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ANALYSIS OF LEADING SECTOR LINKAGES IN THE PURWOMANGGUNG AREA DOI: 10.31002/rep.v8i1.201

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Abstract

This study intends to identify the linkages of leading sectors to the economy in the Purwomanggung area, Central Java. Secondary data for the period 2012-2021 was collected from the Central Statistics Agency (BPS) of Central Java, as well as BPS for each district/city in the Purwomanggung area. In this study, analysis of Shift Share, Moran's Index, and LISA is used. The dominant leading sectors owned by districts/cities in the Purwomanggung area are the agricultural sector, the construction sector, and the wholesale and retail trade sector. There is a spatial correlation in the results of spatial linkages based on the leading sector that dominates with a high scale of regional observation and is surrounded by a nearby environment that has a high scale (High-High), a high regional observation value and is surrounded by a nearby environment of lower value (High-Low), a low area observation value surrounded by a nearby environment (Low-Low). The results of linear regression analysis demonstrate which sectors have a substantial impact on growth. The wholesale and retail trade sector is another regional economy with the largest geographical links. While the agriculture and construction sectors have a considerable impact on economic growth in other areas.

Keywords: Competitive Leading Sectors, Spatial Linkages, Moran Index, Purwomanggung

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INTRODUCTION

The central government grants regional autonomy and empowers autonomous regions with rights, powers, and responsibilities to develop their own regions. Economic development led by the government must go through growth and change because the purpose of economic development is to stimulate the economic growth of the community while at the same time changing the community's economy so that regional income increases. The increase in total community income that occurs in the region is essentially an increase in each additional amount known as regional economic growth, (Tarigan, 2005). This is in accordance with the concept of developing growth centers in the regions that can create a regional system and encourage communities around growth centers to develop, which is in line with the authority given by the central government to empower local governments with the aim of encouraging regional development.

Central Java has the weakest average growth rate among Java provinces from 2012 to 2021. As a result, the province of Central Java established an economic growth strategy. The Central Java Regional Regulation Number 21 of 2003 concerning Spatial Planning for the Central Java Region 2009-2029 has identified eight major sites as critical places for regional growth. Central Java's key development regions include KEDUNGSEPUR,

WANARAKUTI, SUBOSUKAWONOSRATEN, BREGASALANG, PETANGLONG, BARLINGMASCAKEB, PURWOMANGGUNG, and BANGLOR.

The development policies for the Central Java region are divided into two axes based on physical and geographical conditions, namely the northern development axis covering Bregasmalang - Petanglong -Kedungsepur - Wanarakuti - Banglor, which is carried out by accelerating development to reduce regional economic inequality, and the southern development axis, which stretches from Barlingmascakeb - Purwomanggung -Subosukawonosraten, which is developed through increased development so that its development can improve the economy of Central Java.

Table 1. Average Growth in The Southern	Part o	of
Central Java Province in 2012-202	1	

Development Area	Number of Regency/ City	Average Total GRDP (IDR)	Average Growth Rate (%)	
SUBOSUKAW	7	160,450,509	4.74	
ONOSKATEN				
BARLINGMA	-	160 680 280	4.05	
SCAKEB	5	109,000,209	4.05	
PURWOMAN	_	62 011 862	4.2.4	
GGUNG	5	03,011,002	4.24	

Source: BPS data processed, (2022)

Based on these data, it can be seen that the Purwomanggung area is good from the results of the average number of GRDP and the average growth rate is still relatively low compared to other regions. Inter-regional cooperation in the Purwomanggung area, which is currently ineffective and inefficient, can have an impact on this. The lack of connection across areas will have an impact on the Purwomanggung area's economic growth.

A development approach to regional development can be carried out by designating specific cities or regions as growth centers. The growth center is a way to encourage and facilitate development in order to improve people's well-being, (Pratiwi, 2017). Geographically, Magelang City is located in the center of Java Island, at the crossroads of the main transportation and economic routes in Central Java Province, which are Semarang-Magelang-Yogyakarta and Purworejo-Temanggung-Wonosobo. This is what makes Magelang City a strategic area as a center for economic growth in the Purwomanggung Region.



Figure 1. Average GRDP Contribution of Purwomanggung Area by Regency/City in 2012-2021

Source: BPS data processed, (2022)

A region's function as a growth center can be a center of economic activity and encourage other regions to develop, (Putra et al., 2017). Magelang City, as a growth center, has the lowest average contribution growth value from 2012 to 2021, namely 8.92% or around IDR 5,625,798.34 of the Purwomanggung Area's total GRDP. This is can happen because, as a regional growth center, the City of Magelang focuses more on its economic activities in the trade sector than other regions that have other sectors besides trade.

In planning for development and increasing a region's economic growth, attention is currently being paid not only to the regional economy in general, but also to efforts to identify leading sectors. In this case, the leading sector is the base sector, which can provide a steady stream of income into a region's economy, (Wiguna & Budhi, 2016). Regional synergy is an important factor for regions that have advantages in specific sectors. Inter-regional cooperation patterns that boost productivity will encourage income and economic growth convergence, (Dekiawan & Asmarawati, 2017).

Economic development that leads to growth is always initiated at a regional level. This proves that spatially, regional aspects are very important for the economic development of a country, (Ascani et al., 2012). Spatial linkages are relationships that occur because of interactions between regions. The magnitude of inter-regional linkages can vary depending on the intensity and quality of the interaction. One of the influencing factors is the location of an area relative to other regions (neighbors), (Ode et al., 2019).

The existence of inter-regional dependence causes what happens in one area to affect other regions so that it can encourage interaction and cooperation between regions in increasing regional economic growth and encouraging regions to develop. In the spatial domain, the closer the distance between regions, the stronger the interaction, (Tobler, 1970). Thus, there should be a complementary relationship between districts/cities, (Akai et al., 2007).

Putra et al., (2017) in their research, found that each region of Ex. The Besuki residency has various competitive advantages, and each sector that has competitive advantages contributes to its respective regions in different ways. In the research of Zulha & Santoso (2013) revealed that in general, sectors with the highest competitive advantage have lower linkages, so only a few linkages are formed. On the other hand, the pattern dominates randomly based on these leading sectors. Meanwhile, Fikri & Fafurida (2018) in their research found that on a global scale, there is no significant pattern of spatial linkages between districts/cities in Central Java. At the same time, locally in several regions, there is a pattern of high value spatial linkages in the dominantly competitive sectors.

Regional economic development in the Purwomanggung Area based on the 2019

Central Java Provincial Regulation, shows that the focus of the economic sector for the development of the Purwomanggung Area is the agricultural sector, the trade and service sector, and the tourism sector. In an effort to increase regional economic development in the Purwomanggung Area, information about the potential of the existing regions in each regency/city is very useful in determining the leading sectors and studying how the interrelationships between economic sectors have the potential to influence the economic of other regions growth in the Purwomanggung Area, especially from the agricultural sector and the trade and service sector.

As a result, in order to encourage more effective and optimal inter-regional cooperation, it is necessary to investigate the potential of each district/city in the Purwomanggung area, as well as the linkages between economic sectors and inter-regional linkages, so that regional economic growth can be encouraged. It is hoped that by analyzing the pattern of spatial interrelationships of economic sectors between districts/cities, these leading sectors can be developed in each district/city and a pattern of cooperation between districts/cities Purwomanggung area can in the be established to develop these sectors based on their spatial linkages, allowing development to be carried out more evenly and increasing economic growth.

THEORETICAL BASIS

Regional Economic Growth

Regional economics does not discuss individual activities but rather analyzes a region or part of a region as a whole, or looks at individual regions with diverse potentials and how to formulate policies that can accelerate economic growth in the region as a whole.

Regional economic growth theory considers a region as an open system linked to other regions through the flow of factors of production and commodity exchange. A region's economic growth will affect the growth of other regions in the form of a sector's demand for other regions, which will have an impact on encouraging the region's development.

An economy is said to be growing if the level of economic activity increases or exceeds the previous year. In other words, growth will occur only if the amount of physical goods and services produced by the economy increases in subsequent years, (Sukirno, 2004). Economic growth can indicate how successful a region's economic development is in people's lives, so it is critical to calculate economic growth.

Regional Economic Growth Theory

Several theories of regional economic growth and development, particularly those closely related to this research, will be presented, including: a) Export Basis Theory; b) Interregional Model; and c) Fast Track Growth Theory.

a. Export-Based Model (Douglas C. North, 1955)

According to the economic base theory, the rate of economic growth in a region is determined by the size of the region's export growth. Economic activities are classified into two types: base activities and non-base activities. The outcomes of base activities can help to drive regional economic growth, (Tarigan, 2007).

According to Douglas C. North's (1955) theory of the export base model, a region's level of competitive advantage has a significant impact on its economic growth. Economic growth in a region will increase if it can support output growth in competitive sectors as a basis for export operations, (Sjafrizal, 2012).

b. Interregional Growth Model

The inclusion of exogenous factors in this model broadens the export basis theory. This model takes into account the impact of neighboring regions, and it is assumed that, in addition to exporting government spending and investment, the region is also exogenous, and the region is linked to a system composed of several closely related regions.

Changes in regional income in the interregional growth model can result from 1) changes in regional autonomy spending (eg, investment and government spending); 2) changes in the income of a region or several other regions that are part of a system will show changes due to exports; and 3) changes in one or more model parameters (marginal consumption boost, interregional trade coefficient, or marginal tax rate), (Tarigan, 2005).

c. Synergized Fast Track Growth Samuelson proposed the fast rack growth theory (turnpike) in 1955. According to this theory, each country/region should consider which sectors/commodities have high potential and can be developed in a relatively short period of time, both due to natural potential and because these sectors have a competitive advantage to develop. This means that with the same capital investment, these sectors can provide more added value, produce in less time, and contribute significantly to the economy.

Leading Sector Theory

The base sector is a leading sector owned by each region. Leading sectors can be seen or determined by where the region has a leading sector in its territory, and competitive advantage, namely the region's ability to encourage the economic sector to be competitive and of course provide added value that can encourage the region to become more developed (Weliza et al., 2022).

According to Wiguna & Budhi (2016) the leading sector is often expressed by the base sector owned by each district/city, where the sector has an export function and can continue to be developed so that there is no demand limitation. The base sector can be used as a basis for developing the region, with the leading sector being selected from the existing base sector in each district/city. This leading sector is expected to be able to boost the economy and absorb a large number of workers.

The sectors that have advantages have the following characteristics:

- 1) Sectors with high growth rates
- 2) Sectors that have a relatively large distribution rate
- 3) Sectors that have high inter-sectoral linkages both forward and backward.
- 4) A sector capable of creating high added value.

Spatial Interaction

Interaction can be described as a mutually beneficial relationship between two parties. The pattern and intensity of interaction between two or more regions is strongly influenced by the natural and social conditions of the region and the ease with which the relationship between the two regions can accelerate. In Yunus (2010), Edward Ullman discusses spatial interactions, specifically spatial interactions that concentrate on regional interdependence and the movement of commodities, goods, people, information, and other things in interacting areas.

Since not all regions are able to meet their own demands, this interaction can occur. Because it has linkages and interrelationships between settlement centers that are getting bigger so that diversification is formed as a regional development process, interaction is one of the regional development processes, (Rondinelli & Ruddle, 1977).

Spatial linkages are interactions between regions that result in relationships. The magnitude of inter-regional linkages varies according to the intensity and quality of interactions. The location of a region in relation to other regions is one of the influencing factors (neighbors). When compared to areas located further away, the closer an area is to other areas, the greater the level of interaction, (Ode et al., 2019).

Spatial linkage refers to spatial data linkages that form three spatial patterns, namely cluster pattern (some regions form a group and are close to each other), dispersed pattern (each area is evenly located and far apart from other areas), and random patterns (some areas are located randomly in several locations and the position of one area is not affected by the position of other areas). When the spatial linkages are positive, cluster patterns form, while negative linkages form dispersed patterns (Anselin, 1995).

RESEARCH METHODS

Types of Research

This study uses quantitative methods. Quantitative research methods are methods used to answer research questions related to data in the form of numerical and statistical procedures.

Data, Instrument, and Technique of Data Collecting

The secondary data used in this study are data for the period 2012-2021 sourced from the Central Java Statistics Agency (BPS), Purworejo Regency BPS, Wonosobo Regency BPS, Magelang Regency BPS, Temanggung Regency BPS, and Magelang City BPS.

Data Analysis Technique

This study uses several analytical tools, namely:

1. Shift Share Analysis

Shift share analysis is used with the aim of seeing differences and comparing sectoral (industry) growth rates in a narrower area known as regional, a wider area known as national, (Tarigan, 2005). When a region has a slow growing number of sectors, the growth of that sector as a whole will be slow. This comes as a result of faster growth in other regions, (M. F. Putra, 2011).

Shift share analysis is carried out to identify and classify sectors in the Purwomanggung area that have competitive advantages and specialization. Shift Share formula:

$$D_{ij} = N_{ij} + M_{ij} + C_{ij}$$

Information:

- D_{ij} = Changes in GRDP sector i in the Regency/City of Kawawasan Purwomanggung
- N_{ij} = Changes in GRDP sector i in Kawawasan Purwomanggung Regency/City caused by the influence of regional (provincial) economic growth

- M_{ij} = Changes in GRDP sector i in the Regency/City of Kawawasan Purwomanggung caused by the influence of sector i growth in the region (province)
- C_{ij} = The competitive advantage of sector i in the Regency/City of Kawawasan Purwomanggung.

2. Moran Index

The Moran index is a statistical test to measure the spatial autocorrelation scale, which is used to determine the location of the spatial autocorrelation or spatial grouping. This method was developed to define and describe the spatial distribution, as well as to determine the concentration points (clusters/hot spots) and outliers, (Suchaini, 2013).

The Moran index is used to see and determine the location of spatial groupings or spatial autocorrelation between regencies/cities in the Purwomanggung area. Moran's index is measured using the formula:

$$I = \frac{n \sum_{i=1}^{n} \sum_{j=1}^{n} W_{ij} (X_i - X) (X_j - X)}{\sum_{i=1}^{n} \sum_{j=1}^{n} W_{ij} \sum_{i=1}^{n} (X_j - X)^2}$$

Information:

Ι	= Moran Index
n	= Number of observation
	locations
X_i	= Location observation value
	to i
X_j	= Location observation value
	to j

- X = The average value of the number of variables
- W_{ij} = Proximity weighting element between the i location and j location

The Moran index has a range of values from -1 to 1. Negative spatial autocorrelation is indicated by a value of $-1 \le I \le 0$, while positive spatial autocorrelation is indicated by a value of $0 \le I \le 1$. At level = 5%, spatial autocorrelation can be declared significant if the value Z(I) less than -1.96 or greater than 1.96.

GeoDa software is used to analyze the Moran index in this study, and is used to display the LISA Cluster Map. Based on the dominant leading sector, LISA analysis is used to determine local spatial interactions between districts/cities in the Purwomanggung area.

 Analysis of the Effect of the Dominant Leading Sector on the Regions Having Spatial Linkage Patterns in the Purwomanggung Area

Multiple linear regression analysis was applied in this study because there was more than one independent variable. This analysis is used to analyze the influence of the dominant leading sectors of each region that has a spatial relationship pattern on the economic growth of neighboring regions which also have a spatial relationship pattern. In this study, multiple linear regression analysis examines the dominant leading sectors as independent variables with economic growth as the dependent variable. The natural logarithm variable (Ln) will be used in the regression model equation in this study to eliminate fluctuations in the variable data so that the equation becomes:

 $LNY = \alpha + LN\beta X_1 + LN\beta X_2 + LN\beta X_3 + \varepsilon$

Information:

LNY	= Neighboring economic
	growth
LNX1	= Main sector 1 central area
LNX2	= Main sector 2 central area
LNX3	= Main sector 3 central area
α	= Intercept regression model
β	= Slope coefficient or direction
	coefficient
	Г. (

 ε = Error or error component

RESEARCH RESULTS AND DISCUSSION

Shift Share Analysis

1. Purworejo Regency

Purworejo Regency has eight competitive sectors, according to shift share analysis calculations. Manufacturing, construction, educational services, providing accommodation and food and drink, real estate, social activities, government administration, and other services are eight sectors that have competitive advantages. Of these sectors, the manufacturing industry, construction, and education services are the three sectors that have the greatest value.

2. Wonosobo Regency

Compared to other places the in Purwomanggung area, Wonosobo Regency has the greatest competitive advantage. Agriculture, manufacturing, transportation and warehousing, wholesale and retail trade, provision of accommodation and food and drink, social activities, financial and insurance services, information and communication, construction, government administration, other services, and education services are sectors with competitive advantages. The three sectors that have the greatest value are agriculture, manufacturing, and wholesale and retail trade.

3. Magelang Regency

Seven sectors in Magelang Regency have competitive advantages. Agriculture, wholesale and retail trade, electricity and gas procurement, real estate, water supply; waste management, waste and recycling, construction, and mining and quarrying are the seven sectors with competitive advantages. Of these sectors, the sectors of agriculture, construction, and trade and retail are the three sectors that have the greatest value.

4. Magelang City

Magelang City has a competitive advantage in six sectors. Construction, agriculture, wholesale and retail trade, water supply; waste management, waste and recycling, real estate, and electricity and gas procurement are the six sectors with competitive advantages. The three sectors that have the greatest value are construction, trade and retail, and real estate.

5. Temanggung Regency

Temanggung Regency has the second competitive largest advantage after Wonosobo Regency. Agriculture, water supply; waste management, waste and recycling, electricity and gas procurement, real estate, mining and quarrying, information and communication, transportation and warehousing, corporate services, social activities and other services are the ten sectors in Temanggung Regency that have competitive advantages. Of these agriculture, information sectors, and communication, as well as transportation and warehousing are the three sectors that have the greatest value.

Moran Index

In this study, the analysis of the Moran index is focused on indicators of economic growth in the dominant sectors based on the results of the Shift Share calculation by looking at the value of Dij and Cij in the Regency/City in the Purwomanggung area.

1. Agriculture Sector

In the agricultural sector, the Moran index value is -0.3499 with a Z-value of -0.5989. It shows that in general the spatial interaction of districts/cities in the manufacturing in the sector Purwomanggung area, Central Java, is negative (tends to spread) and is not significant. The LISA Cluster Map in Figure 3 illustrates the findings of the Local Indicator of Spatial Autocorrelation (LISA) test on the spatial linkage of the agricultural sector of each district/city with district/city the nearest in the Purwomanggung area.



Figure 3. LISA Cluster Map of Regency/City Agricultural Sector in Purwomanggung Area *Source: Data processed, (2022)*

There is a pattern of High-High and Low-High spatial correlation, as shown in the LISA Cluster Map above. High-High is characterized as having a positive autocorrelation since the observed value of the agricultural sector in the region is high and it is surrounded by areas with high agricultural sector values. In the image above, the resulting visual display is displayed in dark red and depicts Magelang Regency. The proportion of agricultural GRDP in Magelang Regency will be high if the proportion of agricultural GRDP in the surrounding region is high. Low-High means that it has a negative autocorrelation, because the scale of observation of the area is low and surrounded by higher areas. The areas in Purworejo Regency and Magelang City which are symbolized by light blue in the picture above are coldspot observations.

As a result, Magelang Regency, which has a high agricultural value, is expected to have a positive influence on other areas that have a low agricultural value. Furthermore, the three regions may strengthen the agricultural sector by forming alliances with border areas that have a competitive advantage in the agricultural industry. It is hoped that by having cooperation in the development of the agricultural sector between the three regions, it will be able to run effectively and optimally, thereby encouraging and increasing economic growth between regions.

2. Construction Sector

The Moran index value for the construction sector is -0.4594 and the Z-value is -0.9086. This shows that the overall geographical spatial relationship of districts/cities in the construction sector in the Purwomanggung area of Central Java is negative (tends to spread) and is not significant. The LISA Cluster Map in Figure 4 illustrates the findings of the Local Indicator of Spatial Autocorrelation (LISA) test on the spatial relationship of the sectors of each construction district/city with adjacent districts/cities in the Purwomanggung area.



Figure 4.LISAClusterMapofRegency/CityConstructionSectorinPurwomanggung AreaSource: Data processed, (2022)

Based on the LISA Cluster Map above, it can be seen that there is a High-Low spatial linkage pattern, (Magelang Regency), Low-High (Magelang City), and Low-Low (Wonosobo Regency).

The Wonosobo Regency's Low-Low pattern demonstrates that the spatial connection pattern generated has a low observation value of the construction sector and is surrounded by neighboring regions with a low construction sector value as well. The proportion of construction GRDP in Wonosobo Regency is low when the portion of construction GRDP in the surrounding region is low.

As a result, Magelang Regency, which has a higher construction sector value than other

regions, is expected to have a positive influence on areas with a low construction sector value. The government can concentrate on making policies to improve the construction sector in Wonosobo Regency, which has a Low-Low linkage pattern. Furthermore, the three regions can form a partnership to develop the construction sector.

3. Wholesale and Retail Trade Sector The value of the Moran index for wholesale and retail trade is -0.2979, and the Z-value is -0.2408. This shows that the overall spatial relationship of districts/cities in the Purwomanggung area of Central Java in this sector is negative (tends to spread) and is not significant. The LISA Cluster Map in Figure 5 illustrates the findings of the Local Indicator of Spatial Autocorrelation (LISA) test on the spatial interconnection of the wholesale and retail trade sectors of each district/city with the surrounding districts/cities in the Purwomanggung area.



Figure 5. LISA Cluster Map of WholesaleandRetailTradeSectorinPurwomanggung AreaSource: Data processed, (2022)

Based on the LISA Cluster Map above, there is a pattern of High-Low spatial relationships in Magelang Regency. As a result, Magelang Regency may be used as a focal point for the development of the wholesale and retail trade sectors. It is hoped that the development of the wholesale and retail trade sector in Magelang Regency will encourage an increase in trade transactions, thereby stimulating the enthusiasm of all business actors to increase the income and welfare of the people of Magelang Regency and its surroundings, thereby increasing regional economic growth.

Analysis of the Effect of the Dominant Leading Sector on the Regions Having Spatial Linkage Patterns in the Purwomanggung Area

Based on the analysis of spatial linkages, it can be seen that in the Purwomanggung area there are four regions that have a spatial relationship pattern based on the dominant leading sector, namely Purworejo Regency, Wonosobo Regency, Magelang Regency, and Magelang City. Therefore, it is very important to examine the impact of the dominance of the dominant leading sector in each region that has a spatial relationship pattern on the economic growth of neighboring areas which also has a spatial relationship pattern in the Purwomanggung area.

Central Area	Neighboring Area			
	Purworejo	Wonosobo	Magelang	Magelang City
Purworejo	-	Agricultural, Wholesale and retail trade	-	-
Wonosobo	-	-	-	-
Magelang	Wholesale and retail trade	Wholesale and retail trade	-	-
Magelang City	Wholesale and retail trade	Wholesale and retail trade	Construction	-

Source: Data processed, (2022)

1. Agricultural Sector

According to the findings of the regression study, the agricultural sector in Purworejo Regency had an impact on the economic growth of Wonosobo Regency. This is possible since Purworejo Regency lacks a leading competitive sector in agriculture, prompting Purworejo Regency to import agriculture from Wonosobo Regency and other districts/cities. Furthermore, the relatively near distance and direct border between Wonosobo Purworejo and Regencies is highly lucrative in terms of expenses, because production and transportation costs are fairly low. Purworejo Regency's agriculture sector importation activities can boost Wonosobo Regency's income, particularly in the agricultural sector.

2. Construction Sector

According to the findings of the regression study, the construction industry in the City of Magelang has an *impact on the economic growth of the* Magelang Regency. The city of Magelang, as a growing centre in the Purwomanggung area, is geographically located in the core of Magelang regency, allowing for interaction between the two areas in a variety of industries, including building Lestari & the industry. Destianingsih's, (2021) research discovered a high density of building construction in the middle of the city along the main road, particularly in the form of shopping areas and buildings supporting the socioeconomic activities of the people of Magelang City and its surroundings, particularly Magelang Regency.

3. Wholesale and Retail Trade Sector According to the findings of the regression study, the wholesale and retail trade sectors in Magelang Regency and Magelang City had an impact on economic growth in Purworejo Regency. It impacts the economic growth of Wonosobo Regency, as well as the wholesale and retail trade sectors of Purworejo Regency, Magelang, and Magelang City.

Purworejo, Wonosobo, Magelang, and Magelang City are geographically near and physically neighboring. Furthermore, because these four places are on the way to Semarang – Magelang – Yogyakarta – Purworejo dan Wonosobo – Temanggung – Magelang, which have denser commercial activity, the inhabitants in these four regions have fairly high mobility. As a result, these four locations are encouraged to engage with one another and may become viable places for economic activity in the trade sector. Also, wouldn't rule out the possibility of increasing your trading market share.

CONCLUSIONS AND SUGGESTIONS Conclusions

There are three competitive leading sectors that dominate in the Purwomanggung area, namely the agricultural sector, the construction sector, and the wholesale and retail trade sector. Based on the dominant leading sector, in general, districts/cities in the Purwomanggung area have low spatial linkages. This is indicated by the results of the Moran index value which is still away from the value (+) 1. The low value of the relationship between districts/cities in the Purwomanggung area (based on the dominant dominant sector) results in the least number of spatial linkage patterns that make up the special pattern that has a Hot-Spot value (high -high). On the other hand, a random pattern dominates all regency/cities in Purwomanggung area in the three dominant leading sectors. This can be interpreted that in general the inter-regional linkages in the Purwomanggung area are still low.

According to the regression study performed to determine the effect of the dominating district/city superior sector on regional economic growth with spatial links, the wholesale and retail trade sectors from Magelang Regency and Magelang City affect economic growth in Kab. Purworejo. The agriculture sector from Kab. Purworejo, as well as the wholesale and retail commerce sectors from Kab. Purworejo, Kab. Magelang, and the City of Magelang, impact district economic growth in Wonosobo. Magelang Regency's economic growth is affected by Magelang City's building sector.

Suggestion

The findings of this study may be used by policy makers to help the Purwomanggung area achieve greater economic growth. The results of this study are expected to be used as material for studying economics, especially regional economics. It is hoped that future researchers can conduct additional research using newer data.

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