Analysis of Leading Sectors in Wonogiri Regency for 2015–2020

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Abstract. Each region has sector advantages that can contribute to economic growth. This research is entitled Analysis of Leading Sectors in Wonogiri Regency for 2015–2020. The purpose of this research is to find out the potential of the leading sectors in the Wonogiri district in 2015–2020, and it is hoped that it will be able to find out the areas that have advantages so that they can develop these leading sectors. This study uses shift-share analysis. The sector with the highest value is the agricultural sector, followed by the transportation and warehousing sector, the mining and quarrying sector, the education services sector, the other services sector, the wholesale and retail trade sector, the health services sector, and social activities, the corporate services sector, the financial services sector and insurance, government administration sector, and finally the sector of water supply, waste management, waste, and recycling. The data used in this study are the gross regional domestic product (GRDP) of Wonogiri district and the gross regional domestic product (GRDP) of Central Java province at constant prices for the 2015–2020 period. The analytical tools used are LQ and shift share.

Keywords: featured sector · LQ · Shift share

1 Preliminary

"Development" refers to growth that has significantly accelerated and is felt by society as a whole. The Gross Regional Domestic Product (GDP) statistic for the area is a crucial indicator of the strength of the local economy. Indicators of economic growth are crucial for evaluating a region's economic development. Growth in the economy suggests that eventually, more public opinion will be produced as a result of economic activity. In the era of the fourth industrial revolution, a country's development is mostly determined by its economic sector. When a nation experiences a paradigm shift in more sophisticated national development, strategies to promote economic growth are adopted. To gain from the economic sector and raise people's well-being, each region needs to have its source of income [1].

Developments are crucial to the planning process, particularly when preparing local areas. Local economic growth halts as a result of regional growth planning that disregards priority scale. On the corporate side, it is crucial to research and identify potential development of regional sectors that are made superior to increase opportunities and power competitiveness of leading sectors, as this can offer guidance and material for decision-making [2].

Unbalanced industrial concentration areas will affect the rate of land conversion, rising urbanization, and regional economic growth disparities. The results showed that, in comparison to other regions, the average economic growth is significantly larger. For instance, there have been numerous land conversions from non-industrial to industrial regions in the Serengan region [3].

According to [1] According to the Mangilaleng study's findings, the leading industries are the mining, agricultural, construction, and industrial sectors, as well as the industrial, agricultural, and construction sectors, which are the most competitive in South Minahasa Regency. The findings of the research and calculations made using the GRDP technique and the Leading Analysis of South Minahasa Regency allow for the drawing of several conclusions. It can be inferred that South Minahasa Regency's service sector, transportation sector, trade sector, and corporate service sector all experienced growth between 2004 and 2013 by applying the Location Quotient (LQ) and Shift Share (SS) technique. LQ speculates that one of the leading sectors is the mining industry in Minahasa. LQ because the South Minahasa region has the potential for mining, including gold mining, sand, iron, sulfur, stone, and, and, clay, tras, limestone, gypsum, and kaolin, all of which are essential for supporting community services and can be exported to promote the development of the mining industry. According to the results of shift-share (SS), the agriculture sector enjoys a competitive advantage. This can be seen in the Shift Share data, where the agricultural economy is considered and becomes a component in regional economic success, as well as kaolin, which is crucial to the provision of services to the community and may be exported to support the growth of the mining sector. The shift-share (SS) results show that the agriculture sector has a competitive advantage because of its rapid growth. This is evident in the Shift Share data, where the agricultural economy is considered and influences regional economic success, as well as kaolin, which is crucial to the provision of services to the community and may be exported to promote trade. This is evident in the Shift Share statistics, where the agricultural economy is considered and influences the performance of the regional economy [2].

2 Literature Review

2.1 Definition of Leading Sector

By utilizing the economic possibilities that each place has to offer, this key industry helps a region thrive. This potential needs to be utilized effectively if we want to promote economic growth and efficiency. The growth of foreign economies has a significant impact on the local economy. Economic growth is the change or expansion of the gross domestic product over a specific year. The process of increasing local economies' output of goods and services is the foundation for economic growth [3].

Each region is allowed to choose a possible sector that has a large chance of influencing the base sector. In this approach, the industry's contribution to product and service exports is aided by constant and increasing demand. Economic growth is essential for a region's economy to continue expanding. This is because more resources are required each year as the economy expands [4].

Inequality between regions rises as an economy develops because it aims to raise the average level of living for the populace, which can be determined by the income per capita. The government uses regional development planning to encourage equitable growth [5].

Leading sectors provide competitive advantages to promote the expansion of product and service exports in a region and can be utilized as a foundation for future regional development strategies. Leading sectors of the economy are those whose performance potentially exceeds those of other industries. Leading industries can influence other industries to become independent and contribute to regional growth [6].

It is believed that with regional autonomy, each region will be allowed to carry out choices on its own. In other terms, regional autonomy aims to sever or diminish local governments' dependence on the Indonesian central authority. However, the largest obstacle to regional governments implementing regional autonomy is their ownership of the territory they oversee. If regions have appropriately identified this potential, they will be able to harness it for the benefit of regional economic sustainability. Local governments are less competent than regions that are unaware of the potential in their surroundings to fully exploit it [7].

Clusters that are behind in terms of education and the economy are referred to as disadvantaged clusters. The lack of adequate public infrastructure is the cluster's main issue. Community groups in impoverished locations have trouble accessing essential services including telephones, electricity, clean water, transportation infrastructure, and education. This has affected subpar human resources and the struggling local economy. The development of lagging, crucial, and remote rural areas affects given particular emphasis on development economics. The local economy can be fostered through community and regional independence, the use of areas between underdeveloped and developed regions, and special consideration of economies that could result from regional integration. On the other hand, policies that could be put into place in the field of education are strengthening the expansion and equity of education while also raising the standard of education. Educational opportunity [8].

2.2 Location Quotient (LQ) Analysis

LQ is a comparison between the role of an economic sector in an area with the size of the role of the same economic sector nationally or compared to a region with a larger administrative scope [9].

$$LQ = \frac{X_{i/PDRB}}{X_{i/PNB}}$$

Where:
i: additional value of sector I in a region (million rupiahs)
GRDP: Gross Regional Domestic Product (million rupiahs)
Xi: added value of sector I nationally (million rupiahs
GNP: gross national product or GNP (million rupiahs)

rupiahs > 1 means that the role of the sector in the area is more prominent than the national sector, and if LQ < 1 then the role of the sector in the area is smaller than the

national sector. Location Quotient (LQ) analysis is generally used to see regional and national comparisons. Regional is a narrower area, while National is a wider area [10].

2.3 Shift Shares

The causes that lead to changes in regional economic structure to the regional or national economic structure are examined using the classic ShiftShare method so that the economic performance of a larger (regional or national) area can be determined. In ShiftShare analysis, there are three ways to divide growth changes [11].

The impact of South Sumatra Province's economic growth on the economy of Muara Enim Regency is demonstrated by the effect of national economic growth (national growth effect). The relative shift (up/down) of a sector in Muara Enim Regency compared to the same sector in South Sumatra Province is described by the proportionate shift effect, also known as the industrial mix effect. If the differential difference is positive, then the sector in Muara Enim Regency is more comparable to the same sector at the provincial level and can be called a competitive advantage. The differential shift effect shows the level of competition for certain sectors in Muara Enim Regency compared to South Sumatra Province [12].

Making the most of the resources at their disposal is a process that local governments and communities benefit from. In addition to creating jobs, this is accomplished through controlling how they work with the private sector to do so. Energy is the primary factor that defines the success of regional economic development, which is a development plan based on numerous activities to promote economic growth that can offer employment possibilities at an ideal level in terms of quantity, productivity, and efficiency. Leading commodities are those that have the highest production and added value to promote improved regional economic growth and serve as the starting point for the creation of development potential. Economic growth characterizes the process of economic development that takes place concurrently at the national and regional (regional) levels. Economic development must take place in places where it can have a positive multiplier effect, which is accomplished through its effectiveness and efficiency. for other sectors of the economy and generally [13].

3   Research Method

3.1   Approaches, Sources, and Data Collection Techniques

This research method uses a quantitative approach and the data source used is secondary data. The data source for this research was obtained from the Central Statistics Agency for Wonogiri Regency and the Central Statistics Agency (www.bps.go.id) to obtain data on the Gross Regional Domestic Product (GRDP) for Wonogiri Regency and the Central GRDP for Java Island. Province. This study used data collection techniques based on 2015–2020 as many as 6 periods of research data were analyzed using the Location Quotient (LQ). The software used in this research is Microsoft Office Excel 2007.

3.2   Data Analysis Techniques

In this study, researchers used a shift-share analysis tool to analyze leading sectors in Wonogiri Regency, so that the economic performance of a region could be identified.

Analysis of the shift-share analysis technique with the health of the Microsoft Office Excel 2007 application program.

According to [14] mangilaleng analysis, The findings of this study show that the top industries are: mining, agriculture, building, and industry, as well as the industries with the highest levels of competitiveness in South Minahasa Regency, namely agriculture, building, industry, and construction. The findings of the study and calculations performed with the Leading Sector Analysis of South Minahasa Regency utilizing the GRDP approach allow for the drawing of several conclusions. Conclusions can be made in South Minahasa Regency with a shorter time period between 2004 and 2013 by applying the location quotient (LQ) and shift share (SS) methodologies. sectors in South Minahasa Regency that are not in the top ten include the electricity and gas sector, the service sector, the transportation sector, the trade sector, and the corporate service sector. According to LQ calculations, the mining industry is one of the top sectors because the South Minahasa region has the second, irsecondulfur, stone and sand, clay, tras, limestone, and kaolin. need to fund public services. the agriculture sector, the industrial sector, and the construction industry, which provide the greatest competitiveness in South Minahasa Regency, to support the mining sector to become the leading sector from the Shift Share calculation findings. Based on the effects of shifts, the agricultural sector has a competitive advantage since the agricultural sector that produces the limestone and kaolin needed to provide community services has grown substantially. the agriculture sector, the industrial sector, and the construction industry, which provide the greatest competitiveness in South Minahasa Regency, to support the mining sector to become the leading sector from the Shift Share calculation findings. Based on shift-share data, the agricultural industry enjoys a competitive edge because it has grown significantly overall [15].

According to research [16], When basic agricultural goods are available, there is a surplus that can be exported out of the area to subsequently be used to produce income for the area. Increasing agriculture sector revenue is impacted by the development of agricultural commodities. Because Wonogiri district has a variety of essential agricultural commodities, each sub-district lacks specialization in agricultural operations. The Wonogiri district's agricultural commodities typically depict locations that are widely dispersed in sub-districts with growth that is still regional in nature. Selogiri District has 4 classes of Land Potential Index (IPL) each, with the high IPL class having an area of 1,501 Ha or 57% of the total paddy field land in Selogiri District and being classified as a the theoristminant IPL. The total cultivated area of paddy rice farming in Selogiri District is 2,617 Ha or 45% of the district's overall area. The areas for the low IPL class are 509 Ha (19%), the very low IPL class are 209 Ha (9%), and the moderate IPL clclass98 Ha (15%). Slope factor, lithologic factor, soil type factor, hydrological factor, and slope

factor are variables that affect the class of the LathePotential Index in Selogiri District. According to the Land Potential Index (IPL) distribution for paddy rice in Selogiri District, many areas with high to moderate IPL classes are found in the district's central to northern regions. These areas include Pule Village, Jaten Village, Nambangan Village, portions of Sendangijo Village, Gemantar Village, Kaliancar, Desas Singodutan, and DesasJendi. Meanwhile, areas with low and very low IPL classes are dominant in the southern part of Selogiri District, which includes Kepatihan Village, Keloran Village, Pare Village, the southern part of Jendi Village, the northern part of Gemantar Village and the eastern part of Sendangijo Village.

To create an autonomous region, regional development tries to enhance the region's quality. The most important factor in a region's development is the integration of sectors and the coordination of planning. Regional development attempts to achieve efficient and effective regional development by preventing gaps in growth across different regions. Based on Law Number 22 of 1999 to 2004 concerning 47 Laws concerning the expansion or formation of Provinces and Regencies, it is evident that when regional autonomy policies are implemented through the expansion or formation of autonomous regions, the expectation is that they will enhance services and foster democracy. and the possibility of communal empowerment exists [17].

According to Wonogiri Regency's excellence in agriculture, it is quite promising to be developed, for example, rice, cassava, corn, soybeans and cassava. Availability of land and a favorable climate is located in Karangtengah, Wonogiri Regency. Investment costs are costs that come out of farmers to buy the necessary needs. Economic development can be increased through the development of leading sectors in each district. Basagraria agrarian is based on its source of income and will start the economic transformation to the manufacturing sector. Regional Gross Domestic Product (GDP) measures the total value of finished goods and services produced by all economic units in a region, or the total added value generated for all business sectors in a region [18].

Based on the results of the discussion [19] that the Sidoarjo Regency Wonogiri district's economic growth between 2016 and 2020 will be supported by the manufacturing industrial sector, the purchase of energy and gas, and the transportation and warehousing sectors. According to the Klassen Typology study, a potential base sector exists in the Manufacturing Industry sector (Quadrant I). Two sectors, namely the Transportation and Warehousing sector (quadrant II) and the Electricity and Gas Procurement sector (quadrant II), are basic industries but do not have the potential to contribute to future regional economic growth. the provision of lodging, food, and drink; automobile and motorcycle repair; waste management; waste and recycling; construction; wholesale and retail trade; information and communication; financial services and insurance; real estate; corporate services; government administration, defense, and mandatory social security sectors; and education make up the remaining 13 sectors. The Mining and Quarrying sector is a non-basic, non-prospective sector (Quadrant IV). According to studies [20].

From the data analysis and discussion that has been carried out, it can be seen that there are four leading sectors in Sleman Regency, namely the construction sector, the transportation and warehousing sector, the real estate sector, and the corporate services sector., the mining and quarrying sector, the electricity and gas procurement sector, the wholesale and retail trade sector; car and motorbike repair, government administration sector, defense, and mandatory social security [21].

4   Discussion

Table 1. LQ Wonogiri Regency 2015–2020 results show that (*Appendix*):

The Agriculture, Forestry, and Fisheries Sector Based on the 2015–2020 LQ analysis is a leading sector, while based on the shifteshiftsharee analysis the agriculture, forestry, and fisheries sector is a sector that has a competitive advantage and is specialized. The sector of Mining and Quarrying. The mining and quarrying sector is identified as the leading sector based on the 2015–2020 LQ analysis. The mining and quarrying sector, on the other hand, is a specialized industry with a competitive advantage, according to shift-share research. Processing Sector of Industry The manufacturing industrial sector is categorized as a non-leading sector by the 2015–2020 LQ study. Meanwhile, manufacturing is a sector with the potential to be superior but is not specialized, according to a shiftsharewaree study Gas and Electricity Purchasing Sector The power and gas procurement sector is a part of the non-leading sector according to the 2015–2020 LQ study. The delivery of electricity and gas, however, is a sector that has the potential to be better but is not specialized, according to the shift-share study.

Purchasing water, managing waste, and recycling waste is part of the leading sector according to the LQ analysis for the years 2015 to 2020. Shift-share research reveals that the water supply, waste management, and w waste and recycling industries are specialized and have competitive advantages. Construction The construction sector is a part of the non-leading sector according to the 2015 to 2020 LQ study. Shift-share research reveals that the construction industry has the potential to be outstanding but is not specialized. Retail and Wholesale Trade. The wholesale and retail trade sector is a leading sector according to the 2015–2020 LQ study. The wholesale and retail trade sectors are included among industries with competitive advantages and specialization, according to shift-share research. Transportation and Storage. The transportation and warehousing sector is identified as the leading sector based on the LQ analysis for the period of 2015 to 2020. The transportation and warehousing sector, on the other hand, is a specialized industry with a competitive edge, according to shift-share research. Accommodation, Meal, and Drink Provision The hotel, food, and beverage provision sector is a part of the non-leading sector according to the 2015–2020 LQ study. The hotel and food supply sector, on the other hand, is a sector without a competitive advantage and is not specialized, according to shift-share analysis. Communication and Information. The information and communication sector is categorized as a non-leading sector by the 2015–2020 LQ study. The information and communication sector, on the other hand, has the potential to be superior but is not specialized, according to the shift study.

Financial and Insurance Services The financial services and insurance sector is one of the top industries, according to the 2015–2020 LQ study. The financial and insurance services industry, on the other hand, is a sector with a competitive advantage and is specialized, according to shift-share research. Real estate. The real estate sector is categorized as a non-leading sector in the 2015–2020 LQ analysis. According to shift-share research, the real estate industry can succeed but is not highly specialized. Business Services. The corporate services industry is a part of the base sector according to the LQ study for the period of 2015 to 2020. The company's service sector, however, is a specialized industry with a competitive edge, according to shift-share research. Governmental Management The government administration sector is seen as one of the leading sectors by the 2015–2020 LQ study. According to the shift-share research, the government administration sector also contains specialized and competitively advantageous sectors. Instructional Services. The education services sector is recognized as the leading sector by the 2015–2020 LQ study. The shift-share study reveals that the sector of education services is specialized and has a competitive advantage. Services for health and social interaction. The health services and social activities industry is one of the top sectors, according to the 2015–2020 LQ study. The health services sector and social activities are two sectors with competitive and specialized advantages, according to shift-share research. Various Services Other service sectors are included in the leading sectors according to the 2015 to 2020 LQ study. According to a shift-share study, additional service sectors include specialized and competitively advantageous ones.

5   Conclusion

Agriculture is the sector with the highest value, followed by the sectors of transportation and warehousing, mining and quarrying, education services, other services, wholesale and retail trade, health services, social activities, corporate services, financial services, and insurance, government administration, and finally the sectors of water supply, waste management, waste, and recycling.

According to Esteban Marquilla's Shift Share analysis, the sectors of agriculture, forestry, fisheries, mining and quarrying, water supply, waste management, waste and recycling, wholesale and retail trade, transportation, and warehousing, financial and insurance services, corporate services, government administration, and education all have a competitive advantage in Wonogiri Regency. Although there is potential for success in the manufacturing industry sector, the electricity and gas procurement sector, the building sector, the information and communication sector, and the real estate sector, Wonogiri Regency does not specialize in these fields. the industry that provides lodging.

The Author's Contribution.   The following are predicted contributions from the study's findings:

The advantages of this research are anticipated to be able to enhance academic understanding and scientific advancement, particularly for individuals interested in discovering improved indexes that can employ analysis of research results as the foundation for decision-making about research.

Appendix

Table 1. LQ Wonogiri Regency 2015–2020

Business Category	LQ results					
	2015	2016	2017	2018	2019	2020
A. forestry, agriculture, and fisheries	2,2	2,2	2,2	2,1	3.8	3.6
B. mining and quarrying	1.5	1.4	1.3	1.3	2.3	1.6
C. processing industry	0.4	0.5	0.5	0.5	0.9	0.7
D. electricity and gas supply	0.7	0.7	0.7	0.7	0.8	1.6
E. water supply, waste management, waste, and recycling	1.1	1.0	1.1	1.1	1.9	1.7
F. construction	0.6	0.6	0.7	0.7	0.7	1.7
G. Wholesale and retail trade and automobiles	1,2	1,2	1,2	1,2	2,2	1.7
H. Transportation and warehousing	1.9	1.9	2.0	2.0	3.7	1.7
I. provision of food and drink accommodation	0.7	0.8	0.8	0.8	1.4	1.6
J. Information and communication	0.2	0.2	0.3	0.3	0.5	3.6
K. financial services and insurance	1.1	1.1	1.1	1.1	2.0	1.7
L. Real Estate	0.4	0.4	0.4	0.4	0.8	1.6
M N. Company service	1.1	1.1	1.1	1.1	2.0	1.6
O. Implementation of national defense and mandatory social security	1.1	1.1	1.1	1.1	2.0	1.6
P. educational services	1.5	1.5	1.5	1.5	2,8	1.7
Q. Health services and social activities	1,2	1.1	1,2	1,2	2,2	1.7
R, S, T, U. Other services	1,2	1,2	1,2	1,2	2,1	1.6
DOMESTIC REGIONAL GROSS PRODUCTS	1.0	1.0	1.0	1.0	1.0	1.0

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