An Analysis of Leading Sectors in Sleman District

Gea Dwi Asmara[1*], Fadli Anggoro Yekti[2]
gea@ep.uad.ac.id[1*], 2301010078@webmail.uad.ac.id[2]
[1,2]Program Studi Ekonomi Pembangunan
[1,2]Universitas Ahmad Dahlan

Abstract : This research endeavors to ascertain the preeminent sectors within Sleman Regency during the timeframe spanning 2018 to 2022. Additionally, the study aims to discern the sectors that constitute the primary focal points for economic development within Sleman Regency, situated in the Yogyakarta Special Region Province. Secondary data, acquired from the Central Statistics Agency, is employed in this investigation, utilizing a documentary study method centered on the Gross Regional Domestic Product (GRDP) at Constant Basic Prices categorized by Field of Business in Sleman Regency and Yogyakarta Special Region Province for the years 2018-2022. The sample comprises 17 economic sectors contributing to the composition of the Gross Regional Domestic Product (GRDP) in Sleman Regency and Yogyakarta Special Region Province. To analyze the preeminent sectors, the research employs the Location Quotient, Shift Share, and Klassen Typology calculation approaches. The findings reveal that the leading sectors in Sleman Regency encompass the Manufacturing Industry, Real Estate, Corporate Services, and Educational Services sectors.

Keywords : Gross Domestic Product, Location Quotient, Shift Share, Typologi Klassen, Preeminent Sectors.

INTRODUCTION

The economic growth rate is the primary indicator of how well a nation's economic development has progressed. Economic growth is one of the indicators that is crucial to the process of regional or national economic development. The Gross Regional Domestic Product (GRDP) calculation provides information on Indonesia's economic growth. High economic growth and more jobs are indicators of economic progress (Atikasari et al., 2023). A country or region's gross domestic product (GRDP) is the total output generated by all of its economic sectors, according to BPS. In the meantime, GRDP is one of several methodologies used to analyze predictions of a region's economic development over a specific period (Mulyanto & Rachmawati, 2021).

Table 1. Indonesia's Economic Growth Rate 2018-2022 (percent)

Indonesia's Economic Growth Rate 2018-2022 (percent)

2018	5,17
2019	5,02
2020	-2,07
2021	3,7
2022	5,31

It is evident from the above table that Indonesia's economic growth rate varies between 2018 and 2022. Economic growth, as defined by Sembahen & Falensky, (2019), is a phase characterized by a rise in real national income or GDP on an annual basis. Indonesia's economic growth rate was 5.02 percent up until 2019, but it dropped to -2.07 percent in 2020. This is the impact of the global COVID-19 pandemic and has an impact on the world economy, including Indonesia. Indonesia's economic growth rate fell to -2.07 percent that year. However, the economy will begin to improve in 2022, Indonesia's economic growth rate will increase to 5.31 percent. This indicates that Indonesia's economic activity continues to improve and is still growing in several sectors after the COVID-19 pandemic. Economic growth is a factor that needs to be taken into account in attempts to promote economic development (Mulyanto & Rachmawati, 2021). Consequently, in order to support planned economic development strategies by their sectoral potential, it is necessary to study potential sectors, the economic structure, and economic projections.

The central government indeed has jurisdiction over and responsibility for economic development. Nonetheless, local governments receive the policy mandate from the federal government. Decentralization transfers policy-making authority from the national government to autonomous regions according to the autonomy principle. Law Number 23 of 2014, which deals with regional government, states that general government affairs exist in the meantime. Specifically, a governor, regent, or mayor is given the authority to carry out government affairs in the regions by the President, who serves as the head of the central government. Java has significantly contributed to Indonesia's current economic growth rate, as evidenced by its achievement.
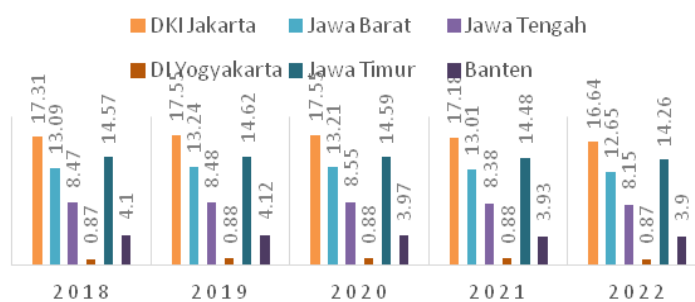

Figure 1. GDP distribution of Java Island 2018-2022

As can be seen from the above figure, Java Island contributes the most to the Indonesian economy, accounting for 56.47 percent of the country's GDP between 2018 and 2022. With 16.64 percent, DKI Jakarta Province is the top contributor in 2022. In contrast to other provinces on the island of Java, Yogyakarta Province's Special Region comes in last place with 0.87 percent. Several factors, including variations in the quality of human resources, natural resources, and technological advancements that can boost a region's economy, can contribute to this inequality. In his research, Mangara, Adawiyah, & Desmawan (2023) claimed that every location has unique advantages and performs various economic roles for the economy. Nevertheless, several areas have failed to see the potential of every existing industry. Therefore, it is anticipated that the capacity to identify viable sectors will promote regional development and economic progress if it keeps becoming better. Thus, it is anticipated that the Special Province of Yogyakarta will be able to examine industries that could promote further economic growth in this instance. The Gross Regional Domestic Product (GRDP) measures a region's economic health; a greater GRDP during a given time period denotes a higher level of economic activity in the area.

Statistics from the Central Bureau of Statistics indicate that Sleman Regency will have the highest GRDP in 2022, valued at 3,759,6377 million rupiah. In contrast, Yogyakarta City ranks second in 2022 with a GRDP of 29,863,200 million rupiah. In the meantime, Yogyakarta Province's districts and cities show a favorable trend in terms of GRDP, which rises steadily between 2018 and 2022. The table shows that the GRDP values of the towns and districts in the Yogyakarta Special Region vary. This might happen as a result of variations in each region's natural resource diversity. According to a study conducted by Endey et al., (2022) on the competitiveness analysis of leading commodities in Gorontalo Province, natural resources (SDA) serve as the cornerstone of sustainable economic growth. In order for areas with plentiful natural resources to surpass others with just sparse natural resources in terms of development.

Sleman Regency occupies 574.82 square kilometers, or 18.04 percent, of the Special Region of Yogyakarta Province. Despite making up 18.04 percent of the province, Sleman Regency has contributed significantly to Yogyakarta Province's highest gross domestic product (GRDP) among all the captaincy and cities between 2018 and 2022. On the other hand, the GRDP growth throughout that period does not correspond with the growth rate. The nationwide epidemic in 2020 caused a decline in growth rate, according to data released by the Sleman Regency Statistics Agency. The Sleman Regency's GDP growth rate dropped to a

record low of -3.91 percent that year but rebounded the following year, reaching 5.15 percent in 2022. Agustina & Pamungkas (2021) define the economic growth rate as the growth in gross domestic product (GRDP) without considering the size of the rise in value or whether or not it impacts changes in the economic structure. Therefore, the increase of GRDP in a region can be used to determine the pace of economic growth. According to Hasyadi et al., (2023), however, one of the key factors influencing economic growth is the demand for goods and services, which creates a chance for using local resources to boost regional revenue. The variety of each region's economic potential inspires initiatives to use it there. The development process must concentrate on the most competitive and leading industries to yield the greatest economic growth. To address issues like unemployment, poverty, and inequality and promote sustainable development, local governments must maximize the potential of their resources by growing the base or productive sectors.

According to Tumenggung (in Hasyadi et al., 2023), a leading sector is one that can satisfy local demands, has competitiveness when compared to similar sectors in other regions, and may be dispersed to different areas (Comparative Advantage). In order to promote the acceleration of economic growth and development in an area, growth in the leading sector is necessary. This is possible due to the help of regional resources and geographic factors. Richardson (1973) popularized the economic base theory by stating that the supply of goods and services to other regions significantly indicates regional economic growth. Mahaesa & Huda (2023) assert that the Economic Basis Theory categorizes the economic sector into two distinct categories: base and non-base. The sending of goods and services to other areas is the activity of the base sector. In contrast, the non-base sector meets the local community's requirements only by offering goods and services. Irmansyah (2019) claims that this theory can be used to determine which economic sectors create commodities that can be exported to other regions and used to address local needs. The author hopes to do more research on the key industries that can strengthen Sleman Regency's economy based on the description provided above. So that the Sleman Regency Regional Government can utilize it as a guide for future economic policy decisions.

RESEARCH METHODS

This research uses data from the GRDP Based on Constant Prices of the Sleman Regency, Yogyakarta Special Region Province, for 2018–2022. Secondary data from the Central Statistics Agency (BPS) are also used in this study. The information will be utilized to

examine the Sleman Regency's economic sectors. This study used Klassen Typology analysis, shift share, and location quotient as analytical techniques.

According to Sharazati et al., (2021), this analysis identifies the base and non-base sectors in a region. In this analysis, a sector's worth in the region is compared to the same sector at the regional level above.

LQ analysis can be done through the following calculation: $LQ = \frac{Si/S}{Ni/N}$

Where:

LQ = Location Quotient Index

Si = GRDP of sector i in Sleman Regency

S = Total GRDP of Sleman Regency

Ni = GRDP of sector i in DIY Province

N = Total GRDP of DIY Province

Therefore, based on the results of the preceding equation, it can be concluded that a sector is not a fundamental sector (base) if the LQ value is less than 1. This indicates that a sector lacks a comparative advantage. Conversely, if the computation yielded an LQ value greater than 1, the industry is considered base or possesses a comparative advantage.

According to Basuki and Mujiraharjo (2017) in Hasyadi et al., (2023), shift share analysis is used to examine changes in the regional economic structure about economic structure in the area above. In the meantime, Sharazati et al., (2021) noted that this analysis is related to the regional potential of the influence of national economic growth on the region and can identify the altering regional economic structure. The calculation that can be done to determine the value of Shift Share, according to Mangara et al., (2023) is the following equation: $Shift\ Share = (R_a)Y_{ij} + (R_i - R_a)Y_{ij} + (r_i - R_i)Y_{ij} \dots \dots \dots \dots$

Where:

$(R_a)Y_{ij}$ = National Growth Component

$(R_i - R_a)Y_{ij}$ = Proportional Growth Component

$(r_i - R_i)Y_{ij}$ = Regional Growth Share Component

The equation above can calculate both positive and negative results when determining which industries are competitive with those in other locations. A positive (+) result for the Shift Share calculation indicates that the sector has a competitive edge, making it able to compete with other sectors in the same region. In contrast, the sector cannot compete with the same sector in other locations if the calculation result is negative (-).

Using Klassen's typology, one can ascertain a region's economic standing by considering its better commodities, subsectors, and sectors. According to Sharazati et al., (2021), the Klassen Typology analysis was conducted by classifying the economic sectors contributing to the regional GDP. Using the economic sector in the region above it as a point of reference, this is meant to examine the position of the lower region's economic sector in the GRDP.

RESULTS AND DISCUSSION

LQ analysis was carried out using Sleman Regency GRDP data at constant prices by business field to discover prospective economic sectors in the region. The following table shows the LQ value for each sector.

Table 3. Results of Sleman Regency LQ Analysis

Sector	LQ	Category
Agriculture, Forestry, and Fisheries	0,77	NB
Mining and Quarrying	0,70	NB
Processing Industry	1,01	B
Electricity and Gas Procurement	0,81	NB
Water Supply, Waste Management, Waste and Recycling	0,46	NB
Construction	1,16	B
Wholesale and Retail Trade; Repair of Cars and Motorcycles	0,91	NB
Transportation and Warehousing	1,01	B
Provision of Accommodation and Drinking Food	1,03	B
Information and Communication	0,98	NB
Financial and Insurance Services	0,84	NB
Real Estate	1,15	B
Company Services	1,67	B
Government Administration, Defense and Compulsory Social Security	0,81	NB
Education Services	1,18	B
Health and Social Services	0,94	NB
Other Services	0,86	NB

We can infer from the preceding table that the sectors with LQ values greater than one (LQ>1) are included in the base sector. Meanwhile, the NB (Non Base) sector includes sectors with a LQ value of less than one (LQ < 1). Thus, the Manufacturing Industry, Construction, Transportation and Warehousing, Accommodation and Drinking Food Providers, Real Estate, Corporate Services, and Educational Services sectors are all included in the base sectors of Sleman Regency. There are 12 base sectors with an average value of LQ>1, according to Juniarta et al., (2023) research on Balikpapan City's economic potential and leading industries. The sector with the most potential for development in Sleman Regency

is the corporate services industry, which has the highest LQ value compared to other fundamental sectors.

Shift Share analysis examines changes in Sleman Regency's economic structure. Its findings are intended to identify the dominant industries going forward and impact the region's economy. The following table displays the findings of the Shift Share analysis.

Table 4. Result of Sleman Regency Shift Share Analysis

Sector	National Growth Component (Nij)	Industry Mix Component (Mij)	Competitive Advantage Component (Cij)	GRDP (Dij)
Agriculture, Forestry, and Fisheries	31434828,18	-6491176,235	5473674,1	30417326
Mining and Quarrying	1915450,877	-2851991,842	36474,965	-900066
Processing Industry	63778738,03	-50094650,2	5586393,2	19270481
Electricity and Gas Procurement	642672,1964	-61227,17258	17306,976	598752
Water Supply, Waste Management, Waste and Recycling	225900,5721	83315,20697	-21342,7791	287873
Construction	59737697,09	-12083977,29	-6379233,8	41274486
Wholesale and Retail Trade; Repair of Cars and Motorcycles	38194543,78	-20930635,71	-1390389,07	15873519
Transportation and Warehousing	32953297,55	-33653546,03	-74047856,5	-74748105
Provision of Accommodation and Drinking Food	49699222,96	-19000816,6	-3877476,36	26820930
Information and Communication	54024510,59	142981300,5	6607972,9	203613784
Financial and Insurance Services	14827432,12	-555966,5209	2475322,4	16746788
Real Estate	41175227,41	-11534871,33	1216238,9	30856595
Company Services	9653073,534	-6317383,87	718478,34	4054168
Government Administration, Defense and Compulsory Social Security	29643685,44	-22678290,66	-365718,779	6599676
Education Services	50856078,74	9596505,416	8073810,8	68526395
Health and Social Services	12303335,55	18536092,94	191782,51	31031211
Other Services	11793499,36	8095311,318	5504523,3	25393334

A sector with both competitive and comparative advantage is considered a leading sector. Each sector's competitive advantage value is displayed in the Cij column, based on the computation results in the preceding table. The sector has a competitive advantage if Cij is positive or greater than zero, indicating that it can compete with other sectors in the same or

broader area on a regional or national level. Conversely, if Cij < 0, it means that the sector lacks a competitive edge, which makes it unable to compete with other sectors in the same area or a larger one. Agriculture, forestry, and fisheries; mining and quarrying; manufacturing; acquiring electricity and gas; information and communication; financial services and insurance; real estate; corporate services; education; health; social activities; and other services are among the industries with a competitive edge. Furthermore, we can see from the above table that the bulk of the sectors in Sleman Regency have positive (++) proportional values (Mij). This suggests that most Sleman Regency industries are expanding more quickly than Yogyakarta Special Region Province's economic sector. There are sectors with positive and negative values, according to a study by (Dima, 2022) on the economy's structure and the growth of the proportionate component (Mij) of Malacca Regency in 2010–2020.

Klassen Typology analysis is carried out to determine the economic position of a region by considering the leading sectors, subsectors and commodities of a region. Economic growth and its distribution throughout a region's business sectors are typically used to determine one's economic standing. This analysis compares the sector GRDP distribution and growth in the upper region (province/national) and lower region (district/city). Using the Klassen typology technique, the business sectors are grouped as follows:

Table 5. Results of the Klassen Typology Analysis

	$g_i >= g$	$g_i < g$
$s_i >= s$	**Quadrant I** Advanced and fast-growing sectors: Manufacturing industry, Real estate, Corporate services, and Educational services.	**Quadrant II** Developed and depressed sectors: Construction, Transportation and warehousing.
$s_i < s$	**Quadrant III** Advanced and Potential Sectors: Agriculture, fisheries and forestry, Information and communication, Financial services and insurance, Public administration, land and compulsory social security, Health services and social activities, and Other services	**Quadrant IV** Relatively lagging sectors: Mining and quarrying, Electricity and gas supply, Water supply, waste management, waste, and recycling, Wholesale and retail trade, and Accommodation and food and beverage supply.

Description:

g_i: GRDP growth in sector i of Sleman Regency

g: GDRP growth in sector i of Yogyakarta Province

s_i: Contribution of GRDP in sector i of Sleman Regency

s: Contribution of GRDP of sector i of Yogyakarta Province

The processing industry, real estate, corporate services, and educational services are the advanced and rapidly expanding sectors (quadrant I) in Sleman Regency, as seen from the above table. The industry with the biggest potential for sustainable development is the one in quadrant I. The same conclusions were reached by Anita et al., (2023), which showed that the Processing Industry Sector contributed the most to Sleman Regency between 2016 and 2019. However, the pandemic that closed most roads to outside places and reduced the Processing Industry sector prompted Sleman Regency to move to the Information and Communication industry in 2020. Next, the transportation and warehousing industries and the construction industry comprise the Advanced and Depressed Sectors (Quadrant II). Agriculture, forestry, fisheries, information and communication, financial services, insurance, government administration, land and mandatory social security, health and social services, and others comprise the Advanced and Potential Sectors (Quadrant III). In the meantime, the comparatively undeveloped industries (Quadrant IV) include mining and quarrying, purchasing gas and electricity, purchasing water, managing waste and recycling it, wholesale and retail trade, and providing lodging food and drink.

The following table presents an overview of the outcomes of data processing using the LQ, Shift Share, and Klassen Typology approaches:

Table 6. Overlay of LQ, Shift Share, and Klassen Typology

Sektor	Sleman Regency			Desc.
	LQ > 1	**SS > 0**	**Quadrant**	
Agriculture, Forestry, and Fisheries	-	+	III	NB
Mining and Quarrying	-	+	IV	NB
Processing Industry	+	+	I	B
Electricity and Gas Procurement	-	+	IV	NB
Water Supply, Waste Management, Waste and Recycling	-	-	IV	NB
Construction	+	-	II	NB
Wholesale and Retail Trade; Repair of Cars and Motorcycles	-	-	IV	NB
Transportation and Warehousing	+	-	II	NB
Provision of Accommodation and Drinking Food	+	-	IV	NB
Information and Communication	-	+	III	NB
Financial and Insurance Services	-	+	III	NB
Real Estate	+	+	I	B
Company Services	+	+	I	B

Government Administration, Defense and Compulsory Social Security	-	-	III	NB
Education Services	+	+	I	B
Health and Social Services	-	+	III	NB
Other Services	-	+	III	NB

CONCLUSIONS

Based on the results of calculations and data processing using the Location Quotient, Shift Share, and Klassen Typology approaches, the leading sectors in Sleman Regency are the Processing Industry, Real Estate, Corporate Services, and Educational Services. This indicates that throughout the years 2018–2022, these four industries will be Sleman Regency's main sources of strength and sustainability. The Sleman Regency government might use the above results as a guide for implementing policy measures to strengthen the economy. Furthermore, planning should prioritize economic development in sectors with the greatest potential for growth. So, optimal and focused development efforts can increase the positive and sustainable economic growth and development of Sleman Regency.

REFERENCES

Agustina, T., & Pamungkas, L. A. (2021). Analisis Sektor Unggulan Di Kabupaten Belitung Timur. *Equity: Jurnal Ekonomi*, *9*(2), 60–68. https://doi.org/10.33019/equity.v9i2.57

Anita, R. D., Lubis, F. R. A., Sukarniati, L., & Khasanah, U. (2023). Analisis Potensi Halal Food Menggunakan Pendekatan Location Quotient Tahun 2015-2021. *Jurnal HUMMANSI*, *6*, 53–65. https://doi.org/https://doi.org/10.33488/1.jh.2023.1.360

Atikasari, N. A., Khoirudin, R., & Saleh, R. (2023). Analysis of the Influence of Gross Regional Domestic Product (GRDP), Minimum Wage, Population, Education, and Unemployment on Labor Force Absorption in Districts/Cities of Central Java Province, 2017-2021. *MULTIPLE: Journal of Global and Multidisciplinary*, *1*(3), 263–270. https://journal.institercom-edu.org/index.php/multiple/article/view/82

Dima, E. T. (2022). Analisis Struktur Sektor Unggulan Dan Perekonomian. *Ekopem: Jurnal Ekonomi Pembangunan*, *4*(1), 42–51. https://doi.org/10.32938/jep.v7i1.2462

Endey, N., Arsana, I. K. S., Katili, A. Y., Sahabi, A., & Talalu, M. A. (2022). Analisis Daya Saing Komoditi Unggulan Gorontalo Dalam Mendukung Ibu Kota Negara Baru Republik Indonesia. *Equilibrium: Jurnal Pendidikan*, *10*(3), 380–396. https://doi.org/10.26618/equilibrium.v10i3.8571

Hasyadi, K., Nurhayati, I., & Royadi, A. A. (2023). Analisis sektor unggulan di kabupaten

Trenggalek provinsi Jawa Timur. *Jurnal Cendekia Keuangan*, *2*(1), 1. https://doi.org/10.32503/jck.v2i1.3073

Irmansyah, M. (2019). Analisis Sektor Unggulan Yang Ada Di Kabupaten Mojokerto Jawa Timur. *Jurnal Dinamika Ekonomi Pembangunan*, *2*(1), 147–153. https://doi.org/https://doi.org/10.33005/jdep.v2i1.86

Juniarta, T., Khoirudin, R., & Suripto. (2023). Analisis Potensi Ekonomi dan Sektor Unggulan Kabupaten/Kota di Provinsi Kalimantan Timur. *Jurnal HUMMANSI (Humaniora, Manajemen, Akuntansi)*, *6*(2), 12–23. https://doi.org/10.33488/1.jh.2023.2.375

Mahaesa, R., & Huda, S. (2023). Potensi Sektor Unggulan Kabupaten Pasuruan dan Kabupaten Mojokerto. *JDEP*, *5*(1). https://jdep.upnjatim.ac.id/index.php/jdep/article/view/314

Mangara, T. H., Adawiyah, R., & Desmawan, D. (2023). Perekonomian Kabupaten Serang BerdasarkanPerspektif Sektor Ekonomi Unggulan Tahun 2016 – 2020. *Jurnal Manajemen Bisnis Dan Organisasi (JMBO)*, *2*, 26–36. http://dx.doi.org/10.58290/jmbo.v2i2.174

Mulyanto, J. D., & Rachmawati, L. (2021). Analisis Sektor Potensial Dan Perubahan Struktur Ekonomi Provinsi Jawa Timur. *Independent: Journal of Economics*, *1*(2), 124–140. https://doi.org/10.26740/independent.v1n2.p124-140

Sembahen, B. M., & Falensky, M. A. (2019). Analisis Sektor Unggulan Dalam Pengembangan Wilayah Kabupaten Kerinci. *Seminar Nasional Geografi III-Program Studi Pascasarjana Geografi, Fakultas Geografi, UGM*.

Sharazati, K., Primandhana, W. P., & Wahed, M. (2021). *Analisis Sektor Unggulan Di Kabupaten Sleman dan Kabupaten Gunungkidul*. *3*(6), 6. http://dx.doi.org/10.36418/syntax-idea.v3i6.1229