

# Analysis of Leading Sectors and Economic Structural Shifts in MEBIDANGRO (Medan, Binjai, Deli Serdang, Karo)

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## Abstract

*This study aims to identify the leading sectors and analyze the shifts in economic structure in the MEBIDANGRO region (Medan, Binjai, Deli Serdang, and Karo). The research employs Sectoral Typology and Sectoral Contribution methods. The data used are secondary data published by the Central Statistics Agency (BPS) of North Sumatra Province, as well as BPS of Medan City, Binjai City, Deli Serdang Regency, and Karo Regency. The data include Gross Regional Domestic Product (GRDP) of North Sumatra, Medan City, Binjai City, Deli Serdang Regency, and Karo Regency from 2015 to 2024 at constant 2010 prices. The results show that the composition of leading sectors varies across regions: (1) Medan City is dominated by water supply, waste management and recycling, health services and social activities, and other services; (2) Binjai City is dominated by wholesale and retail trade, vehicle repair, transportation and warehousing, and real estate; (3) Deli Serdang Regency shows dominance in accommodation and food services, transportation and warehousing, and manufacturing industries; (4) Karo Regency reflects a combination of primary and service sectors, dominated by mining and quarrying, health services, education services, and public administration. Overall, there is a tendency of economic structural transformation in the MEBIDANGRO region from primary to secondary and tertiary sectors. However, this shift is not evenly distributed, as Karo Regency still heavily depends on the primary sector..*

**Keywords:** *Leading Sectors, Economic Structural Shift.*

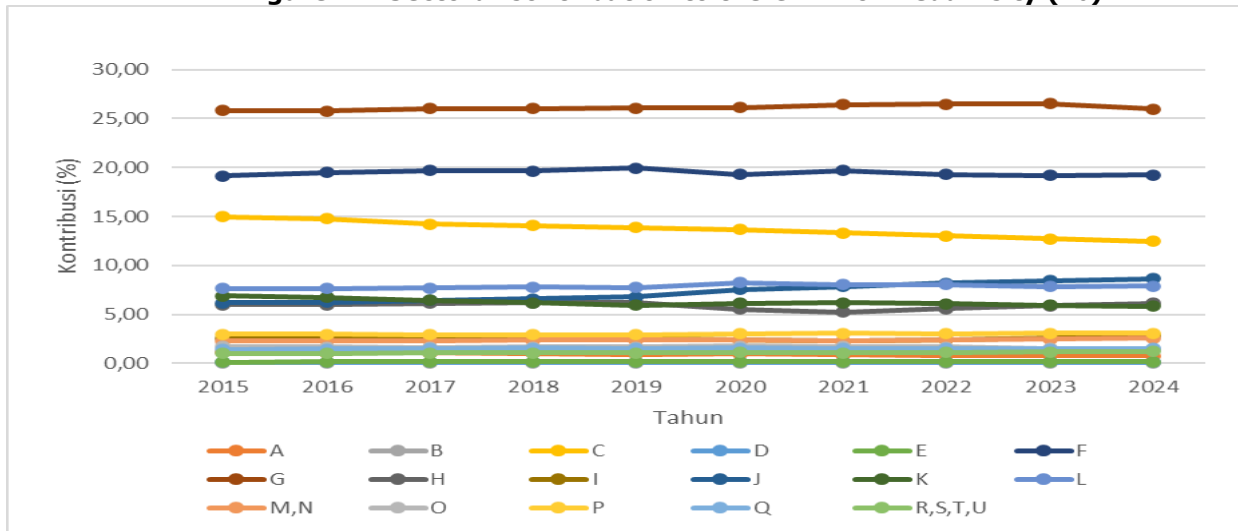
## A. INTRODUCTION

Economic development is generally defined as a process that leads to an increase in real per capita income of a country's population in the long run, accompanied by improvements in institutional systems (Arsyad, 2004; Tuandali et al., 2017). Regional economic development plays a crucial role in supporting sustainable national development. Regional development or the expansion of new urban areas can be carried out through the establishment of National Strategic Areas (KSN) as a reference for national economic development (Wahyudi et al., 2022). One region with a strategic position in regional development is the MEBIDANGRO area, which consists of Medan, Binjai, Deli Serdang, and Karo (Taufiq & Kombaitan, 2019). This area has been designated as a National Strategic Area based on Presidential Regulation of the Republic of Indonesia No. 62 of 2011 concerning the Spatial Plan of the MEBIDANGRO Urban Area (Muslinawati et al., 2025). The MEBIDANGRO region serves as a center for economic, trade, and service activities, acting as a major driver of regional economic growth.

One key indicator used to assess the outcomes of economic development and to determine future development directions is economic growth. Economic growth refers to a long-term increase in a country's production capacity, reflected in rising national income (Shahifah & Chandriyanti, 2021). To

measure economic growth or development in nominal terms, Gross Regional Domestic Product (GRDP) can be used (Simamora & Purba, 2019). GRDP also serves as an indicator of sectoral economic growth, enabling the identification of sectors contributing to economic changes (Negara & Putri, 2020).

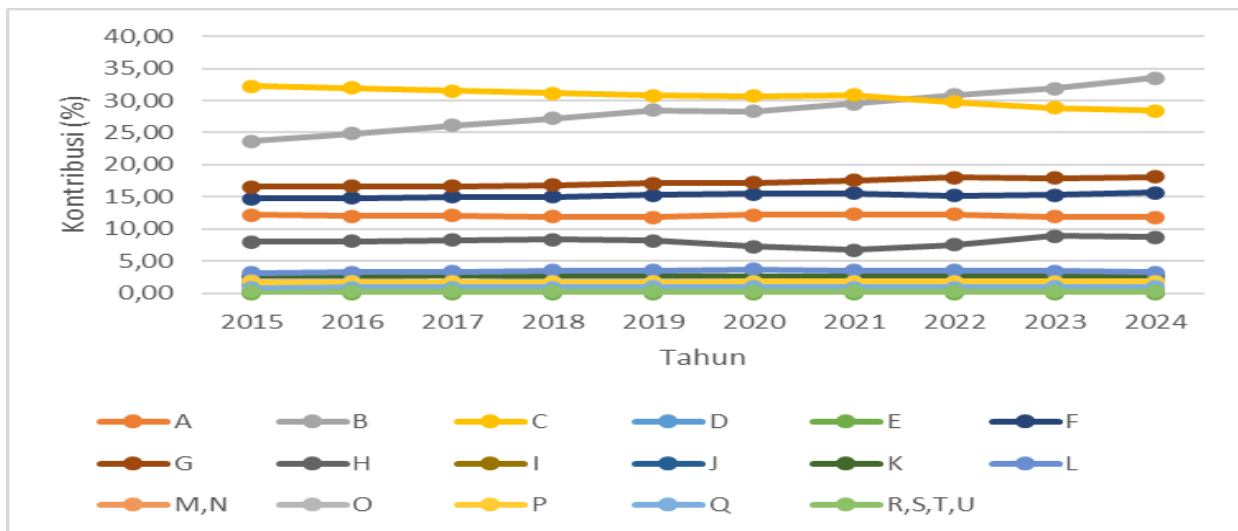
**Figure 1.1 Sectoral Contribution to the GRDP of Medan City (%)**



Source: (BPS Medan City, 2025)

Based on Figure 1.1, three sectors contribute the most to the GRDP of Medan City: (1) wholesale and retail trade, including vehicle repair, as the largest contributor with an average of 26.11%, increasing from 25.81% in 2015 to 26.51% in 2023 before declining to 25.98% in 2024; (2) the construction sector as the second-largest contributor with an average of 19.46%, showing slight fluctuations; and (3) the manufacturing sector as the third-largest contributor with an average of 13.70%, experiencing a consistent decline from 14.95% in 2015 to 12.48% in 2024, indicating a weakening trend.

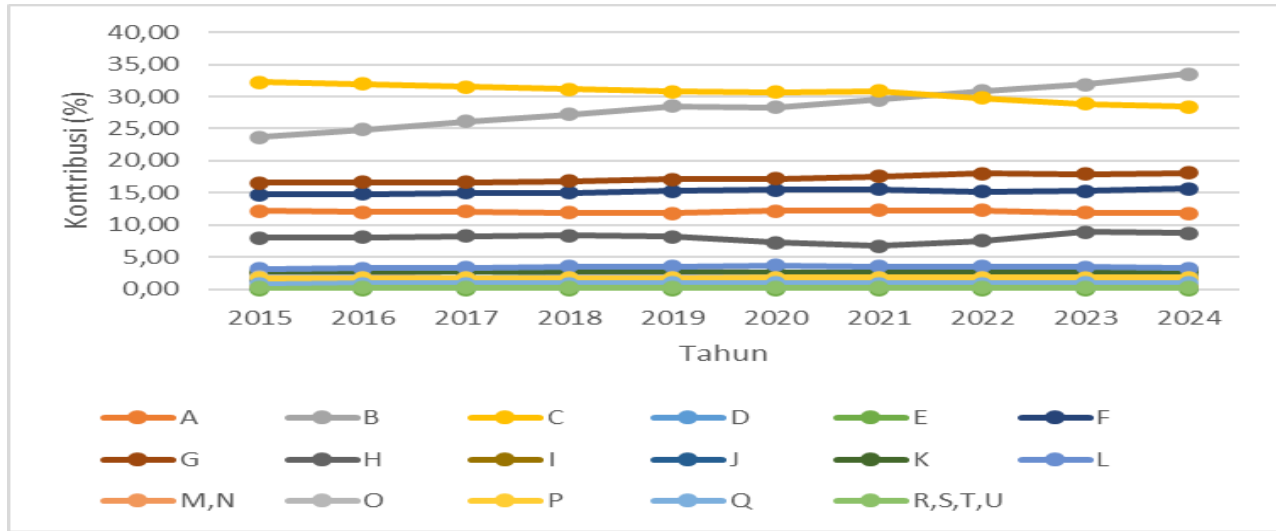
**Figure 1.2 Sectoral Contribution to the GRDP of Binjai City (%)**



Source: (BPS Medan City, 2025)

Based on Figure 1.2, three sectors dominate the GRDP of Binjai City: (1) wholesale and retail trade and vehicle repair, contributing an average of 30.62% and increasing significantly from 28.52% in 2015 to 31.71% in 2024; (2) construction as the second-largest contributor with an average of 11.53%, showing moderate fluctuations; and (3) manufacturing as the third-largest contributor with an average of 10.76%, experiencing a gradual decline from 11.36% in 2015 to 10.24% in 2024.

**Figure 1.3 Sectoral Contribution to the GRDP of Deli Serdang (%)**

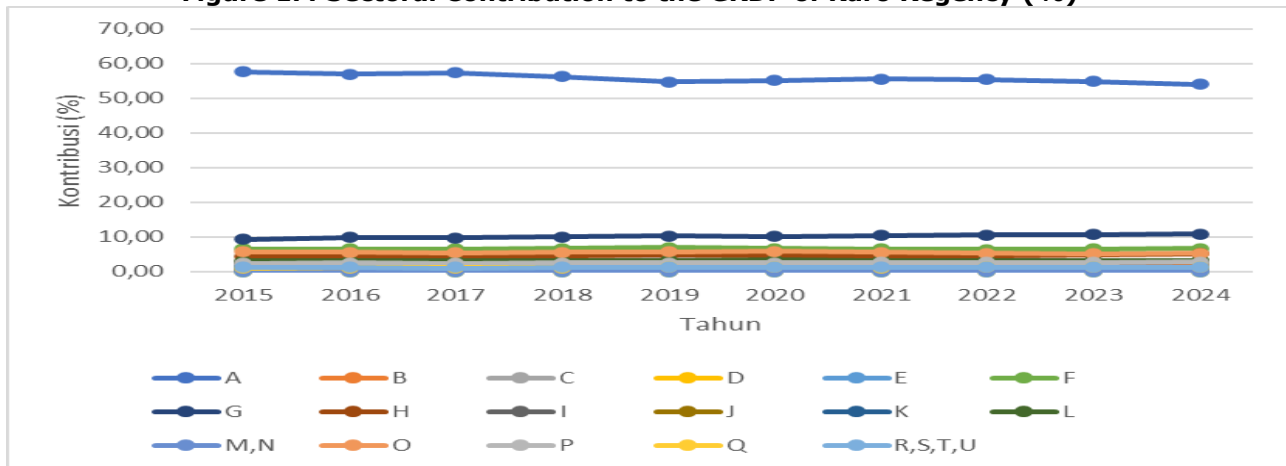


Source: (BPS Medan City, 2025)

Based on Figure 1.3, it can be observed that four sectors contribute the most to the GRDP of Deli Serdang Regency: (1) the manufacturing sector as the largest contributor with an average of 30.62%. This sector experienced a consistent decline over ten years, from 32.22% in 2015 to 28.42% in 2024, indicating a weakening trend in the manufacturing sector. (2) The wholesale and retail trade sector, including motor vehicle repair, ranks as the second-largest contributor with an average of 17.27%. This sector showed an increase from 16.54% in 2015 to 18.05% in 2022, then slightly decreased to 17.96% in 2023, before rising again to 18.10% in 2024. (3) The construction sector is the third-largest contributor with an average of 15.22%, showing an increase from 14.74% in 2015 to 15.55% in 2021, followed by a slight decrease to 15.24% in 2022 and an increase again to 15.64% in 2024. (4) The agriculture, forestry, and fisheries sector ranks fourth with an average contribution of 12.06%, experiencing mild fluctuations over time.

Based on Figure 1.4, two sectors dominate the GRDP of Karo Regency: (1) the agriculture, forestry, and fisheries sector as the largest contributor with an average of 55.48%. This sector declined from 57.70% in 2015 to 54.02% in 2024, indicating a weakening dominance of the primary sector. Nevertheless, it remains the most dominant sector despite the downward trend. (2) The wholesale and retail trade sector, including motor vehicle repair, is the second-largest contributor with an average of 10.25%, increasing significantly from 9.37% in 2015 to 10.90% in 2024, making it one of the fastest-growing sectors.

**Figure 1.4 Sectoral Contribution to the GRDP of Karo Regency (%)**



Source: (BPS Medan City, 2025)

The dominant sectors in each regency/city vary according to regional characteristics and economic structures (Pragmadeanti & Rahmawati, 2022). In the long run, a region's economy will undergo structural transformation, shifting from an initial reliance on the agricultural sector toward the industrial sector. This is further supported by Todaro's (2003:133) structural change theory, which states that an economy transitions from an agriculture-based structure to a more modern structure characterized by strong manufacturing and service sectors (Pratiwi, 2019).

The phenomenon of economic development in the MEBIDANGRO region indicates changes in the annual contribution of each sector to GRDP, reflecting a shift in economic structure. Based on sectoral GRDP data, sectors such as wholesale and retail trade, motor vehicle repair, information and communication, and other services tend to show increasing contributions. In contrast, primary and secondary sectors—particularly agriculture, forestry, and manufacturing—exhibit a declining trend over the long term. This condition reflects a transformation from a production-based economy toward a service-based economy. However, this shift has not been fully accompanied by the strengthening of sectors with high added value and sustainable competitiveness. Moreover, a sector's large contribution to GRDP does not necessarily indicate that it is a leading sector capable of optimally driving regional economic growth.

## **B. LITERATURE REVIEW**

### **Economic Development Theory**

Economic development is a process of increasing the economic capacity of a region to achieve sustainable growth and improve societal welfare. It is not only oriented toward income growth but also toward structural changes that reflect regional progress. In the regional context, economic development focuses on strengthening potential sectors with comparative and competitive advantages, enabling them to become the main drivers of economic growth.

In general, economic development is defined as a series of efforts within an economy to expand economic activities, resulting in increased infrastructure availability, a growing number of enterprises, higher levels of education, and technological advancement (Sukirno, 2010). Regional economic development has been widely discussed by scholars. It is defined as a process of collaboration between local governments and communities in managing regional potential to create new job opportunities and stimulate economic growth. The objectives of regional economic development include job creation, regional economic improvement, and the development of base sectors within the local economy (Sista et al., 2023).

### **Regional Economic Growth Theory**

Regional economic growth refers to the overall increase in community income within a region, reflected in the growth of total value added (Tarigan, 2007). Regional economic growth is measured by the growth of Gross Regional Domestic Product (GRDP) at constant prices. The growth rate of GRDP indicates the long-term increase in per capita output (Gulo & Purba, 2024).

Regional economic growth theory is an essential part of regional economic analysis, as economic growth is a key determinant of regional development and has broad policy implications. The main objective of this theory is to explain why some regions grow rapidly while others grow slowly, as well as the key factors influencing these differences. It also explains the relationship between national economic development and regional disparities (Sjafrizal, 2018).

### **Gross Regional Domestic Product (GRDP) Theory**

Gross Regional Domestic Product (GRDP) is a macroeconomic indicator that provides an overview of a region's economic condition (Prishardoyo, 2008). GRDP is defined as the total value added generated by all production units within a specific period, or the total value of final goods and services produced in a region during a given period. GRDP serves as an indicator of sectoral economic growth, allowing the identification of sectors contributing to economic changes (Negara & Putri, 2020).

In this study, GRDP at constant prices is used to avoid bias in the analysis. GRDP at constant prices is calculated using a base year, thereby eliminating the effects of price changes over time (Purba, 2021).

### **Leading Sector Theory**

A leading sector is a sector that can be further developed to enhance regional economic growth. It emerges from the development of production based on regional potential and is not only capable of meeting local demand but also external demand (Erawati & Yasa, 2011). Leading sectors act as the backbone and driving force of the economy and are often referred to as key or leading sectors of a region. Thus, they reflect the structure of an economy and can be seen as a defining characteristic of a regional economy (Deptan, 2005; Hajeri et al., 2015).

According to Rachbini (2001), a sector can be considered a priority sector if it meets four criteria: (1) it produces goods with strong demand, leading to rapid growth; (2) it adopts technological changes that shift production functions and expand capacity; (3) it encourages reinvestment from both private and public sectors; and (4) it has the ability to influence the development of other sectors (Tuandali et al., 2017).

**Economic Structural Shift Theory**

Economic structure refers to the role or contribution of various sectors to a country’s Gross Domestic Product (GDP) (Hasanah et al., 2021). The structural approach is supported by W. Arthur Lewis, known for the “two-sector surplus labor” model, and Hollis B. Chenery, recognized for his empirical analysis of “patterns of development.” A regional economy may undergo structural transformation from an agriculture-based economy to an industrial-based economy. From a labor perspective, this shift leads to the movement of labor from rural agricultural sectors to urban industrial sectors, resulting in a declining contribution of agriculture. Factors influencing this structural change include natural resources, human resources, infrastructure, and capital and investment inflows (Negara & Putri, 2020).

Economic sectors are generally classified into three categories: primary, secondary, and tertiary (Imbran, 2022). According to the Badan Pusat Statistik (2020), the primary sector includes agriculture, forestry, fisheries, and mining; the secondary sector consists of manufacturing, electricity and gas supply, water supply, waste management, and construction; while the tertiary sector covers wholesale and retail trade, transportation and warehousing, accommodation and food services, information and communication, financial and insurance services, real estate, business services, public administration, education, health services, and other services.

**C. METHODOLOGY OF RESEARCH**

**Types and Sources of Data**

The data used in this study are secondary data published by the Central Statistics Agency (BPS) of North Sumatra Province, as well as BPS of Medan City, Binjai City, Deli Serdang Regency, and Karo Regency. The secondary data consist of Gross Regional Domestic Product (GRDP) data for North Sumatra, Medan City, Binjai City, Deli Serdang Regency, and Karo Regency from 2015 to 2024 at constant 2010 prices.

**Data Analysis Method**

**Sectoral Typology**

To determine the typology of various economic sectors in a regency, city, or province based on sectoral GRDP data, the following formulation can be used:

Sectoral GRDP Growth Rate (Rgi)	Sectoral Contribution (Ei)	
	(Eis > Eir)	(Eis < Eir)
(Rgis > Rgir)	Leading Sector	Developing Sector
(Rgis < Rgir)	Potential Sector	Lagging Sector

Source: (Purba, 2021)

To calculate the contribution of each economic sector to GRDP annually, the following formulation is used (Purba & Hutabarat, 2020):

$$Eis = \frac{PDRBis}{PDRB} \times 100\%$$

**D. RESULT AND DISCUSSION**

**Sectoral Typology Analysis**

Based on the results of the sectoral typology analysis for the 2015–2024 period, as shown in the figure below, the economic structure of the region exhibits relatively fluctuating dynamics in both the number and types of sectors classified as leading each year. The shifts in sectoral categories—from leading, potential, and developing to lagging—reflect changes in both the contribution and growth rates of each sector within the regional economy.

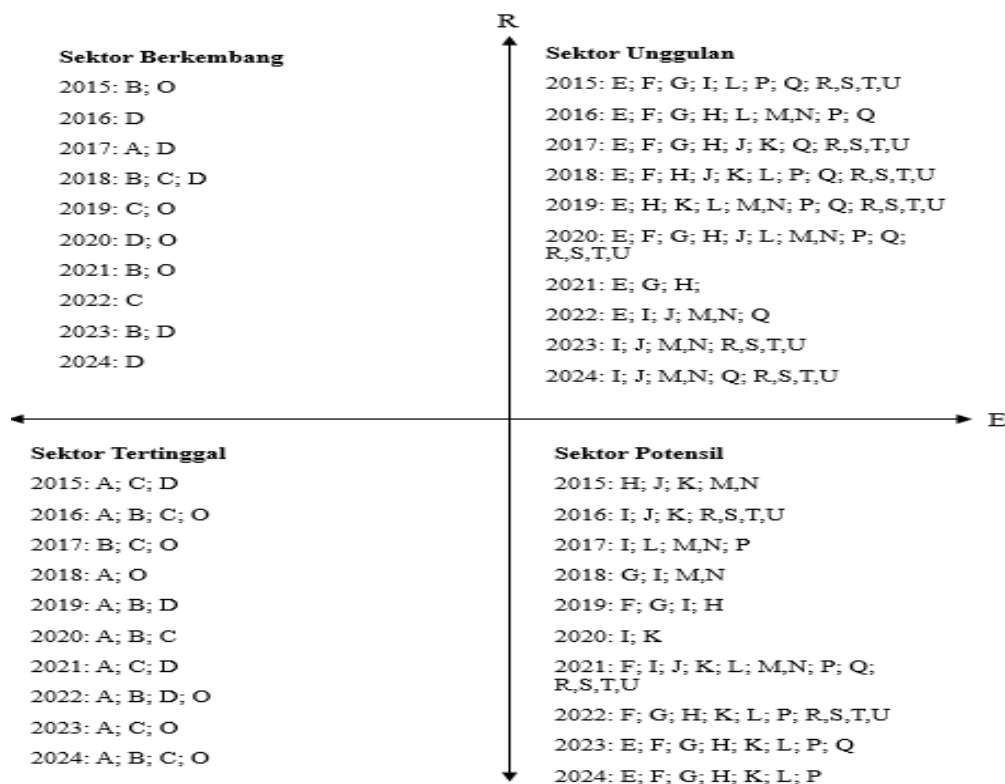
**Table 4.1 Economic Sectors (Business Fields)**

A. Agriculture, Forestry, and Fisheries
B. Mining and Quarrying
C. Manufacturing
D. Electricity and Gas Supply
E. Water Supply, Waste Management, and Recycling
F. Construction

G. Wholesale and Retail Trade; Repair of Motor Vehicles and Motorcycles
H. Transportation and Warehousing
I. Accommodation and Food Service Activities
J. Information and Communication
K. Financial and Insurance Activities
L. Real Estate
M, N. Business Activities
O. Public Administration, Defense, and Compulsory Social Security
P. Education Services
Q. Human Health and Social Work Activities
R, S, T, U. Other Services

Based on Figure 4.1, no sector consistently remained a leading sector in Medan City during the 2015–2024 period. The information and communication sector (J) was the most stable as a leading sector from 2017 to 2024, followed by the water supply and waste management sector (E), which was leading from 2015 to 2022 but declined thereafter. Several sectors such as business services (M, N), real estate (L), and health services (Q) were also relatively stable, although not consistently leading every year. Meanwhile, the construction sector (F) and trade sector (G) shifted from leading to potential categories, and other services (R, S, T, U) tended to fluctuate.

**Figure 4.1 Sectoral Typology of Medan City**

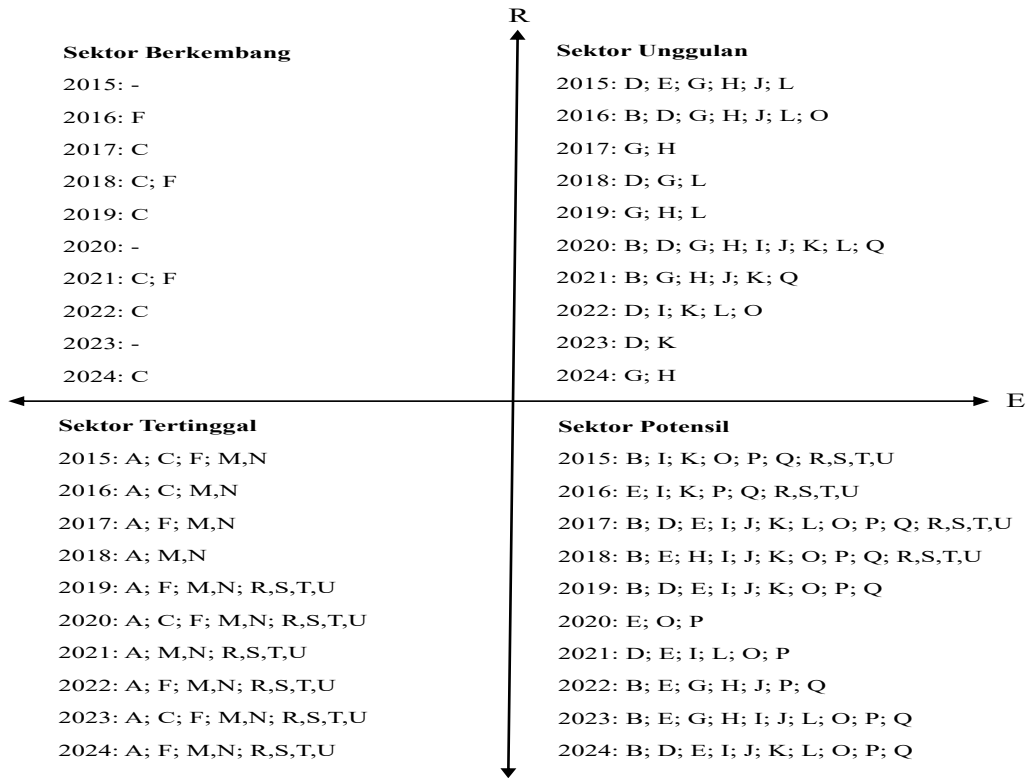


In the potential sector category, no sector consistently appears; however, transportation and warehousing (H) frequently emerge, followed by real estate (L) and financial services (K), which show dynamic shifts in position. The education sector (P) also shifted from a leading to a potential category in the later period. The developing sector is dominated by electricity and gas supply (D), along with several other sectors such as manufacturing (C) and mining (B), although with lower frequency.

The lagging sector is dominated by primary sectors, particularly agriculture (A), which consistently remains the most lagging throughout the period, followed by mining (B), manufacturing (C), and public administration (O). This indicates a structural shift in Medan City's economy toward the tertiary sector. The prominence of the water supply and waste management sector is influenced by

increasing demand due to urbanization, its strategic role in sustainable development, and support from policies and environmental management innovations. These findings are consistent with the study by Zendatro et al., which highlights that clean water is a vital necessity and must be sustainably managed to meet the needs of both society and industry.

**Figure 4.2 Sectoral Typology of Binjai City**



Based on Figure 4.2, no sector consistently remained a leading sector in Binjai City during the 2015–2024 period. The wholesale and retail trade sector (G) was relatively dominant from 2015 to 2021 but declined thereafter, while the transportation and warehousing sector (H) and real estate sector (L) frequently appeared as leading sectors, although not consistently stable.

In the potential sector category, several sectors show relative consistency, such as education services (P) throughout the period, as well as water supply and waste management (E) from 2016 to 2024. In addition, the accommodation and food service sector (I) and health services (Q) also appear frequently, indicating their potential to develop into leading sectors in the future.

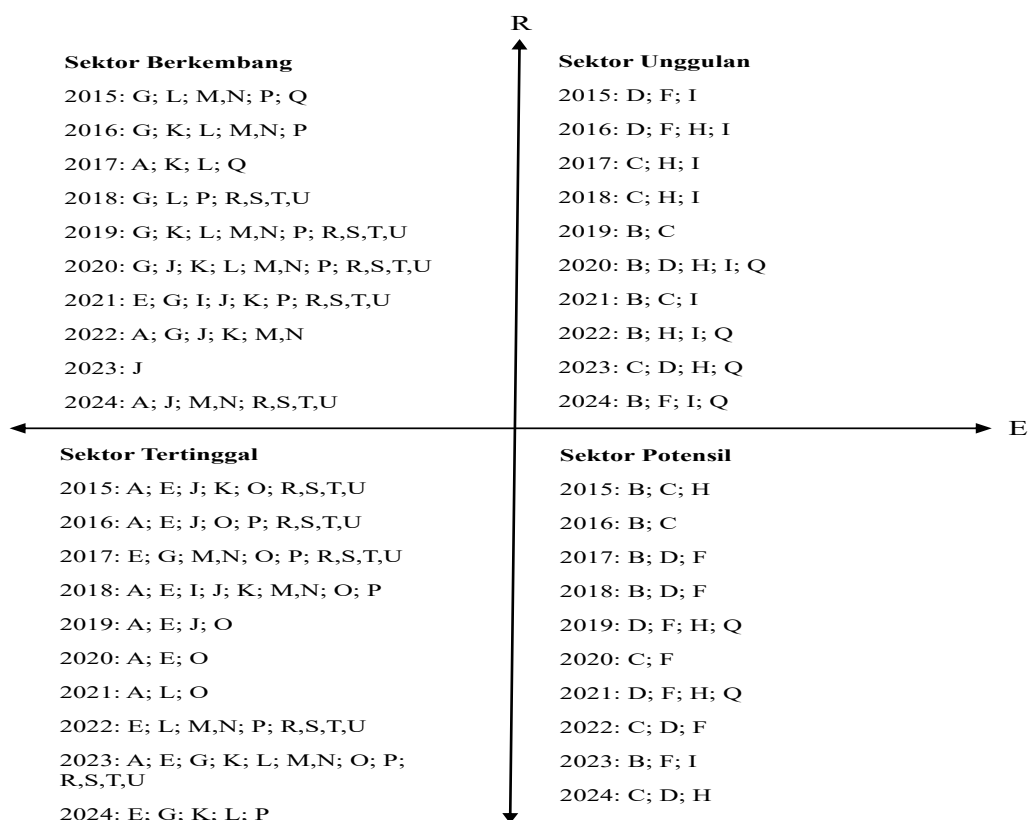
The developing sector is dominated by manufacturing (C) and construction (F), which consistently appear, indicating steady growth despite their relatively lower contribution. Meanwhile, the lagging sector is consistently occupied by agriculture (A) and business services (M, N), reflecting structural constraints in enhancing their role in the regional economy.

Based on Figure 4.3, no sector consistently remained a leading sector in Deli Serdang Regency during the 2015–2024 period. The composition of leading sectors continues to change; however, the accommodation and food service sector (I) is relatively the most consistent, followed by mining and quarrying (B) and manufacturing (C), particularly after 2019.

In the potential sector category, there is a shift from sectors B and C in the early period toward electricity and gas supply (D) and construction (F), which become relatively consistent until 2024. This indicates that these sectors exhibit strong growth but have not yet developed a strong competitive advantage.

The developing sector is dominated by trade (G), financial services (K), real estate (L), business services (M, N), and education services (P), which appear relatively consistent despite overall fluctuations. These sectors demonstrate growth potential but still require improvements in competitiveness.

Figure 4.3 Sectoral Typology of Deli Serdang Regency



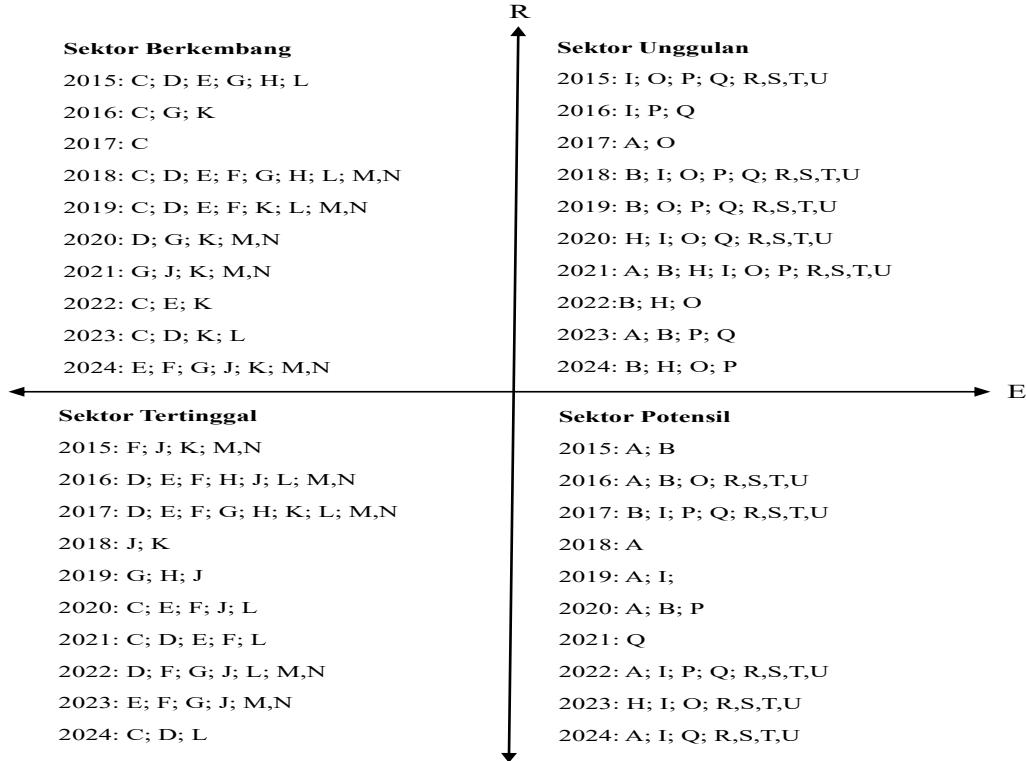
Meanwhile, the lagging sector exhibits a relatively fluctuating pattern over time; however, the water supply and waste management sector (E) remains the most consistently categorized as lagging throughout the observation period. This is followed by the agriculture sector (A) and public administration (O), which also frequently fall into the lagging category. This condition reflects the relatively low contribution and slower growth rates of these sectors compared to others, indicating structural limitations in their development. Therefore, these sectors require more focused policy interventions, including investment support, infrastructure development, and institutional strengthening, in order to enhance their productivity and contribution to regional economic growth.

Based on Figure 4.4, there is no single sector that consistently remains a leading sector in Karo Regency during the 2015–2024 period. Nevertheless, the public administration sector (O) and education services (P) are the most frequently identified as leading sectors, demonstrating relatively strong and stable performance over time. In addition, the accommodation and food service sector (I) and health services (Q) also show a relatively stable presence among leading sectors. This indicates that these sectors possess stronger competitiveness and play a significant role in supporting the regional economy, particularly in terms of service-based economic activities.

In the potential sector category, there is considerable dynamism and variation throughout the study period. However, the agriculture sector (A) and the accommodation and food service sector (I) appear most frequently, indicating their strategic importance and future growth opportunities. These are accompanied by health services (Q) and other services (R, S, T, U), which also demonstrate notable potential. With appropriate policy support, investment, and innovation, these sectors have the capacity to transition into leading sectors and further strengthen the regional economic structure.

The developing sector is primarily dominated by manufacturing (C), financial services (K), and business services (M, N), which appear relatively consistently across the years, although they still exhibit some fluctuations. This pattern suggests that these sectors are experiencing positive growth and gradual development. However, their contribution and competitiveness have not yet reached the level required to be classified as leading sectors. Therefore, further efforts are needed to enhance their efficiency, technological adoption, and market expansion in order to strengthen their comparative and competitive advantages within the regional economy.

**Figure 4.4 Sectoral Typology of Karo Regency**



Meanwhile, the lagging sector tends to fluctuate, with the construction sector (F), information and communication (J), and business services (M, N) appearing most frequently in this category. This condition reflects the relatively low contribution and growth of these sectors, indicating structural challenges that require greater attention in regional economic development policies, particularly in improving productivity, investment, and sectoral competitiveness.

**Leading Sectors in the MEBIDANGRO Region**

Based on Table 4.2, the leading sectors in the MEBIDANGRO region (Medan, Binjai, Deli Serdang, and Karo) during the 2015–2024 period show that each area demonstrates different dynamics of leading sectors over time. These changes reflect the evolving regional economic structure, influenced by sectoral growth rates and their contributions to GRDP in each region.

Overall, during the 2015–2024 period, the economic structure of the MEBIDANGRO region reveals clear disparities in the level of development among regions. Medan City has the highest number of leading sectors (68 sectors), indicating the most advanced and diversified economy, dominated by water supply and waste management, health and social services, and other service sectors as the main drivers of regional growth. Binjai City (45 sectors) occupies a middle position, with a tendency toward dominance in wholesale and retail trade, motor vehicle repair, transportation and warehousing, and real estate, although these sectors exhibit fluctuations. Deli Serdang Regency (35 sectors) has the fewest leading sectors, reflecting an economy more concentrated in accommodation and food services, transportation and warehousing, and manufacturing, functioning as a hinterland supporting Medan. Meanwhile, Karo Regency (44 sectors) shows a combination of primary and service sectors, dominated by mining and quarrying, health and social services, education services, and public administration, defense, and compulsory social security, indicating an ongoing process of economic transformation.

Overall, these findings highlight both disparities and interdependencies among regions, with Medan acting as the economic core and the surrounding regions serving as supporting areas with their respective sectoral specializations. A study by Muslinawati et al. explains that each city/regency within the National Strategic Area (KSN) of MEBIDANGRO has varying leading sectors depending on its local economic characteristics. Several sectors identified as leading include motor vehicle repair, transportation and warehousing, information and communication, financial and insurance services, real estate, business services, education, health and social services, and other services. This diversity of

leading sectors reflects the significant potential of each region to drive regional economic growth through the strategic and sustainable utilization of local advantages.

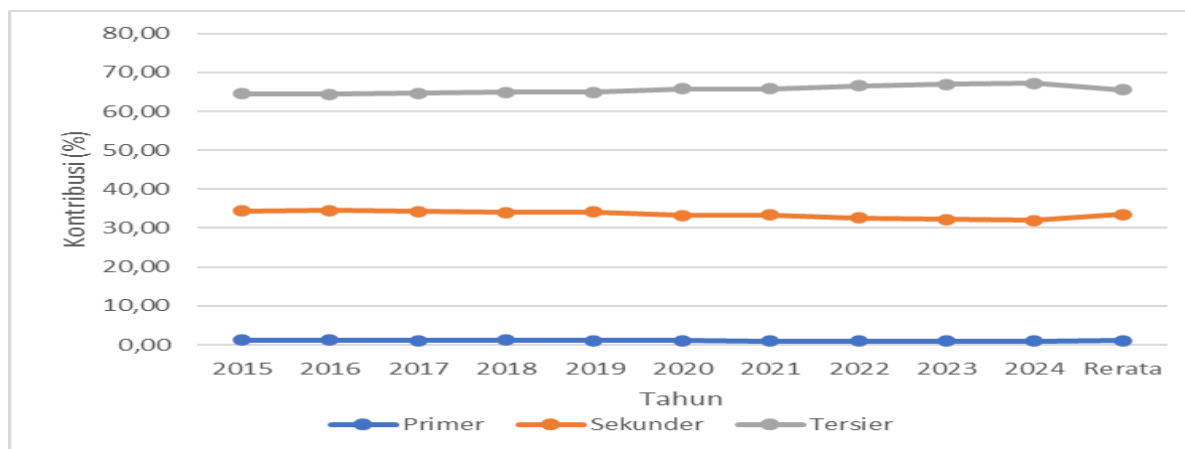
**Table 4.2 Leading Sectors in MEBIDANGRO**

Tahun	Medan	Binjai	Deli Serdang	Karo
2015	E; F; G; I; L; P; Q; R,S,T,U	D; E; G; H; J; L	D; F; I	I; O; P; Q; R,S,T,U
2016	E; F; G; H; L; M,N; P; Q	B; D; G; H; J; L; O	D; F; H; I	I; P; Q
2017	E; F; G; H; J; K; Q; R,S,T,U	G; H	C; H; I	A; O
2018	E; F; H; J; K; L; P; Q; R,S,T,U	D; G; L	C; H; I	B; I; O; P; Q; R,S,T,U
2019	E; H; K; L; M,N; P; Q; R,S,T,U	G; H; L	B; C	B; O; P; Q; R,S,T,U
2020	E; F; G; H; J; L; M,N; P; Q; R,S,T,U	B; D; G; H; I; J; K; L; Q	B; D; H; I; Q	H; I; O; Q; R,S,T,U
2021	E; G; H	B; G; H; J; K; Q	B; C; I	A; B; H; I; O; P; R,S,T,U
2022	E; I; J; M,N; Q	D; I; K; L; O	B; H; I; Q	B; H; O
2023	I; J; M,N; R,S,T,U	D; K	C; D; H; Q	A; B; P; Q
2024	I; J; M,N; Q; R,S,T,U	G; H	B; F; I; Q	B; H; O; P

**Economic Structural Shifts in MEBIDANGRO**

Economic structural shifts can be identified through changes in the contribution of each sector to GRDP over time. In addition to sectoral contributions to GRDP, structural changes can also be observed through employment contributions; however, due to the unavailability of employment data by sector, this study relies solely on sectoral contributions to GRDP. Based on Figure 4.5, the economic structure of Medan City is dominated by the tertiary sector, with an average contribution of 65.59%, followed by the secondary sector at 33.45%, and a very small contribution from the primary sector at 1.04%. The dominance of the tertiary sector indicates the expansion of service-based economic activities such as trade, transportation, and finance.

**Figure 4.2 Economic Structural Shifts Based on Sectoral Contributions in Medan City (%)**

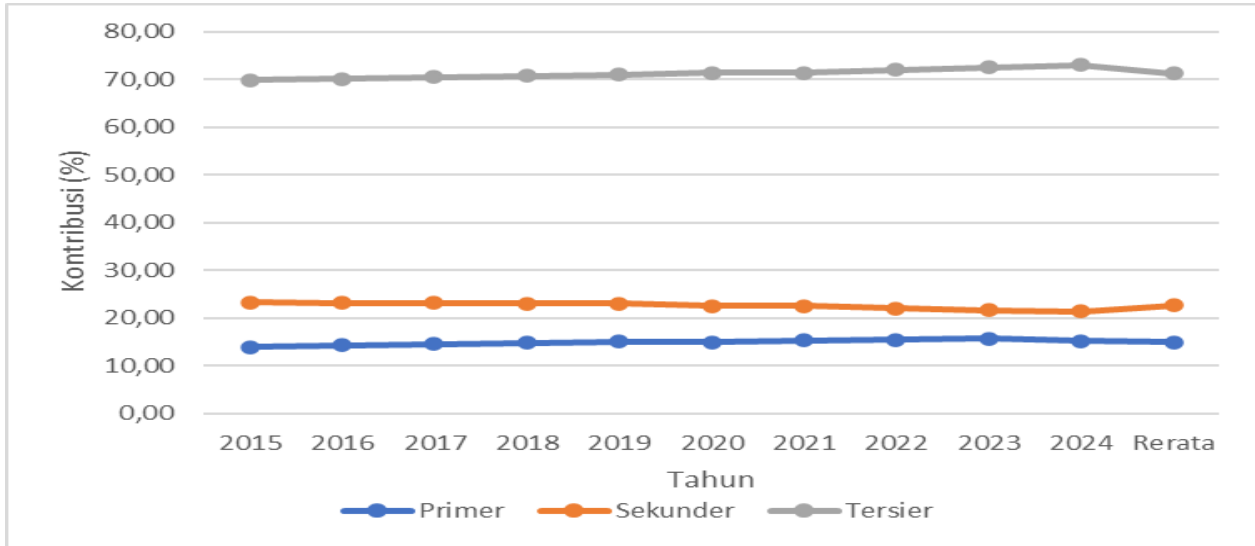


The secondary sector still plays an important role through industrial activities, construction, and energy provision, although its contribution tends to decline over time. Meanwhile, the primary sector has a very limited role due to the urban characteristics of Medan City, which is not dependent on natural resources. Overall, this condition reflects a structural shift in the economy from the primary sector toward the secondary and tertiary sectors, particularly toward service-based activities. This is consistent with the statement by Michael P. Todaro and Stephen C. Smith (2006), which explains that economic growth in a region leads to structural transformation, gradually shifting from the agricultural sector to non-agricultural sectors.

However, the declining contribution of the secondary sector indicates symptoms of deindustrialization, which may potentially affect economic growth, employment absorption, and poverty reduction. A study by Pradana also found that during the 2010–2018 period, the share of the industrial sector in the GRDP of Tangerang City continuously declined, indicating a process of deindustrialization.

This condition is associated with increasing economic openness, while the proportion of investment and the consumer price index (CPI) showed a declining trend.

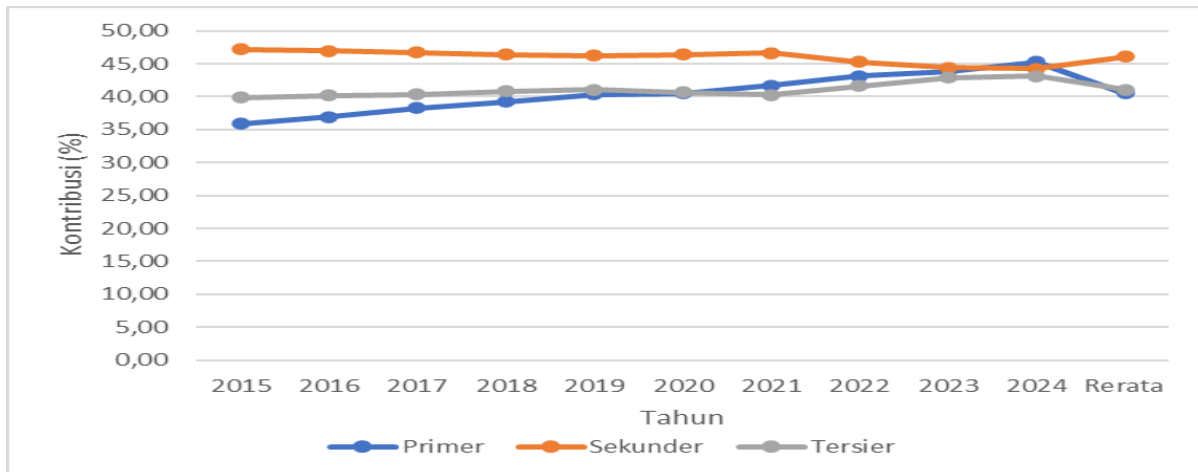
**Figure 4.3 Economic Structural Shifts Based on Sectoral Contributions in Binjai City (%)**



Based on Figure 4.3, the economic structure of Binjai City is dominated by the tertiary sector, with an average contribution of 71.21%, followed by the secondary sector at 22.58%, and the primary sector at 14.89%. The dominance of the tertiary sector indicates the expansion of service-based economic activities such as trade, transportation, and accommodation, while the secondary sector still plays a significant role through industrial activities and development. The primary sector continues to contribute, although it is not dominant.

Overall, this composition reflects a structural shift in the economy from the primary sector toward the secondary and tertiary sectors. A study by Maghfiroh et al. found a similar transformation in the Bregasmalang region, where the economic structure shifted from the primary sector to the secondary and tertiary sectors, with the tertiary sector contributing more than 45% to GRDP and the primary sector contributing less than 25%. Similar to Medan City, Binjai City also experienced a decline in the contribution of the secondary sector, driven by a decrease in the manufacturing sector's contribution, which indicates the occurrence of deindustrialization.

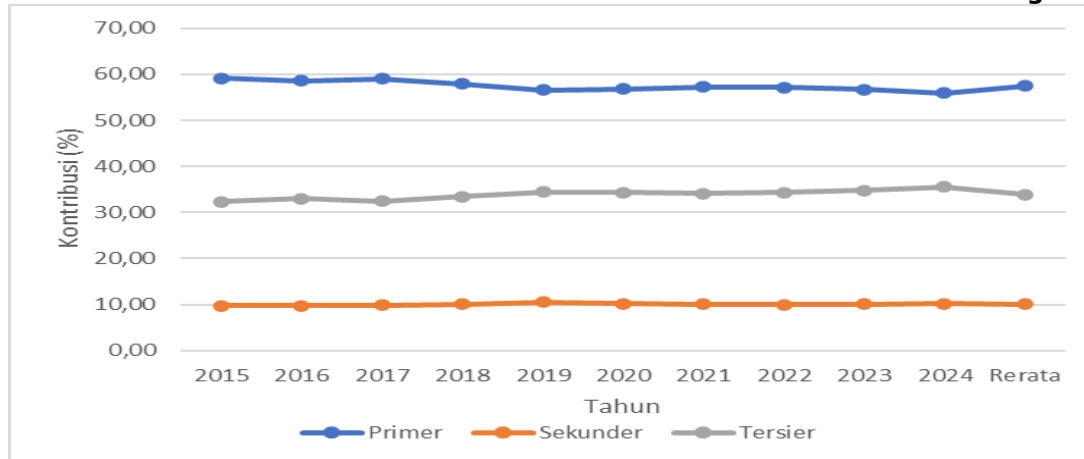
**Figure 4.4 Economic Structural Shifts Based on Sectoral Contributions in Deli Serdang Regency (%)**



In Deli Serdang Regency, the secondary sector contributes the largest share to GRDP (46.04%), followed by the tertiary sector (41.08%) and the primary sector (40.51%), which still maintains a relatively significant contribution. This indicates that industrial activities, construction, and energy provision play a crucial role, supported by the development of service sectors such as trade and transportation, as well as the continued strength of primary sectors based on natural resources.

Overall, the economic structure of Deli Serdang reflects a gradual shift from the primary sector toward the secondary and tertiary sectors; however, this transformation is not yet fully significant, as the primary sector still holds a substantial share. Thus, the region is in a transitional phase toward an economy increasingly dominated by industry and services. A study by Nauli et al. found similar evidence in Riau Province, where the primary sector remained dominant while the secondary sector showed notable growth, indicating a potential shift in economic dominance.

**Figure 4.5 Economic Structural Shifts Based on Sectoral Contributions in Karo Regency (%)**



The economic structure of Karo Regency is still dominated by the primary sector, with the highest contribution of 57.52%, indicating a strong dependence on agriculture, forestry, and fisheries. The tertiary sector plays a fairly important role (33.87%) through trade, transportation, and other services, while the secondary sector remains relatively small (10.05%), reflecting limited industrial activity. This condition indicates that the shift toward an industry- and service-based economy has not yet been significant. Therefore, Karo Regency remains a resource-based economy, similar to several other regions in Indonesia that still rely on the primary sector as the main driver of economic activity.

A study by Pongge et al. also supports this finding, stating that the agricultural sector in Ende Regency plays a crucial role in the regional economy due to abundant natural resources, including extensive agricultural land, rich forest resources, and significant marine products.

## **E. CONCLUSION**

Based on the results of the analysis of leading sectors and economic structural shifts in the MEBIDANGRO region (Medan, Binjai, Deli Serdang, and Karo) during the 2015–2024 period, several conclusions can be drawn. The composition of leading sectors shows distinct characteristics across regions. Medan City is dominated by sectors such as water supply, waste management and recycling, health and social services, and other services. Binjai City is characterized by leading sectors in wholesale and retail trade, motor vehicle repair, transportation and warehousing, and real estate.

Meanwhile, Deli Serdang Regency exhibits leading sectors concentrated in accommodation and food services, transportation and warehousing, and manufacturing, which play a significant role in driving regional economic growth. In contrast, Karo Regency demonstrates a combination of primary and service sectors, with dominance in agriculture, forestry, and fisheries, mining and quarrying, health and social services, education services, as well as public administration, defense, and compulsory social security. These variations reflect the diversity of economic structures and regional potentials within the MEBIDANGRO area.

Overall, there is a general tendency of economic structural transformation in the MEBIDANGRO region, shifting from the primary sector toward the secondary and tertiary sectors. However, this transformation has not occurred evenly across all regions, as Karo Regency still heavily depends on the primary sector. This indicates that the process of economic transformation is still ongoing and requires more balanced development strategies to achieve more inclusive regional growth.

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