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The Role of the Agricultural Sector and the Economic Structure of West Java Province

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ABSTRAK

Sektor pertanian menjadi sektor primer dalam perekonomian yang menjadi fondasi penting dalam pertumbuhan ekonomi dengan kontribusi terhadap sektor lain dalam bidang industri dan jasa. Sektor pertanian Jawa Barat menjadi salah satu sektor dengan kontribusi tinggi terhadap PDRB Jawa Barat. Untuk itu penelitian ini bertujuan untuk mengetahui peran sektor pertanian dalam perekonomian Jawa Barat serta bagaimana struktur perekonomian Jawa Barat. Adapun metode penelitian yang digunakan yaitu analisis location quotient dan shift share analysis dengan data yang digunakan yaitu PDRB sektoral Jawa Barat tahun 1990-2023. Hasil penelitian menemukan bahwa sektor pertanian di Jawa Barat bukan sektor basis dalam perekonomian dan tidak memiliki daya saing sektoral, sehingga peran sektor pertanian hanya memiliki keunggulan untuk daerah Jawa Barat. Sektor yang menjadi basis dan berdaya saing di Jawa Barat yaitu sektor industri pengolahan, konstruksi dan beberapa sektor Jasa, hal tersebut membuktikan bahwa Jawa Barat sudah mengalami transformasi struktur perekonomian dari sektor primer ke sektor sekunder dan tersier. Untuk itu pemerintah Jawa Barat perlu menekankan kembali kebijakan untuk peningkatan output sektor pertanian yang dapat meningkatkan sektor lainnya.

Kata kunci : Location Quotient; Produk Domestik Regional Bruto; Sektor Pertanian; Shift Share

ABSTRACT

The agricultural sector is a primary sector in the economy which is an important foundation in economic growth by contributing to other sectors in the field of industry and services. The West Java agricultural sector is one of the sectors with a high contribution to West Java's GDP. For this reason, this study aims to find out the role of the agricultural sector in the economy of West Java and how the economic structure of West Java is. The research method used was location quotient analysis and shift share analysis with the data used, namely West Java sectoral GDP in 1990-2023. The results of the study found that the agricultural sector in West Java is not a base sector in the economy and does not have sectoral competitiveness, so the role of the agricultural sector only has advantages for the West Java region. The sectors that are the basis and competitive in West Java are the processing industry, construction and several service sectors, this proves that West Java has experienced a transformation of the economic structure from the primary sector to the secondary and tertiary sectors. For this reason, the West Java government needs to re-emphasize policies to increase the output of the agricultural sector which can increase other sectors.

Keywords : Agriculture Sector; Gross Regional Domestic Product; Location Quotient; Shift Share

PENDAHULUAN

Regional development planning is an important agenda in the development process because it is an indicator of the success of development achievements, both social and economic development for the welfare of the community (Kurniati, 2020). Economic development is the process of changing overall economic activities in a region. Economic development will also be inseparable from economic growth. One of the indicators in economic growth is Gross Domestic Product (GDP). The increase in GDP from year to year is an indicator of the success of regional development which can describe the existence or absence of economic development in a region. The greater the contribution made by each economic sector to the GDP, the regions can carry out economic growth in a better direction and which

means it will also increase the welfare and prosperity of the people (Hadju et al., 2021; Simanjuntak et al., 2021; Wauran, 2020; Widianingsih et al., 2015).

In the development of West Java Province, as stated in the Regional Medium Term Development Plan (RPJMD), the development of the West Java region has a special goal in strengthening the regional economy by encouraging inclusive and sustainable economic growth by utilizing local potential and increasing industrial competitiveness. Launching from the Badan Pusat Statistik (2024), West Java Gross Regional Domestic Product (GRDP) reached IDR 1,669,416.85 billion, an increase of around 4.99 percent from the previous year. West Java GRDP also contributes around 12.79 percent to Indonesia total GDP in 2023 and is the third largest contribution after East Java and DKI Jakarta. West Java GRDP achievement value is also supported by various economic sectors that have considerable potential in West Java as well as the output of West Java economic sectors.

West Java economy is supported by 17 business sectors that have considerable potential. Sectors that have high potential in West Java include the industrial sector which is the most potential sector in West Java with a contribution to GRDP reaching 41.87 percent or around IDR 715806.63 billion, then there are large trade and retail sectors and the construction sector which contribute around 14.43 and 8.44 percent. Then the agricultural sector contributed 8.4 percent or around IDR 113308.54 billion and the rest came from other business sectors. These potential sectors have a huge potential to grow faster, compared to other sectors in a region, so as to provide higher opportunities for economic growth in the achievement of economic development in West Java (Andriansyah et al., 2021; Silvya et al., 2019).

The agricultural sector is one of the sectors that has quite potential in West Java. The agricultural sector plays a role in regional economic development through its contribution to output, becoming a sector that must be considered in the regional economic development strategy. For this reason, policies in the agricultural sector are one of the key strategies in increasing investment to support regional economic development and encourage economic growth (Ahmed et al., 2023). Launching from BPS West Java (2024), the Gross Regional Domestic Product (GRDP) of the agricultural sector in West Java Province from 2019 to 2023 has increased significantly every year with an average increase of 2 percent. This increase shows how important the agricultural sector is in contributing to West Java GRDP, which is influenced by various factors, such as government policies, investment in the agricultural sector, and other external conditions (Parahita et al., 2018).

The agricultural sector, which is the primary sector in the economy of a country or region, is an important foundation for the economy. This is because the agricultural sector provides raw materials needed by the secondary (manufacturing) and tertiary (services) sectors and includes various activities that involve extracting raw materials from the earth or sea which can then be used for production or direct consumption (Kurniawati, 2020; Oktavia et al., 2016). According to Srihidayati (2022) The agricultural sector has a great contribution to the regional economy, especially through the absorption of labor and the utilization of natural resources. Then according to Kurniawan et al. (2022) added that the improvement of the agricultural sector can boost regional income and investment, which is important for the development of the region.

According to Suparta et al. (2022) stating that basically the development of a region can achieve the expected economic growth by developing the existing economic potential. One of them is by developing superior products in the area. The agricultural sector, which is a leading sector in various regions in Indonesia, which is influenced by Indonesia's geographical location as an agrarian country, is the focus as a sector that can be developed in the region. The West Java industrial sector as the most potential sector with the highest GRDP contribution is also of course related to the agricultural sector as a primary sector in the economy. Where the productivity of the agricultural sector greatly affects the industrialization of an area which is necessary for the progress of the industrial sector (Wenny Astriani Widya Sari et al., 2019).

The transformation of the regional economy can certainly occur as a result of the increase in the industrial sector which is influenced by technological advances and can be transformed again with the progress of the service sector (Andriansyah et al., 2023). According to Vaulina & Elida (2014) The existence of transformation can affect the economy of a region. In addition, the agricultural sector, which is the primary sector in the economy, can be a multiplier effect on other sectors and support food security and regional development (Priyatna et al., 2022). So that the economic changes of a region can

be influenced by the role of the agricultural sector in the economy (Setyanti, 2021). So that the economic changes of a region can be influenced by the role of the agricultural sector in the economic.

METODE

In achieving results that are in accordance with the expectations of this goal, this study uses a descriptive approach in the form of sectoral quantitative analysis. What is meant by sectoral is that the analysis is carried out with a focus on all economic sectors in West Java Province with sectoral references at the national level consisting of 17 business sector sectors. Then the analysis was carried out in the range of 1990 to 2023 with the division of analysis per five years consisting of 1990, 1995, 2000, 2005, 2010, 2015, 2020 and 2023. The data sources used came from the Badan Pusat Statistik (BPS) of Indonesia and West Java which included data on the GDP/GRDP ADKH of Indonesia and West Java as well as the economic growth rate of GDP/GRDP in Indonesia and West Java sector. To obtain accurate results in answering the formulation of this research, the analysis uses two model approaches, namely Location Quotient (LQ) and Shift Share Analysis.

Location Quotient (LQ) an analysis used to determine the degree of specialization of economic sectors in a region that utilizes basic or dominant sectors (Suparta et al., 2022). This analysis helps in determining the extent to which an economic sector is more concentrated or specific in a particular region compared to the average in the reference region. Thus, the LQ value is often used to determine sector-based sectors that will encourage the growth or development of other sectors (Imbran, 2022). The LQ equation can be illustrated by equation 1 which is identified as the division between regional GDP (E^j) and National GDP (E^n) i indicating the sectoral business field, the equation is as follows:

$$LQ = \frac{E_i^j / E^j}{E_i^n / E^n}$$

Shift Share Analysis (SSA) is a statistical technique traditionally used to study changes in socioeconomic variables by the growth decomposition method that allows the breakdown of the growth rate of phenomena observed in aggregate Territorial Units (TU) into three components trend components, structural components, and local components (Agovino et al., 2024; Montanía et al., 2021). The analysis aims to determine the performance of the productivity of the regional economy by comparing it with the wider region (Wiwekananda & Utama, 2016). The general form of the shift share analysis equation is:

$$D_{ij} = N_{ij} + M_{ij} + C_{ij}$$

$$N_{ij} = E_{ij} - r_n$$

$$M_{ij} = E_{ij} (r_{in} - r_n)$$

$$C_{ij} = E_{ij} (r_{ij} - r_{in})$$

Equation 2 shows the components in the shift share analysis which consist of the components of economic change (N), the industrial structural component (M) and the competitiveness component (C) with the value of GRDP (E) some of the main values in the analysis as well as r_{ij} , r_{in} , and r_n represents the rate of output growth of each region or region. Later in this analysis, the SSA method emphasizes the Esteban-Marquilas approach by adding a new dimension to analyzing regional shifts by correcting some of the shortcomings of the traditional Shift Share model (Abidin, 2015). This analysis technique contains a new element, namely *homothetic output* in sector i in region j , given the notation Y'_{ij} and the existence of the value of the allocation effect with the following equation:

$$A_{ij} = (E_{ij} - E'_{ij}) (r_{ij} - r_{in})$$

It is known that A_{ij} is part of the traditional (classical) competitive influence (advantage) which indicates the existence of a degree of specialization in sector i in region j . In other words, A_{ij} is the difference between real output in sector i in rural areas and output in that sector of the region (r_{ij}) if the economic output structure of region j is the same as the economic output structure in region n or higher and the value of the difference is multiplied by the value of the difference between the growth rate of the sector in the region (r_{ij}) and the growth rate of the sector in higher (r_{in}). The results of Esteban Marquilas Shift Share analysis can be analyzed based on the criteria of the SSA model with the specialisation-competitiveness matrix (Agovino et al., 2024).

Table 1
Specialisation-Competitiveness Matrix

Code	Allocation	Component		Remarks
	A_{ij}	$E_{ij}-E'_{ij}$	$r_{ij}-r_{in}$	
1	-	+	-	No competitive advantage, and specialization
2	+	-	-	No competitive advantage, no specialization
3	-	-	+	There is a competitive advantage, no specialization
4	+	+	+	There is a competitive advantage, there is a specialization

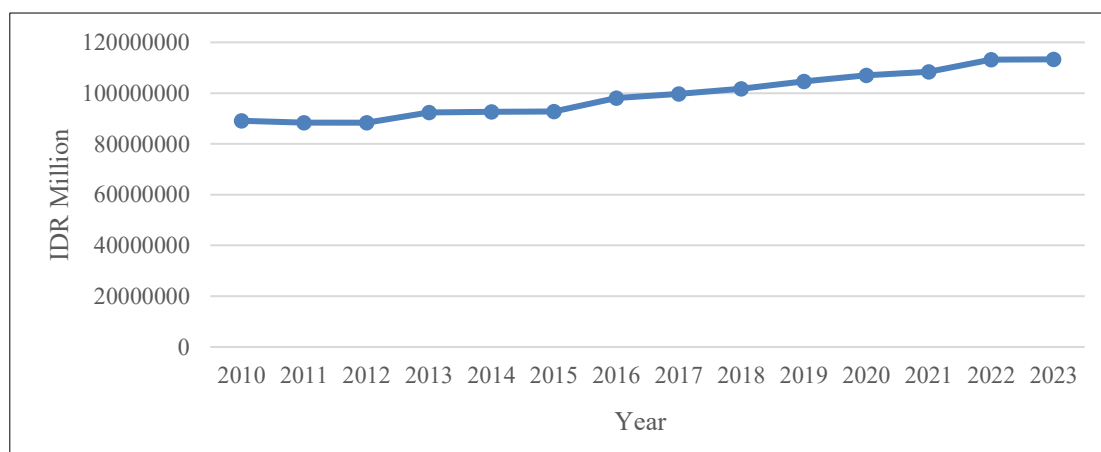
Source: Faizal, et.al (2022)

HASIL

The agricultural sector is the main sector in several developing countries, this is because sectors in developing economies generally use traditional sectors. As is the case in the agricultural sector, which on average still uses the traditional agricultural system in the process of producing output in the agricultural sector. The definition of the agricultural sector in general refers to the production, processing, and marketing activities of agricultural products. This sector involves various activities such as food crop planting, livestock, fisheries, plantations, and forestry. In addition, the agricultural sector is one of the economic sectors that has an important role in the development of a country because it is part of the potential development resources to be used as a strategic sector for current and future development planning, both at the national and regional levels (Fitria et al., 2024; Rahayu, 2022).

The agricultural sector in West Java has an important role in the regional economy, both in terms of food production, labor absorption, and contribution to the Gross Regional Domestic Product (GRDP). West Java is known as one of the national rice barns, with rice as the main commodity, followed by corn and soybeans. In addition to food crops, the horticulture sector is also developing with the production of vegetables such as potatoes, chilies, and onions, as well as fruits such as mangoes, bananas, and durians. In the plantation sector, tea and coffee are leading commodities, especially in highland areas. In addition, livestock and fisheries also make significant contributions, especially in cow's milk production and inland fisheries in areas such as Subang and Indramayu.

The agricultural sector is one of the potential sectors in West Java as in the previous discussion. This is based on the contribution of the agricultural sector to West Java Gross Regional Domestic Product (GRDP), making it the sector with the third highest GRDP value in the province. In addition, the agricultural sector in West Java is also known as one of the second largest contributors to agricultural production in Indonesia, earning the nickname as Indonesia's rice barn. Thus, increasing the production of the agricultural sector in West Java has great potential in encouraging economic growth in the region.



Source: Badan Pusat Statistik (2025)

Figure 1
GRDP ADHK Agricultural Sector of West Java Province

The agricultural sector in West Java has a trend of increasing sector value growth from 2010 to 2023. Until 2023, the GRDP of the agricultural sector in West Java will reach IDR 11308540 million and contribute around 8 percent to the total GRDP of the West Java business sector. The GRDP of the

West Java agricultural sector has also increased every year with an average increase of around 2 percent every year. The agricultural sector that produces the output of agricultural products has advantages as a primary need for the community and for industry, so the output produced tends to increase according to the increase in the number of people in demand for consumption. During the Covid-19 pandemic, the agricultural sector in West Java tended to remain stable and even increased by around 1 percent. This shows that the agricultural sector in West Java continues to grow, although it may be influenced by various factors such as government policies, climate change, and investment levels in this sector.

Results of Location Question (LQ) in West Java

The analysis using the LQ method uses annual data from 1990 to 2023 with a grouping range per five years. This analysis was carried out comprehensively from 17 business sectors of the West Java GRDP with a focus on the results of the agricultural sector. Location Quotient (LQ) analysis is used to measure the level of specialization of an economic sector in a region compared to the wider region, in this case the agricultural sector in West Java compared to the national level. In other words, the results of this analysis can see the sectors in the West Java economy which are the base sector and the base sector in several analysis periods. The reference value in the analysis is based on the value of the GRDP of West Java with a comparison or reference based on the value of the national GRDP.

Table 2.
Location Quotient Analysis Results of West Java

Sector	Year							
	1990	1995	2000	2005	2010	2015	2020	2023
Agriculture	0.95	0.95	0.90	0.99	0.71	0.59	0.57	0.57
Mining and Quarrying	0.87	0.62	0.52	0.31	0.32	0.27	0.22	0.19
Processing Industry	1.06	1.32	1.41	1.54	2.02	2.02	2.05	2.10
Electricity and Gas Procurement	2.55	2.22	5.88	3.95	0.56	0.47	0.34	0.34
Water Procurement and Waste Management	0.00	1.02	2.72	1.27	0.91	0.96	1.01	1.03
Construction	1.11	0.83	0.62	0.54	0.76	0.83	0.82	0.83
Wholesale and Retail Trade; Car and motorcycle repair	1.20	1.10	0.97	1.21	1.14	1.17	1.14	1.11
Transportation and Warehousing	3.32	2.45	3.85	4.40	4.31	4.06	4.02	3.20
Food and Beverage Accommodation Providers	1.61	1.32	1.22	0.94	0.82	0.82	0.95	0.90
Information and Communication	0.53	0.55	0.76	0.51	0.61	0.74	0.97	0.96
Insurance and Financial Services	0.56	0.40	0.19	0.23	0.64	0.63	0.60	0.60
Real Estate	0.60	0.86	40.57	23.63	0.38	0.39	0.45	0.52
Corporate Services	0.00	0.48	0.28	0.18	0.25	0.25	0.21	0.23
Government, Defense and Social Security Administration	0.83	0.87	0.94	0.92	0.69	0.60	0.54	0.51
Educational Services	0.00	0.00	0.00	0.00	0.67	0.85	0.95	1.00
Health Services and Social Activities	0.00	1.26	0.61	0.42	0.61	0.68	0.61	0.62
Other Services	0.39	1.15	0.96	0.68	1.13	1.24	1.20	1.16

Source: processed data

Based on the results of the LQ analysis in Table 2. It is known that in the economic structure of West Java based on the economic sectors that form the economy, of the 17 business sector sectors from 1990 to 2023, there are quite a few changes in the base and non-base sectors during the year-long period. The West Java agricultural sector from 1990 to 2023 in the economic structure of West Java is not included in the base sector in the economy, this means that the agricultural sector in West Java Province has not fully been able to meet the needs of the demand for agricultural sector products from the production or output of agricultural products. From 1990 to 2005 the LQ value of the agricultural sector in West Java tended to be stable at 0.9 or almost close to the LQ value of 1, so that at the beginning of that period the agricultural sector of West Java was suspected to have the ability of the base sector but began to decline from the previous period until the period 2015 – 2023 the LQ value of the agricultural

sector fell steadily at 0.5 which means that in meeting domestic needs, West Java still needs to import agricultural products from other regions.

The decline in the value of the agricultural sector as a base sector in West Java is suspected to be influenced by various factors, both internal and external. One of the main causes is the conversion of agricultural land due to infrastructure development and industrial development, especially in areas around Jakarta such as Bekasi, Bogor, and Depok. As in the commodity where the land from the harvest area tends to decrease every year, such as in 2023 which decreased by around 4 percent from 2022 (BPS West Java 2025). Productive lands that were previously used for agriculture are now turned into industrial, residential, and infrastructure areas, so that the contribution of the agricultural sector to West Java GDP is decreasing. As stated by Sari & Kushardono (2019), where the development of infrastructure used for infrastructure to support economic and social activities has a direct impact on the conversion of land used for agricultural activities into development land. In addition, the rapid growth of the industrial and service sectors makes the role of agriculture in the economy relatively smaller than other sectors.

The decline in agricultural productivity is also the cause of the weakening of West Java agricultural sector. Reduced productive agricultural land area, reliance on traditional farming methods, and the impact of climate change that disrupts crop yields all contribute to this downward trend. Launching from the Badan Pusat Statistik (2025) that the productivity of the agricultural sector such as rice food crops every year tends to experience a decrease in productivity due to a decrease in production. The average decrease in productivity is around 0.05 percent every year and production declining as in 2023 which is down about 3 percent from 2023. The decline can also be caused by uneven production in each region in West Java. As stated by Novitasari et al. (2019) that the base of the agricultural sector in West Java is only found in Sukabumi, Cianjur, Garut, Tasikmalaya, Ciamis, Kuningan, Cirebon, Majalengka, Sumedang, Indramayu, Subang, West Bandung Regency, Pangandaran, and Banjar City which have high agricultural production values.

The mining and quarrying sector in West Java as a primary sector that has high natural resources in West Java tends to experience a decrease in the value of LQ from 1990 to 2023. The mining and quarrying sector has also not been a base sector in West Java since 1990. The mining and quarrying sector has a contribution of around 0.99 percent to West Java total GRDP in 2023, but the value of this contribution tends to decrease from the previous year of around 0.16 percent. In addition, the value of contributions that tend to decline in the mining and quarrying sector in West Java is suspected to be due to illegal mining activities. Throughout 2024, the West Java Energy and Mineral Resources (ESDM) Office has identified 176 unlicensed mining points (PETIs) spread across various districts, including Cianjur, Bogor, Purwakarta, Bandung, Sumedang, Tasikmalaya, and Cirebon (Portal Jabar, 2025).

The processing industry sector has been the base sector of West Java from 1990 to 2023. The processing industry sector also has an LQ value that tends to increase every year where from 1990 to 2005 the LQ value was in the range above one and since 2010 the LQ value has increased and stabilized at a value above two. This proves that West Java has been optimal in industrialization activities so that it has an impact on West Java GRDP with a contribution of 41.87 percent. The main factor driving the dominance of this sector is suspected to be the strategic geographical position of West Java which is directly adjacent to DKI Jakarta and has access to international ports such as Patimban Port in Subang. This condition facilitates the distribution of industrial products to domestic and international markets, which makes the industrial sector a leading sector in West Java (Solikin, 2022). In addition, the development of industrial estates in areas such as Karawang, Bekasi, and Purwakarta has attracted large investments, especially in the manufacturing sector. These areas are centers of labor-intensive industries that absorb a lot of labor and drive regional economic growth. As according to Fitria et al. (2024) the number of industries can affect the open unemployment rate in an area so that it has an impact on the economy.

The water management and gas procurement sector in West Java became the base sector in the 1990 period and experienced an increase in the value of LQ from 1 to value 2 until the period of 2000 which means that the water and gas sector in West Java has met domestic needs and can carry out trade activities with other regions. However, this sector experienced a high decrease in LQ starting from the 2015 period and became a non-based sector in West Java and made a small contribution, namely 0.47 percent to West Java total GRDP in 2023. Then also in the construction sector, it only became the West Java base sector only in the 1990 period and after that period the construction sector became a non-

West Java base sector. Although the contribution of this sector is high, reaching 8.42 percent to West Java total GRDP in 2023, this sector has a lower value than the total sector nationally.

Then the next is the large trade and retail sector; car and motorcycle repair which tends to be the base sector in West Java from 1990 to 2023. This sector is also the most potential sector in West Java with a contribution to GRDP reaching 14.43 or sectoral GRDP in 2023. The trade sector is a base sector in West Java because it may be supported by various strategic economic and geographical factors. In addition, its location directly adjacent to DKI Jakarta makes West Java a center for the distribution of goods to various regions, supported by good transportation infrastructure such as toll roads, ports, and railways that facilitate trade flows. The presence of industrial estates in various regions, such as Bekasi, Karawang, and Purwakarta, also strengthens the trade sector because the manufacturing industry needs efficient distribution channels to distribute its products, both for the domestic and export markets. This is in accordance with what was stated by the Amanda Fitriani et al., (2024) that the trade sector has openness in the long term which has an impact on the economy of West Java.

Another sector that became the base sector in West Java from 1990 to 2023 is the transportation and warehousing sector, which also contributes to West Java GRDP of around 5.9 percent. The transportation and warehousing sector as the base sector in West Java can be affected because this province has a strategic role as a national logistics and distribution center. Its location directly adjacent to DKI Jakarta makes it a major route for the movement of goods and services, supported by a highly developed transportation infrastructure, such as a network of toll roads, railways, and access to international ports in Cirebon and Kertajati Airport. This is in accordance with the results of research from Fauzi (2024) that transportation and warehousing are the most reliable sectors. This is because the condition of West Java which has various types of industries ranging from textiles, automotive, electronics to food and beverages so that infrastructure and transportation are very important in supporting the West Java industry.

The service sector in the West Java economy tends not to be a base sector from the beginning of the 1990 period to 2020. Although it is not a base sector, several sectors in the service sector experience fluctuations in the value of LQ such as in the real estate sector which experienced an LQ value of 40.57 in 2000 and 23.63 in 2005, it identifies a faster increase in sector growth than the sector at the national level which gives the real estate sector a base sector in West Java. The high LQ value of the real estate sector in West Java in 2000 is suspected to be related to economic policies during the New Order period which focused on infrastructure development and industrialization. During the 1990s, the government aggressively built various infrastructures such as toll roads and other public facilities that encouraged the growth of the property sector in Jakarta's buffer area, including West Java. However, the economic crisis that hit Indonesia in 1997-1998 caused a temporary stagnation in the property sector. Entering the year 2000 along with the economic recovery, the real estate sector revived which was marked by increased sales and increased property prices.

Other service sectors have changed from the base sector to the base sector in West Java from 2015 to 2023, although in 1995 other service sectors also became the base sector in West Java. Other service sectors in West Java have developed which are allegedly influenced by the growth of other service sectors with an average increase of 3 percent every year and contributing around 2.23 percent to the total GRDP of West Java (Badan Pusat Statistik 2024). Then the increasing demand for services along with population growth and urbanization in the region has driven the expansion of this sector. As well as economic diversification that reduces dependence on the processing and agricultural industry sectors has opened up opportunities for other service sectors to develop.

Results of Shift Share Analysis in West Java

In analyzing the economic structure of West Java, the shift share analysis method of Esteban Marquillas' approach was used in the study to identify the factors that affect changes in economic growth in this region. This analysis compares the economic performance of West Java with the national level to understand the extent to which regional economic growth is influenced by external factors and sectoral competitive advantages. The analysis was carried out the same as the LQ analysis in the previous discussion, namely the period 1990 to 2023 with a 5 years period. Thus, this discussion will outline the leading sectors and sectors that are experiencing a slowdown, so that it can provide an overview of the dynamics of economic changes in the region which can be seen in Table 3.

Table 3
Shift Share Analysis Result

Sector	Component			Value Change
	National Growth	Industrial Mix	Comparative Advantage	
Agriculture	2795950308	18824220.64	-1432487992	1382286537
Mining and Quarrying	963335508	321039012	-192916782.9	1091457737
Processing Industry	12292020098	-2571505876	1331420546	11051934767
Electricity and Gas Procurement	210176207.7	63784778.73	-280857475.6	-6896489.101
Water Procurement and Waste Management	25504473.55	-6203533.482	-7076499.795	12224440.27
Construction	1883864722	1041333463	1262395084	4187593269
Wholesale and Retail Trade; Car and motorcycle repair	4250022738	-230328141	-1212072868	2807621728
Transportation and Warehousing	1154864183	-70411630.27	700940949.3	1785393502
Food and Beverage Accommodation Providers	693071612.5	-61557639.32	-99610629.7	531903343.5
Information and Communication	649682697.7	-33064123.51	781380826.5	1397999401
Insurance and Financial Services	597411882.7	-173544162.4	531324219.9	955191940.2
Real Estate	334759594.6	16689128974	-16780212949	243675619.8
Corporate Services	106122475.6	-51915233.94	-5875428.674	48331812.98
Government, Defense and Social Security Administration	758661779.4	-97452255.53	-321138217.6	340071306.3
Educational Services	521593244.9	-466372297.1	54249986.13	109470933.9
Health Services and Social Activities	169139014.9	-51850385.68	67293006.32	184581635.6
Other Services	499784608.3	773593734.3	-1033256766	240121577

Source: processed data

Based on the results of the analysis of the Shift Share of the West Java economy in Table 3. it is known that in West Java's economic growth from the average analysis value from 1990 to 2023 based on the national growth component that all sectors of West Java's business field have a positive value, which means that the sector is experiencing growth in line with the trend of national economic growth. The highest growth component value is in the industrial sector and the smallest growth is in the water procurement and waste management sectors. The high growth value of the industrial sector shows that the industrial sector in West Java is estimated to grow by Rp2.80 trillion due to the influence of national economic growth. This value reflects the basic growth obtained by the industrial sector when it follows a proportionate national pattern without considering sectoral dynamics or specific local advantages. Small growth values such as the water procurement and waste management sectors mean that this sector is estimated to grow by Rp25.50 million due to the effect of national economic growth in general. The growth value is relatively smaller than other sectors, so it shows that this sector is growing but not as fast as the industrial sector. Furthermore, the agricultural sector has a positive growth effect which is estimated to grow by Rp2.80 trillion due to the influence of overall national economic growth.

Based on the results of the calculation of shift share analysis in the proportional or industrial component, if a sector grows faster at the national level, the region with a large proportion of the sector will also experience higher growth. The results were obtained that from all sectors of the business field in West Java, the sectors that have positive values are the agriculture, mining and quarrying, electricity and gas procurement, construction, real estate, and other services. This indicates that the sector is developing proportionally at the national level and has a positive impact on West Java.

The agricultural sector has a positive proportional component value of IDR 18,824,220.64 which shows that the agricultural sector is experiencing additional growth because nationally the agricultural sector is growing faster than the average national economic growth. This growth reflects the positive impact of national sectoral dynamics on West Java. West Java's agricultural sector has increased output because it is included in the nationally developing sector without considering regional competitive advantages or weaknesses. The industrial sector has a negative industrial growth

component value of Rp2,571,505,876 which shows that the growth rate of the industrial sector in West Java is below the growth rate of the same sector nationally. This negative value indicates that the industrial sector in the regions is unable to follow the national sectoral dynamics so that it loses the growth potential that should be obtained if its performance is in line with national trends.

The value of the positive industrial or proportional growth component in the mining and quarrying sector amounted to Rp321,039,012, the electricity and gas procurement sector amounted to Rp63,784,778.73, the construction sector amounted to Rp1,041,333,463 and the other service sector amounted to Rp773,593,734.3 indicating that the four sectors nationally are in a higher sectoral growth trend compared to the average growth of all national economic sectors. This reflects the contribution to growth that occurs because the sector in question has progressive national dynamics. The sector holds great potential to encourage regional economic growth and shows that nationally this sector is very expansive and has a high capacity to absorb labor and a high multiplier effect on other sectors.

Based on the value of the results of the regional share growth component or competitiveness (*comparative advantage*) which measures how much growth and advantages or weaknesses are caused by factors in economic growth. It is known that sectors that have market share growth or competitiveness in West Java are the industrial, construction, transportation and warehousing, information and communication, insurance and financial services, education services, and health services and social activities. The value of market share growth means that the sector has a local advantage that grows faster than the same sector at the national level and shows specific strengths or potentials. Other sectors in West Java have a negative value for regional share growth resulting from shift share analysis, which means that the sector is growing slower or even declining than national growth.

The agricultural sector has a negative component value of regional share growth of IDR 1,432,487,992 which shows that this sector has experienced a lower performance than the agricultural sector nationally. Negative values in competitive shift indicate that the agricultural sector in West Java does not have local advantages or even shows weakness in competition when compared to the growth dynamics of the same sector at the national level. This indicates that the growth of the agricultural sector in West Java is not only slower than the national average, but also not able to utilize its potential optimally. On the other hand, the industrial sector has a regional share component value of IDR 1,331,420,546 which shows that the industrial sector in West Java has a better performance than the industrial sector nationally. The positive value in this component indicates that the West Java industry has local advantages that make the industrial sector grow faster than the national average. This reflects the presence of local competitiveness which indicates that the industrial sector in the region has the potential to be a major source of economic growth.

The growth value of the positive regional share in the construction sector was IDR 1,262,395,084, the transportation and warehousing sector was IDR 700,940,949.3, the information and communication sector was IDR 781,380,826.5, the financial services and insurance sector was IDR 531,324,219.9, the education services sector was IDR 54,249,986.13 and the health services and social activities sector was IDR 62,793,006.32. This shows that the six sectors have superior local competitiveness compared to the same sector at the national level. The value of the positive competitive shift signifies that the growth of the sector is not only following national trends but is also driven by strong local factors. This superior performance shows that the region has a comparative and competitive advantage in these sectors which makes it an important contributor to regional economic growth. To see more about the value of the competitive advantage component, use the specialization-competitiveness matrix approach in Table 4 with the category of sectors that have competitive advantages and sectoral specialization.

Table 4
Specialisation-Competitiveness Matrix Shift Share Analysis

Sector	Years							
	1990	1995	2000	2005	2010	2015	2020	2023
Agriculture	3	2	2	3	2	2	3	1
Mining and Quarrying	3	2	2	2	3	3	2	1
Processing Industry	4	4	1	4	4	4	1	4

Electricity and Gas Procurement	4	1	1	4	2	2	2	1
Water Procurement and Waste Management	4	1	1	4	2	2	4	1
Construction	1	2	2	3	3	3	2	4
Wholesale and Retail Trade; Car and motorcycle repair	4	4	2	4	1	4	1	1
Transportation and Warehousing	1	2	1	2	4	4	4	1
Food and Beverage Accommodation Providers	1	1	1	2	2	3	3	1
Information and Communication	3	2	2	2	3	3	3	4
Insurance and Financial Services	3	2	2	3	3	2	2	1
Real Estate	3	2	4	1	2	3	2	4
Corporate Services	4	2	2	2	3	3	2	1
Government, Defense and Social Security Administration	2	2	2	2	2	3	2	4
Educational Services	0	0	0	0	0	3	3	4
Health Services and Social Activities	4	1	2	3	3	3	2	4
Other Services	2	1	2	2	4	4	4	1

Code: (1) No competitive advantage and there is specialization; (2) No competitive advantage and no specialization; (3) There is competitive advantage and no specialization; and (4) There is competitive advantage and there is specialization

Source: processed data

The economy of West Java has superior and specialized potential economic sectors as shown in Table 4. The agricultural sector in the West Java economy does not have competitiveness with other regions, this is because the agricultural sector only has a value of excellence in the West Java region compared to other economic sectors in several periods. In 2023, West Java agricultural sector only has sector specializations to develop its sector to grow more in contributing to West Java GRDP. The same thing also happens to the mining and quarrying sector in West Java which is not a competitive sector in the economy and in 2023 will become a sector that only has a sector specialization that is in accordance with the analysis value of these two sectors with an LQ value below one.

The processing industry sector is the most competitive sector with superior sectors and specialization throughout the 1990-2023 period. This is in accordance with the LQ value of the processing industry sector which is the base sector of West Java. As according to Winardi et al. (2017) the manufacturing sector in industrial estates provides a multiplier effect in income and increased labor absorption and can increase the industrial sector. Then according to Solikin (2022) the West Java industrial sector is a landing sector in the economy so that it becomes a competitive sector and plays a role in the economy.

The electricity and gas procurement sector, the water procurement and waste management sector, and the construction sector are sectors that have fluctuations in competitiveness in West Java. At the beginning of the 1990 period, the sector had competitiveness with superior and specialized sectors, which meant that the sector could meet the needs of the province and could expand to other regions. However, in the 2023 period, these sectors have undergone a transformation into sectors that only have sectoral specializations in West Java. In contrast to the construction sector, which in the 1990 period was only specialized but in 2023 it will undergo a transformation into a competitive sector.

Large trade and retail sectors; Car and motorcycle repair in West Java has become a competitive sector since 1990 in West Java and has become a sector that has advantages and is specialized. However, in the 2023 period, the large trade and retail sectors only have different sector specializations with the LQ analysis value which remains the base sector in West Java. Large trade and retail sectors; Car and motorcycle repair is a base sector in West Java with a high contribution to the regional economy as in 2023 which contributes 14.43 percent to the total GDP of West Java. However, despite having a dominant role, this sector faces challenges in increasing competitiveness which is suspected to be due to dependence on the distribution of goods from outside the region, so that most of the products traded are not locally produced.

Other sectors in the West Java economy, especially in the tertiary sector, have fluctuations in the competitiveness of each sector from 1990 to 2023. The tertiary sectors that have advantages and specialties in the West Java economy in 2023 include the information and communication sectors, real

estate, government administration, defense and social security, education services and health services and social activities.

Discussion

In this section, the focus of the discussion is more in-depth on the agricultural sector. The purpose of the research is to find out the role of the agricultural sector in the West Java economy and to see if there is a change in the economic structure using the Location Quotient analysis approach and this discussion continues from the results of the Shift Share Analysis. Based on the results of the shift share analysis, it is known that the agricultural sector only has advantages in the West Java economy and does not have national competitiveness. Even from 2015 to 2020 the agricultural sector in West Java became a sector that did not have advantages and did not have competitiveness with other sectors in West Java. This means that West Java agricultural products are less able to compete in terms of productivity, quality, price, or efficiency compared to other regions or at the national level.

Factors that can cause the agricultural sector in West Java to be less competitive can possibly occur due to low technology adoption, limited capital, poor infrastructure, and limited market access, causing this sector to be less competitive. Until 2023, the agricultural sector in West Java currently only specializes in the West Java economic sector, so the agricultural sector only has an impact of Rp1382286537 on the economic growth of the West Java region based on the results of shift share analysis.

The low agricultural sector in West Java is also influenced by the productivity of the agricultural sector in West Java which is also still relatively low compared to industry. Although West Java is dubbed the national rice barn with the second largest agricultural sector output after East Java, the productivity of the West Java agricultural sector only reached 57.71 (ku/ha) or production reached 9,140,039.2 tons. This productivity value tends to be far when compared to other provinces such as Bali which has an agricultural sector productivity of 62.07 (ku/ha) with a production of only 673,580.65 tons in 2023. In addition, investment in the agricultural sector in West Java is only about 1 percent, which is far from the total value of realization in West Java, which makes access to capital still difficult in the development of the agricultural sector. and the use of agricultural technology has not been maximized.

In addition, economic growth in West Java is driven more by the secondary and tertiary sectors, such as the processing, trade, services, and transportation industries. This change in economic structure makes the agricultural sector lose its competitiveness compared to other more developed sectors. Another factor that also has an influence is the shift in the workforce. Many people who previously worked in the agricultural sector are now turning to the industrial and service sectors because they offer higher incomes. This further weakens the contribution of agriculture to the economy of West Java. In addition, agricultural patterns in West Java tend to be dominated by small-scale agriculture and horticulture, which have lower added value than the large plantation sector in other regions such as Sumatra or Kalimantan.

The agricultural sector is not a base sector and does not have competitiveness in West Java because its economic structure is more dominated by industry and services since 1990 until now. West Java has many industrial estates spread throughout the region such as Bekasi, Karawang, Purwakarta and Sukabumi. The development of the area has an impact on the improvement of the industrial sector in West Java which is superior with higher sector growth. The rapid growth of the industrial sector is also supported by fairly high sector investment in the industrial sector which reaches 51.5 percent of the total investment realization in West Java in 2023.

In addition, the improvement of the industrial sector tends to further improve the service sector, where the existence of strong industry or manufacturing in West Java creates a need for supporting services, such as transportation, logistics, finance, and professional services, so that the service sector develops rapidly. In addition, tourism and the creative economy also contribute greatly to the growth of the service sector, especially in Bandung and other tourist destinations such as Lembang, Pangandaran, and Puncak. As the results of the study Kambono (2020) that the industrial sector and the service sector have a relationship and have an impact on the regional economy.

Based on the results of the discussion, the economy of West Java has undergone a structural transformation from the agricultural sector to industry and services. The agricultural sector is nicknamed the primary sector because it is the main sector that supports the regional economy, with the majority of the population dependent on this sector for their livelihood. However, along with the development of industrialization that began to develop rapidly, especially with the presence of industrial

estates in Bekasi, Karawang, Purwakarta, and Sukabumi in West Java, it became a momentum to attract a lot of investment in the industrial sector and switch from the agricultural sector. Massive infrastructure development, such as toll roads, ports, and airports, has further encouraged the growth of the manufacturing industry, which is now the backbone of West Java economy. Rapid urbanization is also shifting the economic pattern of the community, where many residents who previously worked in the agricultural sector are shifting to industrial sectors that offer higher incomes and wider employment opportunities.

In addition to industry, the service sector is also growing rapidly along with the growth of big cities such as Bandung, Bogor, and Depok. This sector includes trade, finance, technology, tourism, and the creative economy which increasingly contribute greatly to West Java Gross Regional Domestic Product (GRDP). The city of Bandung, for example, has become a hub for creative and technological industries, while tourist areas such as Lembang and Pangandaran are driving the growth of the tourism and hospitality sectors. Although the agricultural sector still has a role in the economy, its contribution continues to decline and is more focused on modern agriculture and technology-based agribusiness. With this change, West Java is now one of the largest economic center in Indonesia supported by the increasingly dominant and growing industrial and service sectors.

CONCLUSION

The role of the agricultural sector and changes in the economic structure of West Java in the purpose of the analysis of this research discussion provide the results that the agricultural sector is a non-base sector in West Java from 1990-2023, which means that the agricultural sector is not the main driving factor in the West Java economy even though in the early 1990s the agricultural sector almost reached a level of base stability. The sectors that are the basis of West Java's economy are the processing industry sector, electricity and gas procurement, water procurement and waste management, construction, wholesale and retail trade; car and motorcycle repairs, food and beverage accommodation providers, transportation and warehousing, real estate, health services and social activities, educational services and other services. Then, the agricultural sector in West Java is also not a competitive sector but only has advantages from other sectors which means that it has a contribution to the economy of West Java but is not competitive at the national level. Sectors that have competitiveness in West Java are the processing industry, construction, real estate, and several service sectors. West Java has also undergone changes in the economic structure with the current economic structure of West Java supported by the processing industry sector and several service sectors. To increase the contribution and competitiveness of the agricultural sector in West Java, it is necessary to make various strategic efforts such as the adoption of modern agricultural technology, diversification of agricultural products with value-added commodities, and strengthening farmer institutions through cooperatives and partnerships with the processing industry. In addition, the development of agricultural infrastructure, such as irrigation, market access, and storage facilities, must also be improved to make the distribution of agricultural products more efficient. Downstreaming agriculture through processing agricultural products into products with high economic value can increase farmers' income and create more jobs. In addition, synergy between the agricultural sector and the processing industry must also be strengthened so that agricultural products can be further processed, increase added value, and expand the market. With these measures, the agricultural sector in West Java is expected to contribute more to the regional economy and have stronger competitiveness at the national level.

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