear regression analyses were conducted because the independent variables in this study amounted to more than one. Analysis of the influence of the leading sector on regional economic growth which is a double linear regression analysis previously conducted the detection of deviations of classical assumptions. Classic assumption testing is used to qualify linear regression analysis as the best assessor. The results of calculations in the analysis can be used as the basis for policy determination. The classic assumption test consists of several tests, such as normality test, heteroskedastisity test, autocorrelation test, and multicollinearity test.

Regression test, this statistical test is used to describe the pattern of positive and significant influence of a region's leading sector as an independent variable with *hinterland* regional economic growth as a dependent variable. The data obtained will be tested using F test and t test. This analysis is used to determine the influence of the growth of the central sector's leading sector on the economic growth of spillover areas. This analysis is also used to calculate the value of a regression coefficient that shows the magnitude of the influence of independent variables on dependent variables with the following formulas:

$$Y = \alpha + b_1X_1 + b_2X_2 + b_3X_3 + \dots + b_iX_i + e$$

information:

Y : spillover area economic growth

A : Constanta

b_1 : coefficient of regression of the leading sector 1 central region

b_2 : coefficient of regression of the leading sector 2 central regions

b_3 : coefficient of regression of the leading sector 3 central regions

b_i : coefficient of regression of the leading sector i central region

X_1 : featured sectors 1 central area

X_2 : featured sectors 2 central regions

X_3 : featured sectors 3 central areas

X_i : featured sectors i central area

e: error

RESULTS AND DISCUSSION

The results of the study of the influence of the regional leading sector on the economic growth of the central region in the Subosukawonosraten Region using this regression analysis showed results that support the research of Erawati and Yasa (2011) which states that the leading sector can encourage growth or development of other sectors and the leading sector can be used to see factors that can drive the growth of other regions.

Table 1. Regional Leading Sector Matrix Affecting Central Regional Economic Growth

Central Area	Spillover Area						
	Surakarta	Boyolali	Sukoharjo	Karanganyar	Wonogiri	Sragen	Klaten
Surakarta	-	industry	Agriculture, Industry, Real Estate	industry	industry	Provision of Accommodati on, Real Estate	Communicati on, Industry
Boyolali	industry	-	Agriculture, Industry, Real Estate	industry	industry	Real Estate	Industry, Construction, Communicati on
Sukoharjo	industry	Industry, Construction	-	industry	industry	Accommodati on Provision	Industry, Communicati on
Karanganyar	Adm. Government	Industry, Construction	Industry, Real Estate	-	Industry, Construction	Accommodati on Provision	industry
Wonogiri	industry	Industry, Construction	Agriculture, Industry, Real Estate	industry	-	Real Estate	-
Sragen	industry	Industry, Construction	Agriculture, Industry, Real Estate	industry	industry	-	Industry, Communicati on
Klaten	Water Supply	Agriculture, Industry	Agriculture, Industry, Real Estate	industry	trade	-	-

Source: Author, 2020.

Based on the results of the regression analysis, obtained several excellent sectors from Surakarta City, Boyolali Regency, Sukoharjo Regency, Karanganyar Regency, Wonogiri Regency, Sragen Regency and Klaten Regency that simultaneously affect the economic growth of one region with another based on variables or superior sectors that differ from each region. The results of this study support and are in line with the theory of the superior sector put forward by Perroux

which states that development does not occur in all regions, but only certain places with sectors or variables that have different intensities.

Based on the results of multiple linear regression analysis can be known the leading sectors that have an influence on the economic growth of other regions in more particular. And from these excellent sectors that have a significant influence on regional economic growth are the main sectors driving the economy. The leading sectors that have the most influence on other economic growth are the industrial sector, followed by the real estate sector, agriculture sector, construction sector, information and communication sector, accommodation supply sector, trade sector, sector government administration as well as water procurement sector. These sectors need to be considered by every local government in Subosukawonosraten Region.

a. Surakarta as the Center of Economic Growth

The industry's leading sector significantly affects the economic growth of Surakarta city from Boyolali Regency, Sukoharjo Regency, Karanganyar Regency, Wonogiri Regency and Klaten Regency. The results of this study support Shodiqin's research (2018) which shows the processing industry sector has an effect on economic growth and is considered as the leading sector in accordance with Hirschman's theory that the rapid growth of one or more industries encourages the expansion of other industries. Based on the geographical location, Sukoharjo and Karanganyar districts are directly adjacent to Surakarta City, this can lead to the formation of strong inter-regional relations in the industry's leading sector of the two regions to be able to influence and overflow the economic growth of Surakarta City. As for Boyolali Regency, Wonogiri Regency and Klaten Regency are not directly adjacent, but Boyolali Regency has a fairly close distance to Surakarta City.

The agricultural sector of Sukoharjo Regency has a significant impact on the economic growth of Surakarta. The results of this study support Anggraini's research (2019) which states that the agricultural sector has a significant influence on economic growth. Sukoharjo regency has an area of agricultural land of about 20,460 ha or 43.8% of the total area of Sukoharjo Regency. Sukoharjo regency is directly adjacent to Surakarta city and has a distance between growth centers of about 8.28 km, so the cost required in economic activities is relatively lower. In addition, the growth rate of the agricultural sector of Sukoharjo Regency is higher than the growth rate of the agricultural sector of Surakarta City.

The leading real estate sectors of Sukoharjo and Sragen districts have a significant impact on the economic growth of Surakarta City. Geographically, Sukoharjo

regency is directly adjacent to Surakarta City, and Sragen Regency is not directly adjacent. Sukoharjo and Sragen districts have a real estate sector growth rate from 2007-2019 of more than 100 percent.

The leading sector of the provision of accommodation from Sragen Regency has a significant impact on the economic growth of Surakarta City. The results of this study support the research of Rizkova *et al.*, (2016) which states that there is a partial and significant influence of the accommodation sector on economic growth. This is in line with the results of research conducted by Ouwpoly and Anisah (2018) which stated that the accommodation supply sector is the top three dominant sectors that have promising business opportunities with more than 95% of business activities and labor can be absorbed in the accommodation supply sector. The supply sector of accommodation, food and drink Sragen has a growth rate of more than 130 percent with the support of the city of Surakarta so as to have an impact again on the growth of Surakarta City. The growth of the sector of providing accommodation, food and drink Sragen can be supported by the city of Surakarta because the city of Surakarta as a growth center and a trade center that is able to provide a variety of needs or infrastructure that can support the growth of the accommodation supply sector of Sragen Regency, so that indirectly, the economic growth of Surakarta city also increased.

The excellent information and communication sector of Klaten Regency has a significant impact on the economic growth of Surakarta City. The results of this study are in line with Ngatono's research (2016) which shows that information and communication with economic growth have a significant influence. The rapid development of technology and communication tools can open promotional opportunities and increase selling power (Setyowati, 2013).

b. Interaction of Regional Leading Sectors with Economic Growth of Boyolali Regency

The industry's leading sectors of Surakarta City, Sukoharjo Regency, Karanganyar Regency, Wonogiri Regency and Klaten Regency significantly affect the economic growth of Boyolali Regency. Geographically, the center of Boyolali Regency is located in the central part of Subosukawonosraten Region. Boyolali regency is directly adjacent to Klaten Regency, Sukoharjo Regency, and Karanganyar Regency, so that the industry's leading sector of the district will easily have an impact on the economic growth of Boyolali Regency. On the other hand, although it is not directly bordered, but Surakarta city and Wonogiri regency have industrial sector as a leading

sector that has the potential to greatly affect the growth of other regions such as Boyolali Regency. The location of Boyolali Regency which tends to be in the middle of the region, can make Boyolali Regency supply materials for the surrounding industry more easily and relatively low costs so that the growth of the surrounding industrial sector can increase rapidly and the economic growth of Boyolali Regency also increases.

The agricultural sector of Sukoharjo Regency has an effect on the economic growth of Boyolali Regency. The agricultural sector is more participating in community and welfare activities that only increase individual income through daily livelihoods and agricultural land sukoharjo which is still an area of 20,460 ha or 43.8% of the overall area of Sukoharjo Regency (BPS SukoharjoRegency, 2020). This can make the agricultural sector in Sukoharjo Regency become abundant and can have an influence on the economic growth of Boyolali Regency which has a close proximity or bordering areas, so that the costs that are also needed to conduct economic activities in agriculture will be more affordable. The growth of the agricultural sector in Sukoharjo Regency is higher than the growth of the agricultural sector in Boyolali Regency, so that the agricultural sector of Sukoharjo Regency has greater power to be able to influence the economic growth of Boyolali Regency.

The leading real estate sectors of Sukoharjo and Sragen districts have a significant impact on the economic growth of Boyolali Regency. Geographically, Boyolali Regency is directly adjacent to Sukoharjo and Sragen districts and the distance between the two districts is relatively close. This can lead to strong interactions and inter-regional relationships in the real estate sector of Sukoharjo and Sragen districts so as to have an impact on the economic growth of Boyolali Regency because economic activities will be easier to do at a more affordable cost.

The leading information and communication sector of Klaten Regency significantly affects the economic growth of Boyolali Regency. Geographically, Boyolali Regency is located in the north of Klaten Regency or directly adjacent and has a close distance. The growth rate of information and communication sector of Boyolali Regency is higher than Klaten Regency. In this case, Klaten Regency can use the resources of Boyolali Regency to increase the growth of the information and communication sector of Klaten Regency so that it can affect economic growth in Boyolali Regency indirectly.

The leading construction sector of Klaten Regency significantly affects the economic growth of Boyolali Regency. Geographically, Boyolali Regency is directly

adjacent to Klaten Regency and has a relatively close distance. In this case, the leading sector of Klaten construction in its development can use raw materials and human resources from Boyolali Regency at a relatively low cost because the distance between the two districts is close together so as to affect the economic growth of Boyolali Regency with inter-regional connections.

c. Interaction of Regional Leading Sectors with Economic Growth of Sukoharjo Regency

The industry's leading sectors of Surakarta City, Boyolali Regency, Karanganyar Regency, Wonogiri Regency and Klaten Regency significantly affect the economic growth of Sukoharjo Regency. Geographically, Sukoharjo Regency is located in the central part and in the southern part of the growth center of Subosukawonosraten Region. Sukoharjo regency is directly adjacent to Surakarta City, Boyolali Regency, Karanganyar Regency, Wonogiri Regency, and Klaten Regency. Sukoharjo regency has a strategic location to receive an abundance of industrial sectors from various regions. In addition, the distance from each area to Sukoharjo regency is relatively close, so the cost required to carry out economic activities is also quite low. This causes the leading sector of regional industry around Sukoharjo Regency to influence economic growth with interaction between regions.

The construction sector of Boyolali Regency significantly influenced the economic growth of Sukoharjo Regency. Geographically, Sukoharjo regency is directly adjacent to Boyolali Regency. In addition, the distance between the central areas of the two districts is relatively close. The growth rate of Boyolali construction sector reached more than 100 percent from 2007-2019 (BPS Boyolali Regency, 2020), greater than the growth rate of Sukoharjo construction sector which is 84 percent (BPS Sukoharjo Regency, 2020). In this case, the leading construction sector of Boyolali Regency in its development can also use raw materials and human resources from Sukoharjo Regency at a relatively low cost because the distance between the two districts is close so that with the growth of the construction sector of Boyolali Regency, the economic growth of Sukoharjo Regency with inter-regional links can also increase.

The excellent information and communication sector of Klaten Regency significantly affects the economic growth of Sukoharjo Regency. Geographically, Klaten Regency is located to the west of Sukoharjo Regency and is directly bordered. Klaten regency continues to develop technology and communication tools more rapidly because it realizes that this can open promotional opportunities and increase selling power. These efforts facilitate economic activities both in the region and between

regions. The development of the leading sector of information and communication Klaten district which is quite rapid, namely 133 percent from 2007-2019 (BPS Klaten Regency, 2020), can provide an abundance of growth of Sukoharjo Regency because of the access and distance that is very affordable so as to facilitate interaction and inter-regional relations.

The excellent sector of Sragen District accommodation has a significant impact on the economic growth of Sukoharjo Regency. The growth of Sragen accommodation, food and drink supply sector has a rapid growth rate and higher competitiveness than the same sector in the province, so even though Sragen and Sukoharjo districts are not directly adjacent, the impact of growth can be abundant in Sukoharjo Regency. The growth rate of Sragen District accommodation, food and drink supply sector is 137 percent from 2007-2019 (BPS Sragen Regency, 2020).

d. Interaction of Regional Leading Sectors with Economic Growth of Karanganyar Regency

The industry's leading sectors Boyolali, Sukoharjo, Wonogiri and Klaten districts significantly affect the economic growth of Karanganyar Regency. Geographically, Karanganyar Regency is located in the eastern central part of Subosukawonosraten Region. Karanganyar regency is directly adjacent to Boyolali Regency, Sukoharjo Regency and Wonogiri Regency. The vast area of Karanganyar Regency can reach various districts in Subosukawonosraten region making access and interaction between regions easy. In addition, the industry-leading sector of each district has strong competitiveness, making it possible to create interactions and interrelationships between the two regions.

The leading construction sectors of Boyolali regency and Wonogiri regency significantly affect the economic growth of Karanganyar Regency. Geographically, Karanganyar Regency is directly adjacent to Boyolali Regency and Wonogiri Regency. On the other hand, the leading construction sectors of Boyolali and Wonogiri districts experienced rapid growth. The growth rate of the construction sector of Boyolali and Wonogiri districts has a greater value than Karanganyar Regency (BPS Central Java Province, 2020). Construction growth in both districts can use raw materials and human resources to carry out development from Karanganyar Regency at a lower cost because the distance traveled is shorter. So that with the growth of the construction sector in Boyolali and Wonogiri districts has increased and the existence of strong inter-regional *relations*, the economic growth of Karanganyar Regency can also increase.

The leading sector of Sukoharjo Regency's real estate has a significant impact on the economic growth of Karanganyar Regency. Geographically, Karanganyar Regency is directly adjacent to Sukoharjo Regency, both districts are located in the central part of Subosukawonosraten Region. The growth rate of Sukoharjo real estate sector from 2007-2019 reached 112 percent (BPS Sukoharjo Regency, 2020). In the growth of this sector can be supported by Karanganyar Regency as a provider of raw materials and services that can be used Sukoharjo Regency at low cost because of the relatively close distance. With the proximity of region and the real estate sector of Sukoharjo Regency which is experiencing rapid growth and high competitiveness, it can lead to interactions between regions that are able to encourage and influence the economic growth of Karanganyar Regency.

The leading sector of Sragen Regency accommodation has a significant impact on the economic growth of Karanganyar Regency. Geographically, Karanganyar and Sragen districts are directly adjacent and the distance between the two districts is the closest distance compared to the distance between Karanganyar regency and other districts. In addition, Karanganyar regency and Sragen regency are traversed by toll roads to East Java Province. The supply sector of accommodation, food and drink Sragen also experienced a fairly rapid growth with a growth rate from 2007-2019 of 137 percent (BPS Sragen, 2020). The abundant natural resources of Karanganyar Regency can be used as the main ingredient driving the growth of the accommodation supply sector in Sragen Regency. This can lead to interactions between regions that have a strong influence and are able to encourage and influence the economic growth of Karanganyar Regency.

The leading sector of government administration from Surakarta city which has a significant influence on the economic growth of Karanganyar Regency. The results of this study support the policies of the Surakarta City Government that can have an impact on the economic growth of Karanganyar Regency such as the policy of building a business center in the northern part of Surakarta City that can lift the surrounding area or enter the area of Karanganyar Regency. Geographically, Karanganyar Regency is directly adjacent to Surakarta City. The distance between these two areas is relatively close. With this close distance, Surakarta city often conducts social activities conducted in Karanganyar Regency. So that the leading sector of government administration and social activities of Surakarta City can easily have an impact on the economic growth of Karanganyar Regency.

e. Interaction of Regional Leading Sectors with Economic Growth of Wonogiri Regency

The industry's leading sectors of Surakarta, Boyolali, Sukoharjo and Karanganyar districts significantly influenced the economic growth of Wonogiri Regency. Geographically, Wonogiri Regency is located in the southern part of Subosukawonosraten Region directly adjacent to Sukoharjo and Karanganyar districts and the distance between the districts is relatively close. The industrial sector of Sukoharjo and Karanganyar districts can experience rapid growth with interaction and access between affordable areas. The costs required for inter-regional economic activities are also lower. So the level of interaction between these areas is quite strong. Meanwhile, for Surakarta and Boyolali districts although not directly adjacent to Wonogiri Regency, but these two areas have a strong industry-leading sector and high competitiveness because both have strong industrial areas. In addition, the area in Wonogiri Regency has abundant natural resources to be used as a base material in the industrial sector. The area around Wonogiri Regency uses these resources to improve the industrial sector of each region, so that with the increasing industrial sector in other regions, the impact can be abundant to boost the economic growth of Wonogiri Regency.

The construction sector of Boyolali Regency significantly affects the economic growth of Wonogiri Regency. Geographically, Boyolali Regency is located in the northern area and Wonogiri Regency in the south of Subosukawonosraten Region. The construction sector of Boyolali Regency has increased due to the large number of infrastructure development. The growth rate of Wonogiri construction sector is higher than Boyolali Regency. In infrastructure development, Wonogiri Regency has natural resources or natural conditions that are abundant in building raw materials and needed for infrastructure development in Boyolali Regency, so that interactions in the construction sector of Boyolali Regency can have an impact and encourage economic growth of Wonogiri Regency.

The agricultural sector of Sukoharjo Regency has an effect on the economic growth of Wonogiri Regency. The agricultural sector participates more in community and welfare activities that only increase individual income through daily livelihoods and agricultural land Sukoharjo which is still an area of 20,460 ha or 43.8% of the overall area of Sukoharjo Regency. The growth rate of Sukoharjo District's agricultural sector from 2007-2019 is 40 percent, tending to be above average compared to other surrounding areas (BPS Sukoharjo Regency, 2020). Geographically, Wonogiri

Regency is directly adjacent to Sukoharjo Regency and has a relatively close distance. Agricultural products in Sukoharjo Regency can help supply food needs in Wonogiri Regency which has a less productive soil topography. This can make the growth of the agricultural sector of Sukoharjo Regency able to have an abundant impact on the economic growth of Wonogiri Regency because of the distance factor that can make the cost of economic activities more efficient.

The leading real estate sectors of Sukoharjo and Sragen districts have significant influence on the economic growth of Wonogiri Regency. Geographically, Wonogiri Regency is located directly adjacent to Sukoharjo Regency and has a relatively close distance. Meanwhile, Wonogiri regency is not directly adjacent to Sragen Regency. However, the growth rate from 2007-2019 in Sragen real estate sector is 128 percent higher than Sukoharjo Regency by 112 percent (BPS of Central Java Province, 2020). The growth of the real estate sector of Sukoharjo and Sragen districts can be supported by abundant raw materials from Wonogiri Regency such as limestone and wood, so that it can also provide benefits and encourage economic growth in Wonogiri Regency.

f. Interaction of Regional Leading Sectors with Economic Growth of Sragen Regency

The leading sectors that have a significant influence on the economic growth of Sragen Regency are the industrial sector of Surakarta City, Boyolali Regency, Sukoharjo Regency, Karanganyar Regency, Wonogiri Regency and Klaten Regency, hereby it can be said that all industrial sectors from all regions around Sragen Regency have an impact on the economic growth of Sragen Regency. Geographically, Sragen Regency is located in the northern eastern part of Subosukawonosraten Region and directly borders Boyolali regency and Karanganyar regency. The industrial sector in Sragen Regency is a superior sector that does not affect the growth of any region in the Subosukawonosraten Region. However, all industry-leading sectors from other regions in Subosukawonosraten Region are able to influence the growth of Sragen Regency.

The leading construction sector of Boyolali Regency significantly affects the economic growth of Sragen Regency. Geographically, Sragen Regency is located in the east and directly adjacent to Boyolali Regency. The construction sector of Boyolali Regency has a growth rate of 105 percent from 2007-2019 (BPS Boyolali Regency, 2020). In the development of the leading construction sector Boyolali Regency can use human resources and raw materials from Sragen Regency which has a low cost

because of the distance that is also quite close. This can increase the growth of the construction sector of Boyolali Regency and at the same time be able to encourage economic growth in Sragen Regency.

The leading sector of Sukoharjo Regency significantly affects the economic growth of Sragen Regency. The agricultural sector is more participating in community and welfare activities that only increase individual income through daily livelihoods and agricultural land Sukoharjo which is still an area of 20,460 ha or 43.8% of the overall area of Sukoharjo Regency (BPS Sukoharjo Regency, 2020). The quality and varied agricultural products in Sukoharjo Regency have a higher competitiveness than the agriculture of Sragen Regency. The growth rate from 2007-2019 in the agricultural sector of Sukoharjo Regency is 40 percent and higher than Sragen Regency which is 32 percent (BPS Central Java Province, 2020). Sukoharjo superior agricultural sector is able to provide supplies to Sragen Regency in other sectors that can boost the economic growth of Sragen Regency. This can create interaction between regions through the agricultural sector of Sukoharjo Regency which is give impact to Sragen Regency with the distance between the two relatively close.

The leading real estate sector of Sukoharjo Regency has a significant impact on the economic growth of Sragen Regency. Geographically, Sragen regency is not directly adjacent to Sukoharjo Regency but still has a relatively close distance because Sukoharjo Regency tends to be in the middle of Subosukawonosraten Region so that interactions and interrelationships between regions can still occur and affect each other.

The leading information and communication sector of Klaten Regency has a significant impact on the economic growth of Sragen Regency. Geographically, Sragen and Klaten districts are not directly adjacent. However, the growth of information and communication sector of Klaten Regency is quite high by 133 percent from 2007-2019 (BPS Klaten Regency, 2020) and has competitiveness, able to provide spillover *effect* on economic growth of Sragen Regency. The output of information and communication sector of Klaten Regency is used to Sragen Regency, so that it can indirectly boost the economic growth of Sragen Regency.

g. Interaction of Regional Leading Sectors with Economic Growth of Klaten Regency

The leading sector of water procurement in Surakarta has a significant impact on the economic growth of Klaten Regency. Surakarta city has a high population density in need of mineral water sources and the closest source is Klaten Regency. Surakarta city which can be the closest largest consumer with the highest number of purchases,

can increase the economic growth of Klaten Regency. This can provide advantages on both sides and there is a connection between regions because Klaten Regency is the main route to Yogyakarta Province from Surakarta city with a relatively close distance.

The agricultural sector of Boyolali and Sukoharjo districts significantly affects the economic growth of Klaten Regency. Geographically, Klaten Regency is located in the western part of Subosukawonosraten Region and directly borders Boyolali and Sukoharjo. The growth rate of the agricultural sector of Boyolali and Sukoharjo districts is 32 percent and 40 percent (BPS of Central Java Province, 2020). Boyolali and Sukoharjo districts can provide agricultural supplies to Klaten Regency in meeting food needs and other economic sectors. The development of the agricultural sector of Boyolali and Sukoharjo districts is quite rapid and has high competitiveness so as to have an impact on the economic growth of Klaten Regency and then create inter-regional relations. In addition, the costs used in economic activities in agriculture, will be more efficient when compared to areas that have a longer distance.

The industry's leading sectors Boyolali, Sukoharjo and Karanganyar districts significantly affect the economic growth of Klaten Regency. When compared to other districts, the economic growth of Klaten Regency is at least influenced by the industrial sector of Subosukawonosraten region. This can happen because of the closer distance of Klaten Regency to the larger growth center of Surakarta, namely Yogyakarta Province. The results of this study support the results of Shodiqin's research (2018) which shows that the processing industry sector has an effect on economic growth and is considered as the leading *sector* in accordance with Hirschman's theory that the rapid growth of one or more industries encourages the expansion of other industries. Geographically, Klaten regency is directly adjacent to Boyolali and Sukoharjo districts with a relatively closer distance compared to Karanganyar Regency which is not directly adjacent. However, Karanganyar regency is directly adjacent to Boyolali and Sukoharjo districts, this facilitates interaction between the regions of the four districts. The industry's leading sectors of Boyolali Regency, Sukoharjo Regency and Karanganyar Regency have rapid development and high competitiveness. The rapidly disproportionate industrial sector can use production inputs from Klaten Regency because of its abundant availability so that it can indirectly encourage and influence the economic growth of Klaten Regency.

The leading real estate sector of Sukoharjo Regency has a significant impact on the economic growth of Klaten Regency. Geographically, Klaten Regency is directly adjacent and has a close distance to Sukoharjo Regency. The growth rate of Sukoharjo

real estate sector from 2007-2019 is 112 percent (BPS Sukoharjo Regency, 2020). The leading real estate sector of Sukoharjo Regency has rapid development and high competitiveness. This can be supported by the supply of raw materials from Klaten Regency such as limestone and wood. So that with the growth and close proximity, the growth of the real estate sector in Sukoharjo Regency can affect the economic growth of Klaten Regency and create inter-regional relations.

The leading trade sector of Wonogiri Regency significantly affects the economic growth of Klaten Regency. Spatial interaction is closely related to trade and economic activity. Geographically, Klaten Regency does not directly border Wonogiri Regency. However, it has a relatively close distance because both are in the western and southern parts of Subosukawonosraten Region. In addition, these two districts are directly adjacent to Yogyakarta Province. However, the main route, especially the trade route from eastern Central Java Province to Yogyakarta Province, is through Klaten Regency. The growth rate of Wonogiri trade sector from 2007-2019 is 88 percent (BPS Wonogiri Regency, 2020). Trade to Yogyakarta Province takes the Klaten district route, so that indirectly with the many activities that go through the Klaten district, can affect and encourage economic growth in Klaten Regency.

CONCLUSION

Based on linear regression analysis that aims to determine the influence of the district/city's leading sector on the economic growth of other regions using different variables, the result is that the dominant sector of Surakarta city has a significant influence on the economic growth of other regions is the industrial sector. The dominant sector of Boyolali Regency has a significant influence on the economic growth of other regions, namely the industrial and construction sectors. The dominant sector of Sukoharjo Regency has a significant influence on the economic growth of other regions, namely agriculture, industrial sector and real estate sector. The dominant sector of Karanganyar Regency has a significant influence on the economic growth of other regions around it is the industrial sector. The leading sector of Wonogiri Regency which has a significant influence on the economic growth of other regions around it is the industrial sector. The leading sectors of Sragen Regency that have a significant influence on the economic growth of other regions are the accommodation supply sector and the real estate sector. And the leading sector of Klaten Regency that has a significant influence on the economic growth of other regions is the industrial sector as well as the information and communication sector. In this case, it can be concluded that the excellent sector and close proximity, able to show that there is

interaction between regions and create interrelationships between regions to the economic growth of other regions in the Subosukawonosraten Region.

SUGGESTION

Natural efforts to improve integration and interaction between regions in the Subosukawonosraten Region, preferably supporting facilities and infrastructure need to be improved to facilitate connectivity between regions, especially in the superior economic sector and can increase the economic growth of the region together. In addition, infrastructure or infrastructure facilities in other fields that can improve interaction and interrelationship between regions through the leading sector should also be improved.

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