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Economic Potential Study on the Agricultural Sector as a Leading Sector in Central Java Province, Indonesia

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ABSTRACT

The agricultural sector is the third-largest contributor to Central Java's GRDP and continues to grow annually. Despite this, labor absorption in agriculture remains low, and the declining farmer's exchange rate indicates worsening farmer welfare. This study aims to analyze the economic base, growth potential, and sectoral mapping of agriculture in Central Java. The research employs several analytical tools including Location Quotient (LQ), Growth Ratio Model (GRM), Overlay Analysis, and the BCG Matrix. Results show that sub-sectors such as food crops, horticulture, livestock, and agricultural and hunting services are the economic base of the region, maintaining their relevance both before 2019 and after 2022 the COVID-19 pandemic. Among them, horticulture demonstrates strong growth potential, while food crops, livestock, and agricultural services also show opportunities for development. The BCG Matrix further highlights horticultural crops and agricultural services as the primary drivers of growth. These findings suggest that targeted government support and policy prioritization toward these key sub-sectors are essential for sustaining agricultural advancement and improving farmer welfare in the region.

Keywords: BCG Analysis JEL Classification: O13; R11; R58, Location Quotient, Overlay, Potential Sector.

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INTRODUCTION

A province that has exceptional potential in the agricultural sector is Central Java Province. The proper geographical and climatic factors provide opportunities for this province to develop in this sector. The agricultural sectors such as forestry, plantations, and fisheries have fairly extensive opportunities and competitiveness, compared to other provinces in this country. Its natural potential support should encourage local communities to maximize this potential. The total area of agricultural land in Indonesia reaches 36.8 million hectares based on the 2019 agricultural census (Susanti & Supriyatna, 2021). Based on this coverage area, Indonesia has produced 54.9 thousand tons of staple rice seed production in 2022 and Central Java Province is one of the second largest

contributing provinces for that. Central Java's production output was recorded at 15.2 thousand tons. Unfortunately, the high agricultural output in Central Java is unmatched by the number of agricultural workers in the area. Every year, there is a decrease in workers for the agricultural sector in this province by 8.77 percent from 2020 to 2021. In fact, this agricultural sector is the 3rd largest contributor to gross domestic product in Central Java with the number of contributions continuing to increase from 2020 to 2022 (BPS, 2022b). Nevertheless, this condition fails to attract agricultural sector workers to continue working in this sector. Despite from that, based on the farmer exchange rate, which is a benchmark for identifying farmer's welfare, the farmer exchange rate (NTP) in Central Java in January 2018 was 103.00, experiencing a decrease of 0.48 points previously in December 2017, namely 103.47. It shows a decline in the welfare of farmers in Central Java.

Referring to the conditions in 2019 with the SARS-CoV virus pandemic which began to spread throughout the world without exception with incredibly easy and fast transmission, causing the government to take regional quarantine actions by closing all sectors that have the potential to spread the outbreak. It causes each region to experience difficult conditions for economic activity. In these epidemic conditions, the agricultural sector becomes the most important sector to continue its operation in meeting people's needs for food. Until recently, the agricultural sector remained an important sector in supporting food fulfilment in both Central Java and Indonesia.

However, with the decline in agricultural space every year, the decline in production, and the decline in agricultural labour, have caused this sector to be increasingly deserted. The important role of the agricultural sector and the potencies that exist in Central Java apparently do not support the progress and welfare of workers in this sector. In fact, the productivity of this sector has benefits as input goods for other modern sectors. A sector can be said to be a superior sector if the growth rate in the sector is relatively high and there is maximum employment absorption, there is a relatively high level of inter-sector linkage for the future and the past, and it is able to create added value which is quite high in this sector (Tarigan, 2005). The condition of the agricultural sector is a superior sector in Central Java. Undoubtedly, this sector has a highly interconnected role with other sectors in the province. Apart from that, Kuncoro (2013) stated that increasing the GRDP of a province, city or district should be more focused on traditional development. This traditional development includes agriculture which has occupied the top three positions in Central Java in forming GRDP.

A sector becomes foremost in boosting the economy when that sector has a dominant contribution (Klau & Hidayah, 2021). Appropriate strategies definitely need to be implemented, such as identifying potential sectors without ignoring the strengths and weaknesses of each sector, identifying sectors with low potential to study the causes, and identifying regional resources. Based on the economic basis theory by Herry W. Richardson (1973), it is argued that the demand for goods and services is the main thing in driving the economy of a region. This theory (*economic base theory*) explains that increasing regional exports can increase the pace of the regional economy. Ferroux on the concept of economic growth centers said that economic growth will not occur simultaneously in all regions in one region but will form a grouping of economic mobility and activity and will have the potential to give birth to centers new economic growth. Each growth center will have pull and push forces to a certain extent. Therefore, in an area a new center of economic growth will be formed with several related areas around it. The concept of an economic growth center is something that is interrelated or independent, which will then develop into a city and be located in a certain place in a region. This theory classifies economic activity into 2 sectors, namely basic activities and non-basic activities (Hutapea et al., 2020).

In previous research, identifying base and non-base was important to see the performance and shifts of a sector. The research of Mo et al. (2020), used analysis of location quotient, shiftshare, and Matrix to see shifts in existing commodities and help see the competitiveness of commodities

in the area. Apart from that, the economic driving factors of a region include the structure and performance of a sector, where these conditions can be studied using comparative analysis using the location quotient and shift-share (Islam et al., 2016). Other research suggests various ways of seeing the economic potential of a sector, either by analyzing comparative advantage and competitiveness (Niyimbanira, 2018), detecting superior commodities and sectors by location quotient and Klassen typology (Maulana et al., 2020; Muljanto, 2021; Samosir et al., 2021), investigating at leading sectors with location quotient, shift-share, and overlay (Wati & Arifin, 2019), detecting diversification of the economic base with economic analysis and location quotient (Alhowaish et al., 2015), detecting potential economic sectors by location quotient, shift-share, and Klassen typology (Rini & Khoirudin, 2020), as well as accelerating economic development by identifying areas and sectors used location quotient, Williamson index and Klassen typology (Faza et al., 2023).

Referring to this, it is important to examine the economic potential of the agricultural sector in Central Java, especially since this sector is one of the economic sectors with a basic category in the province. Moreover, the potential in the agricultural sector continues to be needed both in normal and pandemic conditions. So the researchers raised the title "Study of the Economic Potential of the Agricultural Sector as a Leading Sector in Central Java Province". Based on theory and previous research, research was conducted by analyzing the agricultural sector in Central Java Province. This study was carried out to look at economic potential by comparing the conditions of the agricultural sector before and after COVID-19. Comparisons were made to see the shifts that occurred in the Central Java agricultural sector in two different conditions. Then it is accompanied by a mapping of the economic potential of the agricultural subsector in the economy of Central Java Province. In studying this topic, the research aims to analyze the economic potential of the agricultural sector in the future as a leading sector in Central Java Province, to classify basic and non-basic sub-sectors in the agricultural sector in Central Java Province, and to map the position of the agricultural sector/subsector in the Province Central Java.

METHODS

The quantitative method is employed in this research since it describes the current situation factually and systematically based on data collection to explain the solution to the problem being studied. This research took samples from Central Java Province as the reference area and districts/cities in Central Java Province as the study area. The research variables used are Gross Regional Domestic Product based on 2010 Constant Prices (PDRB ADHK 2010) According to Central Java Province Business Fields in 2019 and 2022 (BPS, 2022b); Gross Domestic Product based on Constant Prices 2010 (GDP ADHK 2010) According to Business Fields in Indonesia in 2019 and 2022 (BPS, 2023b), Economic Growth Rate of Central Java Province in 2019 and 2022 (BPS, 2022a), and Indonesian Economic Growth Rate in 2019 2019 and 2022 (BPS, 2023a). Data was obtained from the official website of Statistics Indonesia by obtaining data through tables/indicators in 2019 and 2022. The operational definition of the 2010 ADHK GRDP variable according to Central Java Province Business Fields in 2019 and 2022 is the amount of gross value added (gross value added) arising from the whole economic sector in Central Java Province in billions of rupiah. Variable Gross Domestic Product based on 2010 Constant Prices (GDP ADHK 2010) According to Business Fields in Indonesia in 2019 and 2022 is the total gross value added (gross value added) arising from the whole economic sector in Indonesia in billions of rupiah. The Economic Growth Rate of Central Java Province is a variable that shows the growth in the production of goods and services in Central Java Province in the time interval, namely 2019 to 2022 in percent units. Indonesia's Economic Growth Rate is a variable that shows the growth in the production of goods and services in Indonesia in the time interval, namely 2019 to 2022 in percent units.

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Location quotient is applied as data analysis in this research, along with the growth ratio model (MRP), overlay, and BCG matrix. Location quotient is a statistical analysis tool that measures sector/subsector specialization in a region relative to a larger geographic area. The calculation is carried out by comparing the sector income/total income of all sectors in an area with the income of the same sector/total income of all sectors in a larger geographical area (Bea, 2008; Iglesias, 2021; Sasadhara et al., 2017). The growth ratio model is a useful analytical tool for understanding regional economic structure by emphasizing growth criteria. There are 2 ratios in MRP analysis, the study area growth ratio (RPs) and the reference area growth ratio (RPr). Rps is calculated by comparing the sectoral growth rate in the study area with the growth rate in the same sector in the reference area. Meanwhile, RPr is calculated by comparing the sectoral growth rate in the reference area with the total growth rate in the reference area. If RPs > 1 is given a positive sign (+) then the sectoral growth in the study area is higher than in the reference area. If RPr > 1 is given a positive sign (+) then the sectoral growth of the reference region is higher than the total growth of the reference region. When RPr + and RPs + then the sector is included in the dominant growth sector (Yusuf, 1999). Analysis of overlay is a calculation matching technique location quotient and MRP to obtain new, more complex, and complete information. With the criteria LQ and MRP > 1 were given a positive sign (+) and LQ and MRP < 1 were given a negative sign (-). In this context LQ symbolizes contribution and MRP symbolizes growth (Adiyatin et al., 2019; Katti et al., 2019). The results of the static LQ analysis are inputted into the BCG matrix using delta LQ calculations. Then it is classified into 4 (four) types, namely: TRANSFORMING (LQ < 1 and ΔLQ -), EMERGING (LQ < 1 and ΔLQ +), MATURE (LQ > 1 and ΔLQ -), and STAR (LQ > 1 and ΔLQ +) (Mo et al., 2020). Later, mapping of sector/subsector positions is carried out using this analysis tool.

RESULTS AND DISCUSSION

Central Java is one of the provinces with economic dominance in agriculture, which has made this sector the mainstay and foundation sector of the province (Sugiyono, 2021). The contribution of the agricultural sector to the economy ranks second. The agricultural sector's labor absorption capacity is the highest compared to other sectors' absorption capacity. If seen from the perspective of workers according to the business field, the majority of Central Java residents work in the agricultural sector. Apart from that, Central Java Province is the province with the highest agricultural export value in Indonesia in 2019-2020 (Nugroho, 2021). So, the Central Java government always prioritizes agricultural development with the aim of providing food for the community as a whole, improving the welfare of agricultural sector workers, and increasing sustainable agricultural exports.

In 2020, the COVID-19 pandemic has weakened economic activity and mobility of people around the world, including in all provinces in Indonesia. There is only one economic sector that is important to keep running, namely the agricultural sector. The agricultural sector must continue to be able to meet people's food needs amidst high restrictions on community mobility. Central Java must also remain a region that can provide food for Indonesia amidst the pandemic, especially since Central Java is the second-highest rice and paddy-producing province in Indonesia as well as producing other food commodities (Dzulfaroh, 2022). Thus, Central Java became one of the mainstays in fulfilling food during the COVID-19 pandemic in 2020. The economic potential seen in the agricultural sector in Central Java is very high, especially in pandemic conditions. This encourages researchers to examine the economic potential of the agricultural sector in Central Java Province with several appropriate economic analyses. Some of them are analysis location quotient, growth ratio model analysis, overlay analysis, Klassen typology, and BCG Matrix. The following are the results of the analysis that has been carried out.

Location Quotient Analysis

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Based on economic theory, the method of location quotient is one of the popular methods that can be used to measure economic base. Measurement of the concentration of economic activity (economic base) can be done by comparing the gross added value/income of the economic sector in a region to a larger geographical area. Analysis on location quotient distinguishes the calculation into two objectives, which are static location quotient calculation (SLQ) and dynamic location quotient (DLQ). SLQ calculations provide a static picture at a certain time about the economic base while DLQ shows future economic base prediction. The following are the calculation results of static location quotient (SLQ) in the 2019 pre-covid-19 pandemic and in 2022 post-covid-19 pandemic.

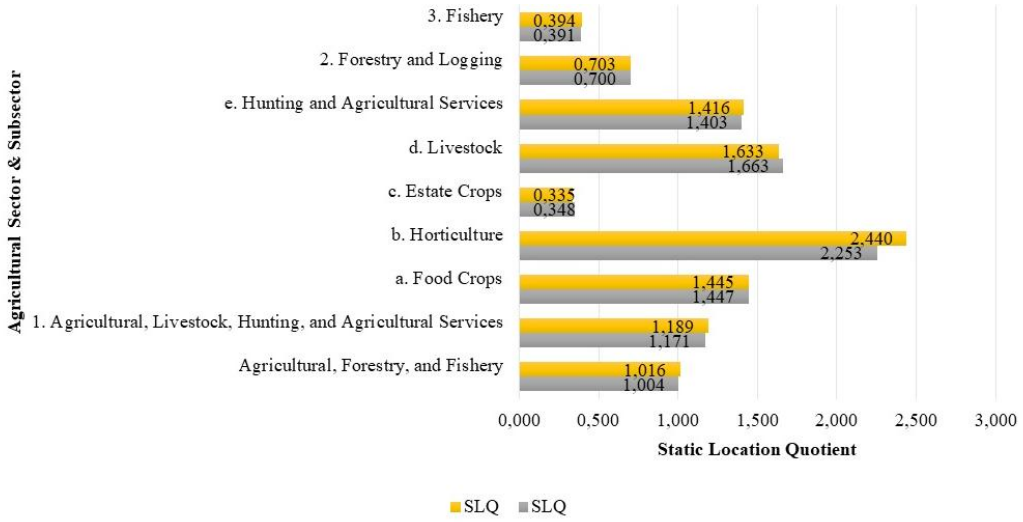

Figure 1. Calculation of Static Location Quotient (SLQ) Central Java 2019 and 2022
Source: Processed data (2023)

Figure 1 shows the results of SLQ calculations for 2019 and 2022. The horizontal axis shows SLQ calculations with SLQ values > 1 (base) or SLQ < 1 (non-base). The vertical axis shows agricultural sectors, subsectors, and commodities. In general, the agricultural plantation and fisheries sector in Central Java shows that there is production specialization in this sector with a SLQ value of 1.004 in 2019 and 1.016 in 2022. This condition shows that in general, this sector is an economic base in Central Java. The increase occurred even though it was a very slight increase. If we examine the agricultural subsector, we can see in more detail that the agriculture, livestock, hunting, and agricultural services subsector shows an SLQ value of 1,171 in 2019 and an SLQ of 1,189 in 2022. It shows subsector 1. Agriculture, livestock, hunting, and agricultural services is the base sector, with a SLQ value > 1, both pre-pandemic in 2019 and post-pandemic in 2020. In 2019, this subsector was able to export its production outside the region by 14.60% and experienced an increase in exports outside the region post-pandemic to 15.90%. This sector continues to grow and encourages increased production to meet export needs outside the region.

Meanwhile, subsector 2. Forestry and logging are recorded with an SLQ value of 0.700 in 2019 and 0.703 in 2022. This subsector shows an SLQ value < 1, it can be said that this subsector is non-based, not yet able to specialize, and still requires supplies from outside the region. Non-basic conditions in this subsector are supported by several things such as the conversion of forests into residential land and less-than-optimal results from industrial forests (Habibah, 2022). Likewise with subsector 3. Fisheries which only had an SLQ value of 0.391 in 2019 and 0.394 in 2022. This shows that this subsector is non-basic. This condition is due to several things, such as a periodic decrease in catch production, minimal coastal conservation, and only catching special fish in certain seasons (Ambari, 2021).

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Although subsector 1. Agriculture, livestock, hunting, and agricultural services are the basic sectors in Central Java both pre-pandemic and post-pandemic, more specifically, the commodities that support the economic base include commodities a. Food crops, b. Horticultural plants, d. Livestock, and e. Agricultural and hunting services. In commodities a. Food crops, SLQ value is 1.447 in 2019 and 1.445 in 2022. This commodity was able to export outside the region by 30.89% in 2019 and fell to 30.79% in 2022. This commodity experienced a slight decline but still shows that this commodity is a base commodity in Central Java. On commodities b. For horticultural crops, the SLQ value is 2,253 in 2019 and 2,440 in 2022. This commodity is a base commodity in Central Java and is capable of exporting 55.61% outside the region in 2019 and increasing to 59.01% in 2022. In commodities d. Livestock, the SLQ value is 1.663 in 2019 and 1.633 in 2022. This commodity is a base commodity in Central Java and is able to export outside the region by 39.86% in 2019 and experienced a slight decrease to 38.76% in 2022. In commodities e. For agricultural and hunting services, the SLQ value is 1.403 in 2019 and 1.416 in 2022. This commodity is a base commodity in Central Java and is capable of exporting outside the region by 28.72% in 2019 and increasing to 29.37% in 2022. Meanwhile, for commodities c. Plantation crops are not a commodity that is the basis of the economy or are called a non-base sector with an SLQ value of 0.348 in 2019 and 0.335 in 2022. In commodities c. Plantation crops have not been able to become a base in the Central Java area due to limited plantation land and geography which is not completely suitable for plantation crops.

These calculations demonstrate that the Central Java region specializes in production in subsector 1. Agriculture, animal husbandry, hunting, and commodity agricultural services, especially in a. Food crops, b. Horticultural plants, d. Livestock, and e. Agricultural and hunting services, both pre-pandemic 2019 and post-pandemic 2022. Central Java is able to meet the requirements of the domestic market in these subsectors and commodities and even produces more so that it can be exported to markets outside the region. Of course, prioritizing activities in these subsectors and commodities needs to be developed with the aim of spurring economic growth. This potential will also boost regional income. However, the future prospects of Central Java's agricultural sector and subsector need to be looked at to help develop a more potential economy. That way, researchers carry out calculations of dynamic location quotient (DLQ) with the aim of predicting the economic basis of the agricultural sector and subsector. The following are the calculation results in dynamic location quotient (DLQ).

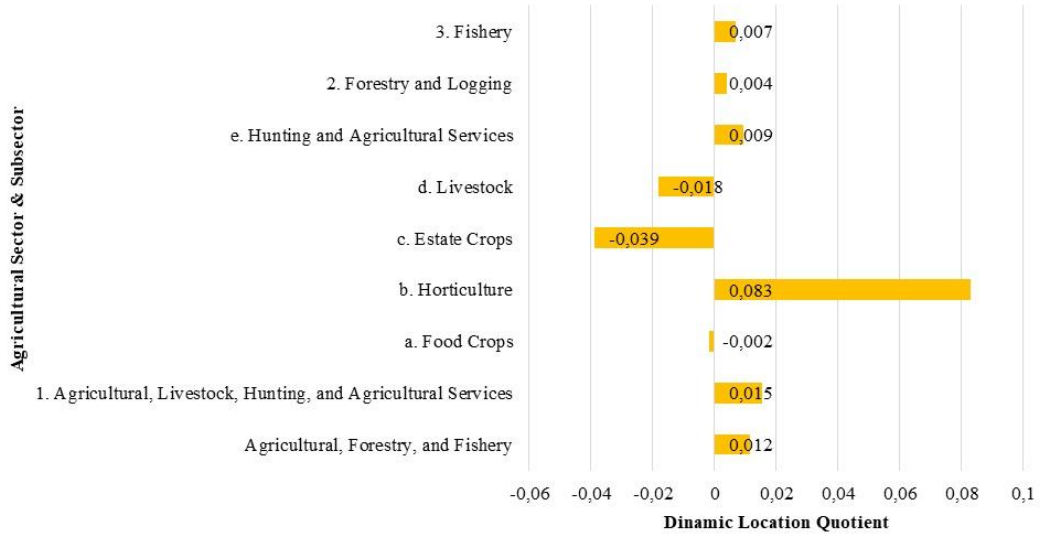

Figure 2. Calculation of Dynamic Location Quotient (DLQ) Central Java
Source: Processed data (2023)

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Results of dynamic location quotient (DLQ) illustrate that, in general, the agriculture, forestry, and fisheries sectors can still persist to improve since they have the potential to excel with a DLQ value > 0, namely 0.012. In subsector 1. Agriculture, livestock, hunting, and agricultural services also still show superior potential in the future with DLQ > 0, namely 0.015. In subsectors 2. Forestry and logging and 3. For fisheries, DLQ values > 0 were obtained, namely 0.004 and 0.007. This shows that this sector still has superior potential in the future even though previously in SLQ calculations, this subsector was not based in Central Java. However, the potential for development from the government in these two sectors should be able to boost production in these subsectors. Central Java has a fairly long sea on the north coast (Putra, 2021), as well as a number of industrial forests that continue to increase (Idris, 2021). This could be a potential for the Central Java government to explore as much as possible the potential of this subsector so that it can become an economic base.

In subsector 1. In agriculture, livestock, hunting, and agricultural services, several commodities such as a. Food crops show a DLQ value < 0, namely -0.002, indicating that the commodity a. Food crops will be less competitive in the future. In fact, production in the food sector continues to increase, but more planted land in the food sector has been converted into industrial and residential land (Utami, 2023). The government needs to encourage productivity by maximally utilizing existing land, supporting facilities and infrastructure, organic fertilizer, and accelerating planting. In commodities c. Plantation crops show a DLQ value < 0, namely -0.039, meaning that in the future this commodity will be less competitive. Previously, it was also shown that this sector is not a basic sector. So there is relatively little hope for the plantation sector in Central Java to support the community's economy. On commodities d, livestock reveals a DLQ value < 0, namely 0.018, indicating that this commodity will be less competitive in the future. Commodity d on the farm was previously indicated as a base sector in Central Java. The high public demand for livestock products is also caused by high population growth. Yet, reluctance to increase production is increasingly occurring due to the decreasing number of livestock areas. The conversion of green land continues to occur and makes it increasingly difficult for livestock to obtain natural food. Other things, such as the increasingly high price of raw materials for making feed and the price of finished feed, are also the reasons why this sector will be less competitive in the future (Widiartika, 2017). Meanwhile, for commodities b. Horticultural crops, and e. Agricultural and hunting services show DLQ values > 0, namely 0.083 and 0.009. In the future, these two commodities are predicted to have superior potential. This is due to the high public demand for this plant, especially with the high population growth, certainly, the need for vegetables and fruit will continue to increase (Kementan, 2021).

Growth Ratio Model Analysis

This analysis aims to identify the potential economic sectors based on growth criteria. MRP compares the value of the Study Area Growth Ratio (RPs) and the Reference Area Growth Ratio (RPr) with the criteria of RPs + and RPr + (growth dominant sector), RPs + and RPr – (potential economic sector), RPs – and RPr + (sector slow growth in the study area), RPs – and RPr – (slow growth sectors in the study and reference areas). This calculation is accomplished by examining the growth ratio based on 2019-2022 data. The following are the results of the Growth Ratio Model (MRP) calculations in this research.

Table 1. Calculation of the Growth Ratio Model (MRP) for Central Java for 2019-2022

Industrial Origin	RPs		RPr	
	Real	Nominal	Real	Nominal
Agricultural, Forestry, and Fishery	1,033	+	0,865	-
1. Agricultural, Livestock, Hunting, and Agricultural Services	1,106	+	0,818	-
a. Food Crops	0,481	-	0,322	-
b. Horticulture	1,868	+	1,315	+
c. Estate Crops	0,229	-	0,954	-

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d. Livestock	0,531	-	0,898	-
e. Hunting and Agricultural Services	0,991	-	0,839	-
2. Forestry and Logging	1,447	+	-0,175	-
3. Fishery	0,968	-	1,321	+

Source: Processed data (2023)

Based on the results of MRP calculations, growth developments during Covid in 2019-2022, the agricultural, forestry, and fisheries sectors are potential economic sectors with RPs + and RPr -. The growth of this sector is much more instantaneous in Central Java compared to the larger geographical area, namely Indonesia. This potential should be an illustration for the community and also the government to continue prioritizing development in this sector. The realm of subsectors can be examined, subsector 1. Agriculture, animal husbandry, hunting, and agricultural services, as well as subsector 2. Forestry and logging are potential economic subsectors in Central Java with faster growth in the Central Java region compared to Indonesia. Subsector 1. Agriculture, animal husbandry, hunting, and agricultural services experienced rapid growth due to encouragement from horticultural commodities with high public demand. Subsector 2. Forestry and logging have good economic potential with rapid growth. This is based on the high level of forestry activity and logging in industrial forests as a result of the community's high demand and need for forestry commodities. However, subsector 3. Fishery is one of the slowest-growing subsectors in the study area. Even though on a national scale in Indonesia, growth in the fisheries subsector is much faster, Central Java is recorded to be slower. The condition of the Central Java Sea is the cause of this slow growth, due to serious degradation of marine and coastal ecosystems in this province (Prihatiningtyas, 2019). Apart from that, fishing conditions in fishing ports are less likely to increase productivity. Abrasion occurred along the northern coast of Central Java and made it difficult for fishermen to anchor. Water conservation regulations such as fishing zone restrictions cause large ships to have to sail further to dock at Central Java Ports, so large ship owners turn around to dock at the nearest pier, namely in East Java province (Selfiana, 2021). This certainly can lead to a slowdown in fisheries productivity in Central Java.

In subsector 1. Agriculture, livestock, hunting, and agricultural services, the commodity with dominant growth is commodity b. Horticultural plants with RPs + and RPr +. The very rapid increase in commodity growth during the COVID-19 pandemic in 2019-2022 is supporting the growth of this sector. Meanwhile, other commodities such as a. Food crops, c. Plantation crops, d. Livestock, and e. Agricultural and hunting services are commodities with RPs – and RPr – (slow-growth commodities in the study and reference areas). This slowdown does not only occur in Central Java but also nationally. There are many factors supporting this slowdown in growth, such as high land conversion activities, production prices that are higher than selling prices, and raw materials whose availability is less supportive. These three things are the main triggers for slowing growth in supporting the economy in Central Java.

Overlay Analysis

To study potential economic sectors more accurately, researchers conducted an overlay analysis with the aim of getting better analysis results. Researchers compared the calculation results of *location quotient* (SLQ) in 2022 and studied the Growth Ratio (RPs) area as part of MRP. *Static location quotient* (SLQ) prioritizes sector contribution in its calculations, while RPs prioritize growth ratios in its calculations. The criteria for this analysis are RPs + and SLQ + (dominant and priority), RPs + and SLQ - (potential), RPs - and SLQ + (decreasing), and RPs - and SLQ – (not potential). The results of pairing these two analyses can be seen in Table 2.

In Table 2, in general, the agriculture, forestry, and fisheries sectors are the dominant and considered priority sectors in Central Java. The government has made an accurate decision to stage policies that can advance this sector. Of the 3 subsectors in this sector, the dominant and priority subsector is subsector 1. Agriculture, animal husbandry, hunting, and agricultural services, namely

commodities b. Horticultural plants. Several types of horticultural plants are vegetables, fruit, ornamental plants, and rhizome medicinal plants. Out of all these plants, vegetables and fruit are the largest contributors to production for this category. Vegetables were produced as much as 13,418,424 and fruit as much as 22,517,638 tons in 2019 (Susanti & Supriyatna, 2021). This condition continues to increase from year to year, even during a pandemic. This condition causes horticultural crop commodities in Central Java to be able to drive the economy faster. Moreover, with its high contribution value and economic base, its rapid growth far exceeds the growth on a national scale in Indonesia. It can be said that the government, in terms of economic growth policies in the agriculture, forestry, and fisheries sectors, can be directed at horticultural crop commodities, such as encouraging accelerated harvesting, proper planting training, affordable fertilizer prices, good selling value, increasing productivity with existing land, and availability. fertilizer raw materials. So that production can meet needs on a local, national, and even international scale with high export value.

Table 2. Central Java Overlay Analysis

Industrial Origin	RPs 2019-2022		SLQ 2022	
	Real	Nominal	Real	Nominal
Agricultural, Forestry, and Fishery	1,033	+	1,010	+
1. Agricultural, Livestock, Hunting, and Agricultural Services	1,106	+	1,180	+
a. Food Crops	0,481	+	1,446	-
b. Horticulture	1,868	+	2,347	+
c. Estate Crops	0,229	-	0,341	-
d. Livestock	0,531	+	1,648	-
e. Hunting and Agricultural Services	0,991	+	1,409	-
2. Forestry and Logging	1,447	-	0,702	+
3. Fishery	0,968	-	0,392	-

Source: Processed data (2023)

Moreover, another commodity with the potential to be driven to become dominant is commodity a. Food crops, d. Livestock, and e. Agricultural and hunting services. Specifically, these three commodities are related to providing food for the community. The government can promote regulations regarding support for these three commodities since they have the potential to be developed. Especially, with regard to food and livestock and the services that follow, these three things are important aspects so that in the future, export opportunities to the international domain can be maximized.

BCG Matrix Analysis

This analysis was developed by mapping sectors and subsectors into four quadrants using 2022-SLQ values and comparing them with the delta location *quotient* (ΔLQ). The pairing will come up with four criteria, which are star, emerging, mature, and transforming. It is carried out to see sector/subsector/commodity market shares more clearly so that the focus of government policies and investment decisions can be directed appropriately. Based on Figure 3, agricultural sectors and subsectors have been classified into 4 quadrants. The agriculture, forestry, and fisheries sectors are sectors that are classified in the STAR category with LQ > 1 and ΔLQ > 0, specifically referring to subsector 1. Agriculture, animal husbandry, hunting, and agricultural services, are grouped in commodity b, horticultural crops, and commodities e. Agricultural and hunting services have a prominent market share to be developed with good prospects for progress. So, it is recommended that the public and government to invest in these two commodities, which is believed as a wise decision. Carrying out specific economic activities on these two commodities will provide good economic acceleration, improve the investment climate, and increase employment opportunities.

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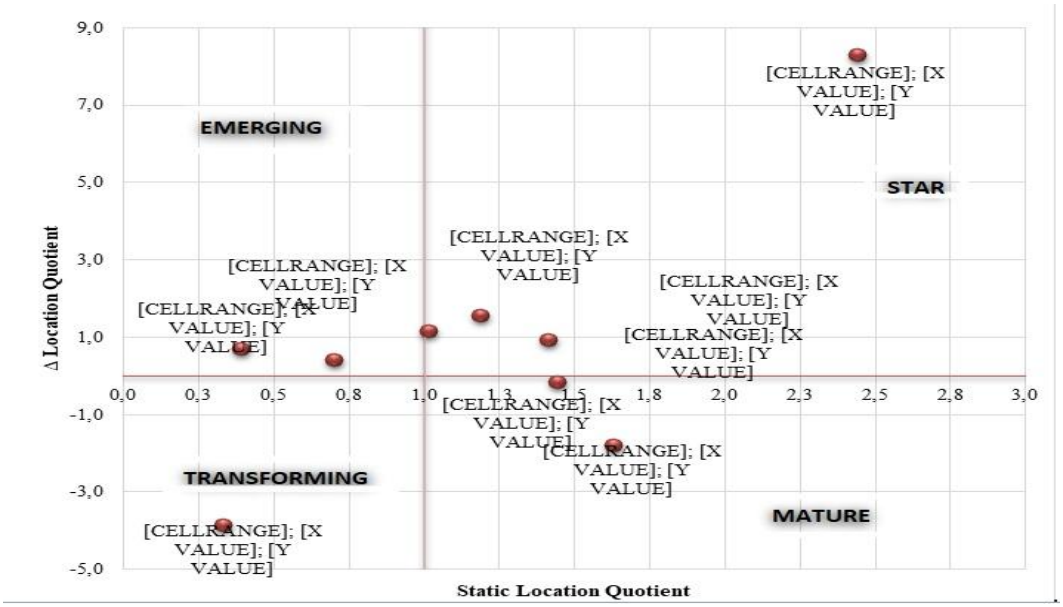

Figure 3. BCG Matrix Analysis
Source: Processed data (2023)

While MATURE category includes two commodities, namely a. Food crops, and d. Livestock with LQ level > 1 and ΔLQ < 0. The market share for these two commodities still needs to be developed but has great potential considering those are base commodities in Central Java. The government and society can encourage the development of these commodities since they tend to be prospective and have the potential to become STAR. Apart from that, encouraging its contribution in Central Java will accelerate this commodity to become STAR. Then in the EMERGING category, there are two commodities, namely 2. Forestry and logging 3. Fisheries with LQ < 1 and ΔLQ > 0. This commodity is not a base but has the potential to contribute more to the economy. So maintaining this commodity and even increasing it at the provincial and national level can increase the possibility of moving it to the MATURE category. In addition, the TRANSFORMING category includes the commodity of c. Plantation crops with LQ < 1 and ΔLQ < 0, in which maintaining this commodity will actually have an insignificant impact on the economy. The market share for plantation crops in Central Java is quite low, so maintaining, moreover providing maximum policies, will not necessarily make this commodity potential economically.

CONCLUSION

The agriculture, forestry and fisheries sectors were the base sectors in Central Java before and after the COVID-19 pandemic, with the agriculture, livestock, hunting and agricultural services subsectors as the main drivers. Horticulture and agricultural services commodities show the highest potential to drive economic growth and increase people's income, while food crops and livestock are in a developing position but not yet optimal. Based on BCG analysis, horticulture and agricultural services are in the Star position, while food crops and livestock are in Mature, and forestry and fisheries are in Emerging. Plantation commodities are in the Transforming position with a low economic contribution. Therefore, government policies should focus on strengthening horticulture and agricultural services, as well as developing food crops and livestock to expand export opportunities and accelerate regional economic growth.

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