



IDENTIFICATION OF BASIS SECTORS IN BANYUMAS REGENCY AFTER THE COVID-19 PANDEMIC

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Abstract. This research aims to identify the basis sectors in Banyumas Regency during the 2021-2023 period. The analysis methods used include Location Quotient Analysis, Shift-Share, Growth Ratio Model, and Contribution Analysis. The results of the analysis show that all economic sectors in Banyumas Regency have the potential to become basic sectors. But the sectors have specialised in nationally fast-growing sectors and have locational advantages, only the real estate, education services, health and social services, and other services sectors. The dominant sectors are transportation and warehousing; provision of accommodation and drinking meals; company services; and other services. In addition, wholesale and retail trade; repair of cars and motorcycles is the only sector that is a basic sector and also has a large contribution to the economy.

Keywords: basis sector, potential, multiplier effect

A. Introduction

Not only has an impact on health, the Covid-19 pandemic has a major impact on the economy. The Covid-19 pandemic has had a major impact on the economy both during and after the pandemic (1). The imposition of restrictions on human activity during the pandemic has caused the economy to experience declining performance both at the macro and micro levels. Negative economic growth, unemployment, and declining purchasing power are the macro impacts of COVID-19. Loss of jobs and income, stagnant industrial performance, and difficulty in product distribution are the micro impacts of COVID-19.

When the Covid-19 pandemic hit, economic actors in various sectors had to implement unusual patterns and business models to adapt to the drastically changing situation. Social restrictions, business closures, and changing consumer needs forced companies to innovate and shift to a more robust digital approach. Business models that relied on direct sales in physical stores, for example, are changing to models based on e-commerce and delivery services. Many businesses also have to pay attention to health and safety aspects by implementing strict protocols, and rely on technology to bridge interactions with customers without physical contact. This transformation includes an increase in digital services, such as contactless payment applications and automation to reduce reliance on limited physical labour during the pandemic (2) (3).

The research gap in this study lies in the lack of a specific analysis of the base sectors in Banyumas Regency after the COVID-19 pandemic. While there are studies that discuss the impact of the pandemic on economic activities in general (4) (5), there is no study that deeply



identifies and analyses the base sectors that can be relied upon for economic recovery in this area. This study aims to fill this gap by conducting a comprehensive analysis of sectors that have the potential to drive economic growth in Banyumas Regency, as well as formulating appropriate policy recommendations to support local economic recovery.

B. Methods

This research uses a quantitative approach. The data used is secondary data in the form of data on Gross Regional Domestic Product of Banyumas Regency for 2021-2023. The data is obtained through documentation from the publication of the Central Bureau of Statistics. To answer the research objectives, this study uses several analytical methods as follows (6):

1. Location Quotient (LQ) Analysis

Location Quotient (LQ) analysis in this study is used to compare the role of a product (district) to the role of the product in the reference region (Central Java).

2. Shift Share Analysis

Shift Share analysis is also used to compare the difference in the growth rate of various sectors in the study area (Banyumas) with the reference area (Central Java). The difference between Shift Share analysis and Location Quotient is that the Shift Share method details the causes of changes in several variables. The purpose of this analysis is to show the developing sectors in a study area when compared to the economy of the reference area.

3. Growth Ratio Model (GRM)

The Growth Ratio Model (GRM) is a comparison of growth based on the GRDP criteria of a sectoral activity both in a broader scope (Central Java) and in Banyumas Regency.

4. Contribution Analysis

The contribution or role of economic sectors shows the structure of the economy in a region. The economic structure, expressed as a percentage, shows the role of each economic sector in generating added value. The contribution analysis in this study is used to determine the role of a leading product in Banyumas Regency compared to the total value of the leading product at the Central Java level.

C. Results and Discussion

Using GDRP data of Banyumas Regency and Central Java for 2021-2023, the results of this research analysis try to capture the condition of the basic sector in Banyumas Regency right after the Covid-19 pandemic. The results of the Location Quotient (LQ), Shift Share, Growth Ratio Model, and contribution analysis can be presented as follows:

1. Location Quotient (LQ) Analysis

In the scope of a region in a country, a commodity is said to have competitiveness if the commodity is not only sold in the local market in its own region, but also can compete outside the region. At the aggregate level, a sector of a region can be said to be competitive if the sector or subsector is not only able to supply the needs in the region but also outside the region. A sector or subsector that has such characteristics is called a base sector or subsector.



The existence of the economic base of a region plays a major role for the region to develop its potential. This economic base determines the direction and development priorities of the region concerned in order to obtain effective and sustainable development.

Table 1. Location Quotient Analysis Result of Banyumas Regency 2010-2022

Sectors	Year	
	2022	2023
Agriculture, Forestry, and Fisheries	0.88	0.89
Mining and Quarrying	2.30	2.30
Processing Industry	0.70	0.70
Electricity and Gas Procurement	0.96	0.95
Water Supply, Waste Management, Waste and Recycling	1.26	1.26
Construction	1.23	1.20
Wholesale and Retail Trade; Repair of Cars and Motorcycles	1.13	1.13
Transport and Warehousing	1.16	1.15
Provision of Accommodation and Drinking Food	1.05	1.04
Information and Communication	1.28	1.27
Financial Services and Insurance	1.06	1.06
Real Estate	1.28	1.28
Company Services	0.77	0.76
Public Administration, Defence and Compulsory Social Security	1.10	1.09
Education Services	1.21	1.21
Health and Social Services	1.12	1.12
Other Services	1.12	1.12

Source: Central Bureau of Statistics, 2024 (Processed)

Based on Table 1, it can be seen that the results of the LQ analysis of the leading sectors in Banyumas Regency in 2022 and 2023 have not changed. Of the 17 economic sectors that form GRDP in Banyumas Regency, 13 economic sectors are the basic sectors in Banyumas Regency. These 13 economic sectors include the Mining and Quarrying sector, the Water Supply, Waste Management, Waste and Recycling sector, the Construction sector, the Wholesale and Retail Trade sector; Car and Motorcycle Repair sector, the Transportation and Warehousing sector, the Accommodation and Food Supply sector, the Information and Communication sector, the Financial Services and Insurance sector, the Real Estate sector, the Government Administration, Defence and Compulsory Social Security sector, the Education Services sector, the Health Services and Social Activities sector, and the Other Services sector. These sectors are considered as basic sectors because they have a Location Quotient (LQ) value greater than 1. In other words, these sectors have a higher specialisation than the average sector in the region, so that the products from these sectors can be exported to other regions.

It is interesting to note that the thirteen leading sectors in Banyumas Regency are dominated by the secondary economic sector, which processes raw materials into semi-finished or finished goods and the tertiary economic sector in the form of goods and services. This condition reflects that the economy of the Banyumas community is undergoing a transformation towards a modern society.

2. Shift Share Analysis Results



To determine changes in the structure/performance of the regional economy towards a higher economic structure, shift-share analysis can be used. The shift-share analysis in this study was used to determine changes in the structure/performance of the economy in Banyumas Regency towards the national economic structure (Central Java Province). Through this analysis tool, the effect of national economic growth on the region, the relative change of a region to the same sector at the national level and the competitiveness of certain sectors in the region compared to the national level will be known.

A shift-share analysis can be broken down into a shift component and a share component. The share component is often referred to as the national share (NS) component. National share is a criterion for a region to measure whether it is growing faster or slower than the average national growth. The shift component is a deviation from the national share in a region's economic growth. The shift component is divided into two components, namely the proportional shift (PS) component and the differential shift (DS) component. Proportional shift will be positive in regions that specialise in fast-growing sectors nationally and negative in regions that specialise in slow-growing or even declining sectors nationally. A region that has locational advantages such as abundant/efficient resources, will have a positive differential shift (DS) and vice versa.

Table 2 shows the results of the shift share calculation for 2022-2023 in Banyumas Regency. A positive national share value illustrates that Banyumas Regency experienced faster economic growth than the national growth. The largest national share ratio value in 2022 belongs to the financial services and insurance sector at 915.16 per cent, while in 2023 it belongs to the agriculture sector at 269.57 per cent.

The calculation of the proportional shift ratio in Banyumas Regency has positive and negative values. Negative proportional shift values occur in the mining and quarrying sector. A negative proportional shift ratio value means that the sector is a sector that is growing slowly or may even be declining nationally, while sectors that have a positive proportional shift ratio are sectors that are growing rapidly nationally.



Table 2. Shift Share Analysis Results of Banyumas Regency in 2022-2023

Sectors	NS		PS		DS		Total		Rasio 2022			Rasio 2023		
	2022	2023	2022	2023	2022	2023	2022	2023	NS	PS	DS	NS	PS	DS
Agriculture, Forestry, and Fisheries	246346.55	235717.26	-111370.07	-212725.73	-39549.85	64448.82	95426.62	87440.36	258.15	-116.71	-41.45	269.57	-243.28	73.71
Mining and Quarrying	103936.48	98163.63	-225236.62	-67970.40	135684.39	11557.81	14384.25	41751.04	722.57	-1565.86	943.28	235.12	-162.80	27.68
Processing Industry	504095.32	494338.93	-135724.89	-66472.67	67832.53	120829.72	436202.96	548695.99	115.56	-31.12	15.55	90.09	-12.11	22.02
Electricity and Gas Procurement	2419.86	2378.21	-693.09	912.00	471.29	-453.33	2198.06	2836.88	110.09	-31.53	21.44	83.83	32.15	-15.98
Water Supply, Waste Management, Waste and Recycling	2014.61	1940.59	-1630.07	-333.89	655.08	-11.24	1039.61	1595.46	193.79	-156.80	63.01	121.63	-20.93	-0.70
Construction	284861.52	273673.95	-186490.92	57942.30	34142.90	-146728.06	132513.51	184888.20	214.97	-140.73	25.77	148.02	31.34	-79.36
Wholesale and Retail Trade; Repair of Cars and Motorcycles	361746.77	353119.53	-67746.02	477.64	-13634.90	58845.36	280365.85	412442.53	129.03	-24.16	-4.86	85.62	0.12	14.27
Transport and Warehousing	57864.82	99659.81	737776.63	62972.06	116484.61	-5459.78	912126.07	157172.09	6.34	80.89	12.77	63.41	40.07	-3.47
Provision of Accommodation and Drinking Food	74946.96	81794.77	164843.20	102826.72	-8243.67	-3686.58	231546.48	180934.91	32.37	71.19	-3.56	45.21	56.83	-2.04
Information and Communication	174626.36	167178.73	-92387.27	191133.48	-12845.13	-12392.98	69393.96	345919.23	251.64	-133.13	-18.51	48.33	55.25	-3.58
Financial Services and Insurance	63442.69	59826.97	-57149.72	-33858.98	639.42	3605.46	6932.39	29573.45	915.16	-824.39	9.22	202.30	-114.49	12.19
Real Estate	53236.48	52558.22	-2218.15	20291.50	2120.82	1520.25	53139.15	74369.97	100.18	-4.17	3.99	70.67	27.28	2.04
Company Services	6381.54	6346.12	1005.04	2880.73	-95.00	-378.37	7291.58	8848.48	87.52	13.78	-1.30	71.72	32.56	-4.28
Public Administration, Defence and Compulsory Social Security	59035.96	56035.40	-41523.50	-9544.01	-3749.46	-3362.62	13763.00	43128.77	428.95	-301.70	-27.24	129.93	-22.13	-7.80
Education Services	103127.85	98004.39	-72527.45	19477.84	-4185.78	400.74	26414.62	117882.97	390.42	-274.57	-15.85	83.14	16.52	0.34
Health and Social Services	23059.17	22207.60	-12147.68	3745.43	901.01	1303.84	11812.50	27256.87	195.21	-102.84	7.63	81.48	13.74	4.78
Other Services	39207.45	41147.75	47856.03	20112.24	1082.24	800.39	88145.72	62060.38	44.48	54.29	1.23	66.30	32.41	1.29
Total	2162372.39	2146114.86	-53342.5475	93889.2796	279732.487	92862.4394	2384718.33	2328820.58						
Percentage	90.68	92.15	-2.24	4.03	11.73	3.99	100	100						

Source: Central Bureau of Statistics, 2024 (Processed)



The calculation result of differential shift ratio has positive and negative values. Sectors that have a negative differential shift ratio in 2022 are the agriculture, forestry and fisheries sector, wholesale and retail trade sector; car and motorcycle repair, accommodation and food and beverage supply sector, information and communication sector, corporate services sector, government administration, defence and mandatory social security and education services sector. Other sectors outside these sectors have positive differential shift ratios. In contrast to 2022, sectors that have negative differential shift ratios are the electricity and gas supply sector, water supply sector, waste management, waste and recycling, construction sector, transportation and warehousing sector, accommodation and food supply sector, information and communication sector, and corporate services sector, government administration, defence and compulsory social security sector. Other sectors outside these sectors have positive differential shift ratios. A positive differential shift ratio value means that Banyumas Regency has a locational advantage in these sectors.

Table 2 also shows that the economic growth of Banyumas Regency in 2022 was caused by external factors, namely an increase in regional economic activity due to national policies that apply to all regions, which reached 90.68 percent. Meanwhile, the component of regional economic growth due to specific competitive regional conditions was only 11.73 percent. In 2023 the influence of external factors in the form of national policies that apply in all regions increased to 92.15 percent. While the contribution of the specificity of regional economic potential is reduced to only 3.99 percent. The component of regional economic growth caused by the regional economic structure increased to 4.03 percent from -2.24 percent. The decline in the contribution of regional economic potential as a contributor to economic growth in Banyumas Regency can be a signal for local governments to prefer their regional leading sectors as development priorities in order to create leverage in increasing regional economic growth.

3. Growth Ratio Model (GRM) Analysis Results

The Growth Ratio Model analysis was conducted to see the perception of economic sectors, especially the regional economic structure that emphasises the growth criteria both externally (reference area) and internally (smaller study area). With this model, there are known economic sectors that are dominant growth and potential growth. A sector is called dominant growth if it provides a positive (more than 1) Reference Area Growth Ratio (RGR) and Study Area Growth Ratio (RGS), meaning that the sector provides dominant growth in the reference area (Central Java Province) and study area (Banyumas Regency), indicated by RGR and RGS values greater than or equal to one. Meanwhile, a sector is said to have growth potential if it has a negative RGR value (less than 1) and a positive RGS value (more than 1), which means that the sector provides dominant growth in the study area (Banyumas Regency).

Table 3 shows the results of different growth ratio models from 2022 to 2023. In 2022, Banyumas Regency has dominant growth sectors in the Transportation and Warehousing sector, Accommodation and Drinking Food Provision, Corporate Services sector, and Other Services sector. These sectors have prominent growth both at the district level and at the provincial level. While sectors that have prominent growth at the district level, but not prominent at the provincial level and sectors that have growth that is not prominent at the district level, prominent at the provincial level are not seen in the agriculture, forestry and fisheries sector and the manufacturing sector. This condition illustrates that the economic sectors growing in Banyumas Regency have similarities with the economic sectors growing in Central Java Province.



Table 3. Results of Banyumas Regency Growth Ratio Model Year 2022 - 2023

Sectors	RGR		RGS	
	2022	2023	2022	2023
Agriculture, Forestry, and Fisheries	0.56	0.10	0.36	0.35
Mining and Quarrying	-1.31	0.32	0.13	0.40
Processing Industry	0.74	0.87	0.79	1.02
Electricity and Gas Procurement	0.72	1.36	0.83	1.09
Water Supply, Waste Management, Waste and Recycling	0.20	0.83	0.48	0.77
Construction	0.36	1.20	0.44	0.63
Wholesale and Retail Trade; Repair of Cars and Motorcycles	0.82	1.00	0.71	1.07
Transport and Warehousing	8.37	1.58	8.24	1.42
Provision of Accommodation and Drinking Food	2.88	2.13	2.55	1.94
Information and Communication	0.48	2.03	0.37	1.82
Financial Services and Insurance	0.10	0.45	0.10	0.47
Real Estate	0.96	1.36	0.91	1.28
Company Services	1.15	1.42	1.03	1.27
Public Administration, Defence and Compulsory Social Security	0.31	0.84	0.22	0.72
Education Services	0.31	1.19	0.24	1.10
Health and Social Services	0.49	1.16	0.48	1.12
Other Services	2.09	1.46	1.93	1.36

Source: Central Bureau of Statistics, 2024 (Processed)

In 2023, there is no change in the dominant growth sectors where the Transportation and Warehousing, Accommodation and Food Supply, Corporate Services, and Other Services sectors have positive (more than 1) Reference Area Growth Ratio (RGR) and Study Area Growth Ratio (RGS) values. These sectors have prominent growth both at the district/city level and at the provincial level. A shift in sectors that have prominent growth at the district level, but not yet prominent at the provincial level is seen in the Manufacturing Industry sector. In 2022 the Manufacturing Industry sector was not a potential growth economic sector, but in 2023 this sector shifted to become a potential growth economic sector because it had a negative RGR value (<1) at the provincial level but had a positive RGS (more than 1) at the district level. It can be concluded that the Manufacturing Industry sector in Banyumas Regency from the GRM analysis can be used as a regional leading sector.

4. Sectoral Contribution Analysis Results

The contribution or role of economic sectors shows the structure of the economy in a region. The economic structure, expressed as a percentage, shows the role of each economic sector in generating added value. This sectoral contribution analysis is used to determine the role of an economic sector in terms of its contribution to the total economic output of the district. The results of the analysis of the contribution of economic sectors to total regional output (GRDP) in Banyumas Regency can be seen as follows. compared to the total value of these leading products at the Banyumas Regency level.



Table 3. Sectoral Contribution to GRDP

Sectors	Sectoral Contribution		
	2021	2022	2023
Agriculture, Forestry, and Fisheries	11.40	10.99	10.62
Mining and Quarrying	4.81	4.58	4.44
Processing Industry	23.33	23.06	23.08
Electricity and Gas Procurement	0.11	0.11	0.11
Water Supply, Waste Management, Waste and Recycling	0.09	0.09	0.09
Construction	13.19	12.76	12.52
Wholesale and Retail Trade; Repair of Cars and Motorcycles	16.74	16.47	16.53
Transport and Warehousing	2.68	4.65	4.76
Provision of Accommodation and Drinking Food	3.47	3.81	4.02
Information and Communication	8.08	7.80	8.16
Financial Services and Insurance	2.94	2.79	2.71
Real Estate	2.46	2.45	2.49
Company Services	0.30	0.30	0.30
Public Administration, Defence and Compulsory Social Security	2.73	2.61	2.57
Education Services	4.77	4.57	4.60
Health and Social Services	1.07	1.04	1.04
Other Services	1.81	1.92	1.96
GRDP	100.00	100.00	100.00

Source: Central Bureau of Statistics, 2024 (Processed)

Table 4 shows that in the regional economic structure, there has been a decline in the contribution of primary economic sectors (Agriculture, Forestry and Fisheries sector, Mining and Quarrying sector) to the total regional economic output (GRDP) in Banyumas Regency. On the other hand, there is an increasing trend in the contribution of secondary economic sectors such as the manufacturing sector, the Wholesale and Retail Trade sector; Car and Motorcycle Repair, the Accommodation and Food Supply sector, and the increasing contribution of tertiary economic sectors in the form of goods and services to the total regional economic output (GRDP) in Banyumas Regency. This change in trend shows that economic development in Banyumas Regency is an indicator of successful development (7).

Portes (7) defines development as economic, social and cultural transformation. The transformation in the economic structure can be seen through an increase or rapid production growth in the industrial and service sectors, so that their contribution to national income is increasing. Conversely, the contribution of the agricultural sector will become smaller and smaller in inverse proportion to the growth of industrialisation and economic modernisation. These conditions illustrate that development in Banyumas Regency has undergone an economic transformation, from a regional economy that relies on the primary economic sector (direct processed products of natural resources) to the activities of the secondary economic sector (processed products from raw goods to finished or semi-finished goods) and the tertiary economic sector (products of service goods).

D. Conclusion



Based on the Location Quotient analysis, thirteen sectors other than Agriculture, Forestry and Fisheries, Manufacturing Industry, Procurement of Electricity and Gas, and Company Services are the basic sectors in Kabupaten Banyumas. If juxtaposed with shift share analysis, of these 13 sectors that have specialised in nationally fast-growing sectors and have locational advantages, only the real estate, education services, health and social services, and other services sectors. When compared with the growth ratio model analysis, of the thirteen basic sectors in Banyumas Regency, the dominant sectors in Banyumas Regency in 2022 and 2023 are transportation and warehousing; provision of accommodation and drinking meals; company services; and other services. In addition, wholesale and retail trade; repair of cars and motorcycles is the only sector that is a basic sector and also has a large contribution to the economy.

To improve the economy and encourage economic multiplier effects, the local government of Kabupaten Banyumas should pay special attention to sectors that are not only the basic sectors but also sectors that are nationally fast-growing sectors, have locational advantages, are dominant, and have large contributions. Efforts can be made to improve the performance of these sectors through several development strategies. Economic development strategies can be grouped into four major groups, namely (i) Locality or Physical Development Strategy, (ii) Business Development Strategy, (iii) Human Resource Development Strategy, and (iv) Community-based Development Strategy (8).

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