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Research Article

Analysis of Leading Sectors Using the Location Quotient and Shift Share Methods in Deli Serdang Regency

Syaqinah Ujung [1]* , Vidia Wardana [2] , M Abdan Syakura [3]

[123]Faculty of Economics, Medan State University, Indonesia

*Correspondence: E-mail: syaqinahujung@mhs.unimed.ac.id

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Abstract

This article aims to analyze the leading sectors in Deli Serdang Regency using the Location Quotient (LQ) and Shift Share Analysis (SSA) methods. The research was conducted using Gross Regional Domestic Product (GRDP) data from 2019-2023. The results of the LQ analysis show that five sectors, namely the processing industry, electricity and gas procurement, construction, transportation and warehousing, as well as the provision of funds and food and drink are the leading sectors with LQ values > 1. SSA analysis strengthens these findings by showing that leading sectors have strong local competitiveness, especially the transportation and warehousing sectors which have a positive Regional Shift Effect. On the other hand, some sectors such as the processing industry, although making a significant contribution to GRDP, show a decline in local competitiveness, indicating the need for policy intervention. This research provides a strong basis for local governments to allocate resources and investment more effectively to support sustainable economic growth in Deli Serdang Regency.

Introduction

Determining the leading sector is a very important strategic step in the context of regional economic development, including in Deli Serdang Regency. The leading sector is a sector that has competitive and comparative advantages, which not only makes a large contribution to the Gross Regional Domestic Product (GRDP), but also has high growth potential and the ability to create significant jobs (Nasir, 2020). By identifying leading sectors, local governments can direct resources and policies more effectively to increase sustainable economic growth.

Leading sectors in the regional economy are one of the main considerations for local governments in formulating development policies aimed at accelerating economic growth and improving community welfare. In general, the economic growth of a region can be measured through the value of the Gross Regional Domestic Product (GRDP) produced by the region. In addition, GRDP can also be used to see the extent to which each economic sector contributes to regional economic growth, as seen in Deli Serdang Regency. The following is data on the economic growth rate of Deli Serdang Regency based on GRDP in 2019-2023.

Table 1. Deli Serdang Regency GRDP Data Based on Constant Prices According to Business Field 2019-2023.

NO	SECTOR	2019	2020	2021	2022	2023
1.	Agriculture, Forestry and Fisheries	11020,53	11519,12	12214,16	13618,29	14978,8
2.	Mining and Excavation	774,91	770,15	824,51	920,21	952,71
3.	Processing industry	33813,08	34197,98	36222,42	39014,57	40381,06
4.	Procurement of Electricity and Gas	131,38	137,78	144,27	156,77	162,38
5.	Water Supply, Waste Management, Waste and Recycling	47,1	49,06	52,75	53,69	55,66
6.	Construction	17594,63	17973,83	19014,42	20611,64	22384,38
7.	Wholesale and Retail Trade; Car and Motorcycle Repair	18838,6	19307,43	20506,53	22627	24478,27
8.	Transportation and Warehousing	9802,16	8591,35	8211,81	11178,58	14989,39
9.	Provision of Accommodation and Food and Drink	3011,95	2759,81	2741,35	3005,17	3374,92
10.	Information and Communication	1242,53	1373,82	1511,96	1680,98	1805,14
11.	Financial Services and Insurance	2804,81	2853	3103,05	3412,69	3623,06
12.	Real State	4551,13	4735,64	4805,9	5065,34	5258,99
13.	Company Services	524,97	543,68	560,37	626,03	684,74
14.	Government Administration, Defense and Compulsory Social Security	2160,44	2224,95	2219,52	2217,79	2302,15
15.	Educational Services	1644,64	1710,51	1775,56	1843,6	1999
16.	Health Services and Social Activities	1055,27	1085,91	1079,99	1161,89	1270,64
17.	Other services	316,01	311,22	317,72	352,3	396,42
18.	GRDP	109334,14	110145,24	115306,31	127546,55	139097,71

From the table of data on the GRDP of Deli Serdang Regency above, it can be seen that each sector has experienced an increase in its contribution to the GRDP from year to year in 2023. The manufacturing industry sector is a sector that provides a significant contribution to the Gross Regional Domestic Product (GRDP) of Deli Serdang Regency in the 2019-2023 period. While the agriculture, forestry, and fisheries sectors generally experience growth, the growth rate tends to be more stable than other sectors. For the electricity, gas, and water supply sector, this sector also shows quite good growth, in line with the increasing energy needs in the area. The construction sector has experienced consistent growth, indicating quite high development activity. The transportation and warehousing sector has also experienced significant growth, in line with increasing economic activity and population mobility. The wholesale and retail trade sector has generally experienced growth, indicating an increase in people's purchasing power. And most of the service sub-sectors, such as education, health, and social activities, also showed positive growth

One of the common approaches used in the analysis of leading sectors is the Location Quotient (LQ) method, which identifies sectors that have relative advantages in a region compared to other regions. In addition, the Shift Share Analysis (SSA) method provides an overview of the performance of a sector by comparing local sectoral growth with national sectoral growth. Both of these methods can be used to evaluate the extent to which Deli Serdang's economic sectors are able to compete at the regional and national levels. As stated by Nasir (2020), "The analysis of leading sectors through the LQ and SSA approaches provides a basis for local governments to allocate resources and investments more effectively, as well as to focus on the development of sectors that provide maximum contribution to the local economy."

Determining the leading sectors in Deli Serdang must also consider aspects of inclusive development. Leading sectors must not only be able to provide a significant economic impact, but must also play a role in improving community welfare. Therefore, there needs to be synergy between the government, business actors, and the community to develop potential sectors, with the support of appropriate policies. As stated by Putri and Amalia

(2021), "inclusive regional economic development must prioritize the development of leading sectors that can absorb local labor and provide direct benefits to the community."

Determining the leading sectors will be the basis for formulating regional development policieS. By knowing which sectors have the potential to be further developed, local governments can allocate resources more effectively and efficiently, and encourage appropriate investment in these sectors. This analysis process is expected to provide a direction for development that focuses on improving community welfare and sustainable economic growth.

Hypotheses Development

A hypothesis is a temporary statement or conjecture made to explain a certain phenomenon and can be tested for truth through scientific research (Gasparyan, et al, 2019). According to Sugiyono (2019:99), a hypothesis is a temporary answer to the formulation of a research problem and is based on empirical facts obtained through data collection.

1. Location Qoutient (LQ)

Location Quotient (LQ) is an analysis technique used to identify leading or base sectors in an economic region by comparing the contribution of the sector to the local economy with the same contribution at the regional or national level (Pangow, R. J, et al., 2023); (Harjanti, D. T, et al., 2021). LQ is often used to identify leading sectors in a region and assist in making economic development decisions. While the definition of a leading sector is a sector that has a comparative advantage and a Title advantage competitive which can refer to regional economic growth (Mahesa and Huda, 2021); (Maharini et al., 2022); (Wahidin et al., 2023). Meanwhile, according to (Abdul Rajab and Rusli, 2019) and (Ni Kadek Tasya Novita Dewi et al., 2024), it is stated that the leading sector is usually related to a comparison, be it a regional, national or international comparison.

According to Syaifuddin et al. (2019), LQ is a simple but effective analysis tool to evaluate the economic strength of a sector in a region relative to the national economy. This method measures the proportion of output or labor of a sector in a region and compares it with the same proportion at the national level. If the LQ value is more than 1, the sector is considered to have a comparative advantage or is a leading sector in the region.

Ridwan et al. (2020) also stated that LQ can provide guidance in determining priority sectors for regional development. Sectors with an LQ value of more than 1 are considered to be an economic base that can make a significant contribution to the economic growth of the region.

Rumus LQ

LQ is calculated using the following formula:

$$LQ = \frac{\frac{E_i}{E_T}}{\frac{N_i}{N_T}}$$

Keterangan:

- E_i = GRDP of sector i in the region.
- E_T = total GRDP in the region.
- N_i = GRDP of sector i at the national level.
- N_T = total GRDP at the national level.

Interpretation of LQ values:

- LQ > 1: The sector is a leading sector in the region.
- LQ < 1: The sector is not a leading sector

From the explanation and theory above, it can be concluded that the research hypothesis is:

a. H0: Economic sectors in Deli Serdang Regency do not have a comparative advantage based on the Location Quotient (LQ) method.
b. Ha: The economic sectors in Deli Serdang Regency have comparative advantages based on metode Location Quotient (LQ).

2. Shift Share Analysis (SSA)

Shift Share Analysis (SSA) is an economic analysis method used to evaluate changes and performance of economic sectors in a region compared to a wider region (usually national level). The Shift-Share Analysis (SSA) method is a technique used to measure regional economic growth by separating structural (national) and local influences (Lahr, M, et al., 2020); (Ramajo, J, 2021); (Ray, 2019). SSA separates the influence of a region's economic growth into three main components: the National Growth Component, the Proportional Growth Component (Industry Mix Component), and the Shift Component Regional Shift Component. This analysis aims to identify competitive advantages and understand the factors that influence the economic growth of a region.

According to Fitriani et al. (2019), (Ray, D. M, 2019); (Othman, N., & Wahab, S. 2020). SSA is used to identify the contribution of certain economic sectors to the economic growth of local areas.

By using SSA, we can separate the growth effects originating from:

1. National Growth Effect: Measures how much growth in a region is caused by national economic growth.
2. Industry Mix Effect (Industry Mix Effect): Measures how well a particular sector in a region is doing grew compared to similar sectors at the national level.
3. Regional Shift Effect: Measures the local competitiveness of an economic sector, namely whether the sector is growing faster or slower than the same sector in the national region.

According to Widyastuti (2020), the Regional Shift Effect component in SSA shows how well a sector functions in terms of local competitiveness. If this component is positive, it means that the sector is more developed in the local area compared to the national level, indicating a competitive advantage in the region.

Komponen Shift Share Analysis

Shift Share Analysis breaks down economic growth into three main components:

a. National Growth Effect
   Measuring the contribution of national economic growth to sectors in local areas. The formula is:

$$\text{KPN} = \frac{E_i}{T_i} \times \left(\frac{\Delta N_T}{N_T}\right)$$

b. Proportional Growth Component (Industry Mix Effect)
   Measuring the performance of a particular sector in a local area compared to similar sectors at the global level national. The formula:

$$\text{KPP} = \frac{E_i}{T_i} \times \left(\frac{\Delta N_i}{N_i} - \frac{\Delta N_T}{N_T}\right)$$

c. Regional Shift Effect Components

Measures the local competitiveness of a sector. If positive, it means the sector is growing faster than similar sectors in the national region. The formula:

$$\text{KKPW} = \frac{E_i}{T_i}\left(\frac{\Delta E_i}{E_i} - \frac{\Delta N_i}{N_i}\right)$$

The description:

- E_i = Value of sector i in the local area.
- N_T = Total value of the national economy.
- N_i = The value of the sector at the national level
- Δ = Change from previous period.

Based on the explanation and theory above, a hypothesis can be drawn from this research, namely:

a) H0: The economic sectors in Deli Serdang Regency do not show better performance compared to other sectors at the national level based on Shift Share analysis.
b) Ha: Economic sectors in Deli Serdang Regency show better performance compared to other sectors at the national level based on Shift Share analysis.

Method

The type of research used in this study is quantitative research. Quantitative methods are research approaches that focus on collecting and analyzing data in numerical form. The main purpose of this method is to measure variables and find relationships between variables that can be identified statistically (Sugiyono .2019); (Bhandari, P. 2020); (Wilson, LA 2019.) Quantitative research focuses on testing data where the discussion in this study depends on the results shown from the estimated data used. This type of research was chosen because it aims to determine the leading sectors in Deli Serdang Regency, North Sumatra Province. The sample used is Gross Regional Domestic Product (GRDP) data based on current prices according to business fields in Deli Serdang Regency, North Sumatra Province in the period 2019-2023.

This research was conducted in Deli Serdang district by looking at Gross Regional Domestic Product (GRDP) data based on current prices for the period 2019-2023 and Gross Regional Domestic Product (GRDP) of North Sumatra based on current prices for the period 2019 to 2023.

In general, the steps taken in this study are to analyze secondary data, namely Gross Regional Domestic Product (GRDP) data based on current prices for the period 2019-2023 and Gross Regional Domestic Product (GRDP) of North Sumatra based on current prices for the period 2019 to 2023 to determine the leading sectors, subsectors, and commodities. The analysis tools used are shift share (SS) and location quotient (LQ) analysis. This is then used to determine the leading potential of the Deli Serdang Regency area.

The research variables used are GRDP provisions based on current prices, namely:

Tabel 2. Research Variables

No	Economic Sector / Research Variable
1	Agriculture, Forestry and Fisheries
2	Mining and Quarrying
3	Processing industry
4	Electricity and Gas Procuremen
5	Water Supply, Waste Management, Sewage and Recycling
6	Construction
7	Wholesale and Retail Trade; Automobile Repair and Motorcycle
8	Transportation and Warehousing

9	Provision of Accommodation and Food and Beverages
10	Information and Communication
11	Financial Services and Insurance
12	Real Estate
13	Corporate Services
14	Government Administration, Defense and Security Mandatory Social
15	Educational Services
16	Health Services and Social Activities
17	Other Services

Results And Discussion

Result

Analisis Location Quotient (LQ)

To find out whether a sector is a leading or non-leading sector by using the Location Quotient (LQ) method, which is a comparison between total regional income and the relative share of sector i's income at the national level to total national income. The criteria for the sector are if the LQ value > 1 or LQ = 1 then the sector is a leading sector in the regional economy. The results of the LQ analysis of each sector of Deli Serdang Regency in 2019-2023 can be seen in the table below.

Table 3. Results of Location Quotient (LQ) Calculation for Deli Serdang Regency 2019-2023

NO	SECTOR	LQ-2019	LQ-2020	LQ-2021	LQ-2022	LQ-2023	Rata-rata	Keterangan
1.	Agriculture, Forestry, and Fishery	0,490994	0,4901636	0,4807136	0,4646351	0,4564297	0,477	Non Basis
2.	Mining and Excavation	0,5577721	0,5467732	0,5741331	0,5948632	0,5861411	0,572	Non Basis
3.	Processing Industry	1,6242725	1,6092816	1,6084633	1,5990003	1,574572	1,603	Basis
4.	Procurement of Electricity and Gas	1,0579376	1,0883014	1,0901781	1,1064223	1,1176809	1,092	Basis
5.	Water Supply, Waste Management, Sewage and Recycling	0,4323624	0,4346935	0,4519037	0,4479236	0,4496869	0,443	Non Basis
6.	Construction	1,1310831	1,2017803	1,2250613	1,2210127	1,2188924	1,200	Basis
7.	Wholesale and Retail Trade; Automobile Repair and Motorcycle	0,9155155	0,9279977	0,9406782	0,9341322	0,9223354	0,928	Non Basis
8.	Transportation and Warehousing	1,7671596	1,7378224	1,7073459	1,9298349	2,1331396	1,855	Basis
9.	Provision of Accommodation and Food and Beverages	1,1366554	1,148828	1,1574457	1,155227	1,1509527	1,150	Basis
10.	Information and Communication	0,5301836	0,5478818	0,5611514	0,5665153	0,5644952	0,554	Non Basis
11.	Financial Services and Insurance	0,8787036	0,8929837	0,9059266	0,9012207	0,90409	0,897	Non Basis
12.	Real Estate	0,8129473	0,8166888	0,8161959	0,8133548	0,8117273	0,814	Non Basis
13.	Corporate Services	0,4429717	0,4606537	0,4723491	0,4654389	0,4649295	0,461	Non Basis

14.	Government Administration, Defense and Security Mandatory Social	0,5362952	0,543537	0,5434716	0,5491825	0,551763	0,545	Non Basis
15.	Educational Services	0,814485	0,8132782	0,8267165	0,8179568	0,8202027	0,819	Non Basis
16.	Health Services and Social Activities	0,9463386	0,9550227	0,9476662	0,9624405	0,9727528	0,957	Non Basis
17.	Other Services	0,495363	0,4989717	0,5056919	0,4991895	0,4927554	0,498	Non Basis

Based on the results of the Location Quotient (LQ) analysis of 17 economic sectors in Deli Serdang Regency based on the basic GRDP at constant prices between 2019-2023, it shows that in Deli Serdang Regency there are five sectors that have an average LQ value > 1, identified as leading sectors and twelve sectors with an average value[1] of LQ 1 are the Manufacturing Industry sector with an average LQ value of 1.603, the Electricity and Gas Supply sector with an average LQ value of 1.092, the Construction sector with an average LQ value of 1.200, the Transportation and Warehousing sector with an average LQ value of 1.855, the Accommodation and Food and Beverage Provision sector with an average LQ value of 1.150. Based on the average LQ value, the highest is in the Transportation and Warehousing sector, making it a very strategic sector in Deli Serdang Regency. This is indeed reasonable because based on the location conditions, Deli Serdang is located close to Medan, the capital of North Sumatra, and is the main gateway for economic activities in the region. The location of Deli Serdang is very strategic because it is the main intersection for land, sea, and air transportation routes, with Kualanamu International Airport located in this area, and close to Belawan Port which is the center of goods distribution. The Transportation and Warehousing Sector is also one of the largest contributors to Deli Serdang Regency's GRDP compared to other sectors.

Meanwhile, for non-superior sectors with LQ < 1, the Agriculture, Forestry and Fisheries sector with an average LQ value of 0.447, the Mining and Excavation sector with an average LQ value of 0.447, and the Mining and Quarrying sector with an average LQ value of 0.449. LQ 0.572, Water Supply, Waste Management, Waste and Recycling sector with an average LQ value of 0.443, Wholesale and Retail Trade sector; Car and Motorcycle Repair with an average LQ value of 0.928, Information and Communication sector with an average LQ value of 0.554, Financial Services and Insurance sector with an average LQ value of 0.897, the Real Estate sector with an average LQ value of 0.814, the Corporate Services sector with an average LQ value of 0.461, the Government Administration, Defense and Mandatory Social Security sector with an average LQ value of 0.545, the Education Services sector with an average LQ value of 0.819, the Health and Social Activities sector with an average LQ value of 0.957, and the Other Services sector with an average LQ value of 0.498

Analisis Shift Share (SSA)

Shift Share Analysis is to determine the performance of the regional economy, structural shifts, relative positions of economic sectors and identification of superior regional sectors in relation to the economy of the reference region in two or more periods. Shift Share Analysis is useful for seeing the development of a region against a wider area, for example the development of a district against a province or a province against the national, with Shift Share the development of sectors can be known compared to other sectors and can compare the rate of the economy in a region.

Table 4. Calculation of Shift Share Analysis in Deli Serdang Regency 2019-2023

NO	SECTOR	Component Growth National (KPN)	Component Growth Proportional (KPP)	Component Share Growth Region (KKPW)	SSA

1.	Agriculture, Forestry, and Fishery	0,314	0,196	-0,151	0,359
2.	Mining and Excavation	0,314	-0,106	0,021	0,229
3.	Processing Industry	0,314	-0,042	-0,079	0,194
4.	Procurement of Electricity and Gas	0,314	-0,106	0,027	0,236
5.	Water Supply, Waste Management, Sewage and Recycling	0,314	-0,141	0,008	0,182
6.	Construction	0,314	-0,095	0,053	0,272
7.	Wholesale and Retail Trade; Automobile Repair and Motorcycle	0,314	0,018	-0,033	0,299
8.	Transportation and Warehousing	0,314	-0,006	0,220	0,529
9.	Provision of Accommodation and Food and Beverages	0,314	-0,171	-0,023	0,121
10.	Information and Communication	0,314	0,095	0,043	0,453
11.	Financial Services and Insurance	0,314	-0,017	-0,005	0,292
12.	Real Estate	0,314	-0,119	-0,040	0,156
13.	Corporate Services	0,314	-0,030	0,020	0,304
14.	Government Administration, Defense and Security Mandatory Social	0,314	-0,244	-0,004	0,066
15.	Educational Services	0,314	-0,067	-0,032	0,215
16.	Health Services and Social Activities	0,314	-0,104	-0,006	0,204
17.	Other Services	0,314	-0,012	-0,048	0,254

The results of the shift-share analysis in the table above provide an overview of the performance of economic sectors in a region based on three main components, namely the National Growth Component (KPN), Proportional Growth Component (KPP), and Regional Share Growth Component (KKPW). Based on the data presented, we can interpret the performance of each sector based on three main components, namely:

Agriculture, Forestry and Fisheries Sector

- KPN: 0,31 : indicates that this sector experienced growth in line with the national growth average.
- KPP: 0,196 : shows that this sector is also growing in line with similar sectors at the regional level national.
- KKPW: -0,151: indicates a decline in the local competitiveness of this sector compared to larger area.

Even though there is a decrease in the regional share, with an SSA of 0.359, this sector is still included in the sector which excels in the local economy, contributing significantly to regional growth.

Mining and Quarrying Sector

- KPN: 0,314 : reflects good growth in this sector.
- KPP: -0,105 : indicates that the growth of this sector is slower than similar sectors at the same level national.
- KKPW: 0,020 : indicates an increase in local competitiveness, so that this sector is relatively superior in the area.

With an SSA of 0.229, this sector continues to contribute positively despite several challenges in proportional growth.

Manufacturing Industry Sector

- KPN: 0,314 : indicates a boost from national economic growth
- KPP: -0,041 : this sector experienced slower growth compared to similar sectors in national level.
- KKPW: -0,078 : Indicates a decrease in the regional share, which could be an indication of weakness local competitiveness.

Although the SSA of 0.194 indicates positive growth, this sector needs improvement in its power competitiveness in order to increase its contribution to the local economy.

Transportation and Warehousing Sector

- KPN: 0,314 : driven by national economic growth.
- KPP: -0,006 : almost balanced with the growth of similar sectors at the national level.
- KKPW: 0,220 : indicates a significant increase in competitiveness in this region.

With an SSA of 0.529, this sector is one of the leading sectors, showing good performance which is very good and has great growth potential.

Information and Communication Sector

- KPN: 0,314 : indicates a strong contribution to national growth
- KPP: 0,095 : indicates that this sector is growing faster than similar sectors at the same level national.
- KKPW: 0,043 : : indicates a significant increase in local competitiveness.

With an SSA of 0.453, this sector is a leading sector with significant growth, driven by increased competitiveness and growth that is higher than the national average.

From the results of this analysis, sectors such as Agriculture, Transportation, and Information and Communication are considered superior in the region because they show good performance, both in terms of national growth and local competitiveness. Sectors such as Manufacturing and Mining show potential but need to improve local competitiveness. The results of this shift-share analysis are very useful for policy makers in determining the priority of economic sector development in the region, both to increase competitiveness and encourage the growth of sectors that have shown superior potential.

Discussion

The results of the study show that the leading sectors in Deli Serdang Regency, such as the processing industry, electricity and gas supply, construction, transportation and warehousing, as well as the provision of accommodation and food and beverages, play an important role in driving regional economic growth. Through the Location Quotient (LQ) analysis, these sectors are identified as having competitive advantages with LQ values > 1, indicating a significant contribution to the regional GRDP and high growth potential. For example, the transportation and warehousing sector with the highest LQ value (1.855) is the most strategic sector, supported by Deli Serdang's geographical position which is close to Kualanamu Airport and Belawan Port.

The results of the Shift Share (SSA) analysis support this finding, where leading sectors also show strong competitiveness at the local level. The transportation and warehousing sector, for example, has a positive regional share growth component (KKPW), indicating increased local competitiveness. This sector is one of the main drivers of Deli Serdang's economic growth, followed by the information and communication sector which also showed good performance with positive SSA. In contrast, sectors such as the manufacturing industry, despite their significant contribution, showed a decline in local competitiveness, indicating the need for policy intervention to improve the competitiveness of the sector.

This finding is relevant to the goal of sustainable regional development, where leading sectors not only play a role in increasing GRDP, but also in creating jobs and improving community welfare. Identification of these leading sectors provides a strong basis for more effective policy making, especially in resource allocation and investment to maximize the potential of the regional economy. This analysis provides a clear picture of the dynamics of Deli Serdang's economic growth and the direction of development that needs to be focused on to increase competitiveness and sustainable economic growth.

The results of this study are in line with several previous studies that also highlight the importance of identifying leading sectors as a regional economic development strategy. Nasir (2020) emphasized that the analysis of Location Quotient (LQ) and Shift Share (SSA) is an important tool for evaluating sectoral performance in the context of regional and national competitiveness. This study confirms this view, especially in the case of the transportation and warehousing sector in Deli Serdang, which has the highest LQ value. Deli Serdang's strategic geographical position supports this finding, in accordance with Nasir's research which states that sectors with geographical advantages tend to have higher competitiveness.

In addition, Putri and Amalia (2021) in their research on regional economic development emphasize the importance of inclusive leading sectors, namely sectors that not only drive economic growth but also improve people's welfare. This study also found that leading sectors such as the manufacturing and construction industries not only contribute significantly to GRDP but also have the potential to create jobs, in line with Putri and Amalia's views on inclusivity in economic development.

This study also supports the findings of Tyas et al. (2022), which states that GRDP is the main indicator for measuring regional economic performance. Based on the results of the analysis, the leading sectors in Deli Serdang have been shown to contribute significantly to the increase in GRDP, especially the transportation and warehousing sectors which have shown rapid growth from year to year. This conclusion strengthens the argument that sectors with high growth should be the main focus in regional economic development strategies. Developing the economic potential of leading sectors for regional economic progress is a policy priority that must be implemented (Munifah & Daryono Soebagyo, 2019).

However, research conducted by Suryanto (2019) shows that the competitiveness of the transportation and warehousing sectors is often less strong in several regions that are more focused on primary industries such as agriculture and forestry. In some areas, transportation is not a leading sector due to the lack of supporting infrastructure and limited access to markets. In addition, Maharini et al. (2022) stated that the processing industry sector is often not a leading sector in some regions due to high dependence on imported raw materials and weak local policy support.

Based on the findings above, it is clear that the leading sectors in Deli Serdang Regency have significant potential to encourage regional economic growth. However, the challenges faced, such as the decline in the competitiveness of the processing industry sector and dependence on the primary sector in several regions, show that development efforts cannot rely on existing potential alone. A more holistic and integrated approach is needed in policy formulation, including investment in infrastructure and policies that support local industrial development. Inclusive policies must be designed to strengthen sectors experiencing a decline in competitiveness and optimally utilize the advantages of other sectors. In this way, efforts to improve community welfare and achieve sustainable development goals in Deli Serdang can be realized effectively, making this area more resilient to global economic changes and local challenges that may arise in the future.

Conclusion

This study shows that five economic sectors in Deli Serdang Regency, namely the processing industry, electricity and gas supply, construction, transportation and warehousing, and accommodation and food and beverage provision, are leading sectors with LQ values > 1. The transportation and warehousing sector is the most strategic with the highest LQ value. In contrast, the other 12 sectors do not have a comparative advantage.

The results of the Shift Share analysis also support that the leading sectors have strong local competitiveness, especially the transportation and warehousing sectors. This finding is important for the government to focus policies and resources on leading sectors to support economic growth and community welfare in Deli Serdang.

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