

Analysis of Patterns of Economic Growth and Transformation of Economic Sectors In Medan City, the Province North Sumatera in 2012-2021

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Article History

Received : 2022-08-21

Accepted : 2023-03-08

Published : 2022-04-12

Keywords:

Economic pattern,
sector
transformations,
superior sector, shift
share analysis

Abstract: This study uses secondary data with the methods are *klassen* typology analysis to determine the pattern and structure of the Medan City economy for North Sumatra Province, *shift share* analysis to review changes and the potential and contribution of the economic sector in 2012-2021. The results of this study include the city of Medan in type I, namely a prosperous area or a rapidly growing and advanced area where the rate of economic growth and income per capita are higher than those of its larger national area, namely the province of Sumatra North. The *shift shares* analysis results show that the construction, real estate, wholesale trade, education services, water supply, corporate services, industrial processing, financial services, and other services are positively competitive and high enough to become a sector that greatly contributes to the GRDP of Medan City in the transformation of the economic sectors shifted to the secondary sector. In the Medan City Economy, the LQ analysis shows that there are five leading sub-sectors: water supply, waste management, waste, and recycling; buying electricity and gas; health services and social activities; and corporate and other services.

Abstrak: Penelitian ini menggunakan data sekunder dengan menggunakan metode-metode yaitu analisis tipologi *klassen* untuk mengetahui pola dan struktur perekonomian Kota Medan terhadap Provinsi Sumatera Utara, analisis *Shift Share* untuk mengkaji pergeseran, potensi dan kontribusi sektor perekonomian, dan analisis *Location Quotient (LQ)* untuk mengetahui sektor unggulan di Kota Medan selama periode 2012-2021. Hasil dari penelitian ini kota Medan termasuk pada tipe I yakni daerah makmur atau daerah tumbuh pesat dan maju dimana laju pertumbuhan ekonomi dan pendapatan perkapita lebih tinggi terhadap daerah nasional nya (lebih luas) yakni provinsi Sumatera Utara. Hasil Analisis *Shift Share* menunjukkan bahwa sektor konstruksi, real estate, perdagangan besar, jasa Pendidikan, pengadaan air, jasa perusahaan, industri pengolahan, jasa keuangan dan jasa lainnya berdaya saing positif dan cukup tinggi sehingga menjadi sektor yang berkontribusi besar dalam PDRB Kota Medan, pada transformasi sektor-sektor ekonominya bergeser ke sektor sekunder. Dalam analisis LQ terdapat lima subsektor unggulan pada perekonomian Kota Medan, yaitu pengadaan air, pengelolaan sampah, limbah dan daur ulang; pengadaan listrik dan gas; jasa kesehatan dan kegiatan sosial; jasa perusahaan dan jasa lainnya.



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INTRODUCTION

Long-term growth in a country's per capita output is the definition of economic growth. The rise in output capacity is a result of technological, institutional, and ideological advancements or updates in a country, hence economic growth is also an indicator of the creation of development in an economy. (Jhingan, 2012:57).

Economic development in the traditional paradigm of development in developing countries (NSB) is a complex process including fundamental changes, such as alterations to the structure of the economy, the reduction of social poverty, social inequality, and unemployment. (Sirojuzilam, 2008:16).

The pillars of economic development include growth, poverty alleviation, structural economic transformation, and sustainable development. The occurrence of economic transformation (structure) in developing countries, namely from an agrarian society to an industrial society, will have an effect on the increase in economic growth in order to eliminate poverty and encourage sustainable development. (Kariyasa, 2014:1).

Regional development is a method by which local governments and their communities can manage available resources with individuals, groups, or businesses or in conjunction with a variety of parties in order to provide employment opportunities and boost regional economic output. This productivity will eventually provide production not only for the region, firms, and workers, but also for the local populace. The primary objective of every regional development effort is to boost the growth of gross domestic product (GDP) at the national level or gross regional domestic product (GDP) at the regional level and to create new jobs for the people in accordance with the region's potentials. (Boediono, 2006:3).

According to the presentation of GRDP data by business sector, the production and income techniques identify seventeen economic sectors. Moreover, according to the System of National Accounts (SNA) issued by the United Nations, a region's macroeconomy is categorized into three categories based on its business sector: primary, secondary, and tertiary. Commonly known to as the agricultural sector, the primary sector consists of two economic sub-sectors: agriculture, forestry, and fisheries; and mining and quarrying. The secondary sector consists of the manufacturing industry sector, the electricity and gas procurement sector, the water supply sector, the waste treatment and recycling sector, and the construction sector (industry). The tertiary sector (services) is comprised of eleven economic sub-sectors, including wholesale and retail trade, automobile and motorcycle repair, transportation and warehousing, the accommodation and food supply sector, the information and communication sector, the financial services and insurance sector, the real estate sector, the corporate service sector, government administration, defense, mandatory social security, education services, health services, and social activities.

Regional economic growth can be achieved through the development of subsectors of the economy, which can significantly contribute to the growth of other sectors. This indicates that leading economic sectors must be promoted so as to stimulate the growth of other subsectors. It is deemed a superior economic sector due to its competitiveness or comparative advantage over products in the same sector from other areas, as well as its provision of tangible and immaterial benefits, as well as social and environmental benefits. Depending on the region's potential or natural resources, each region's dominant industries are distinct. Consequently, the distribution of regional development, particularly the distribution of

capital allocation (investment), is suited to the region's strengths and weaknesses, delivering optimal results.

The theory of the development model put forward by Chenery defines the transformation of economic structure as "economic change involving the constant structure of employment, production, trade, and other factors needed to increase income and social welfare through increasing per capita income." Each economy will experience different changes. In general, the transition that occurs in developing countries is the transition from the agricultural sector to the industrial sector (Chenery, 1986). In general, the factors that drive the transformation of a country's economic structure include: First, human nature in its consumption activities follows Engels' law, which states that as income rises, so does the demand for food and food consumption, while demand for other factors is low, if not non-existent.

Second, technological changes are taking place. Changes in economic structure occur due to changes in several factors, which, according to sources, can be divided into factors on the demand side and the supply side. On the demand side, the main factors are changes in domestic demand and government intervention. On the supply side, important factors include changes in comparative advantage, technological changes or advances, improvements in education or the quality of human resources, the discovery of new production materials, and the capital accumulation of production materials. The demand and supply factors above are internal factors, while external factors include technological progress (for Indonesia, technological progress is a certainty) and changes in the model of world trade.

Fisher (1939) proposed an economic structural change theory that focuses on changes in production and factor use as the economy grows. Fisher's hypothesis is called the "three stages of economic development,"

where the three stages are pre-industrial, industrial, and post-industrial (industry), and divides the economy into three sectors, namely, primary, secondary, and tertiary sectors. At the next stage of economic development, consumer demand for services will increase. Fisher's findings are supported by studies of statistical data by Clark (1949). Clark argues in his article "Conditions of Economic Progress" that consumer demand for manufactured goods will stagnate and will shift to the service sector and labour. The transformation of the workforce from one industry to another is not only caused by a decrease in consumer demand for manufactured goods, but another factor that is no less important is the difference in the productivity of each industry. His second work is often referred to as the Fisher-Clark model of development.

The measure of economic linkage basically describes the relationship between the regional economy and the surrounding environment. Quarterly analysis is a very useful technique for analysing changes in the structure of the regional economy rather than the national economy. This analysis provides data on economic performance in three related areas, namely: 1) regional economic growth as measured by analysing changes in the overall labour force against changes in the same economic sector used as a benchmark; and 2) changes in the ratio measured to measure relative changes, growth or decline, in an area relative to the overall economy used as a yardstick. This metric indicates whether the regional economy is gaining industry attention faster than the benchmark economy; and 3) other changes that help us determine how competitive the local industry is in the region with the reference economy. Therefore, if an industry's premium is positive, that industry is more competitive than similar industries in the standard economy. (Arsyad, 2013)

The implementation of regional autonomy in Indonesia has been going on since the enactment of Law (UU) Number 22 of 1999

concerning Regional Government. Regional autonomy itself is the right, authority, and obligation of an autonomous region to regulate and manage its own government affairs and the interests of the local community in accordance with statutory regulations. The implementation of regional autonomy in Indonesia does not only reach the provincial level; it also reaches the village level. Village autonomy began to be enforced with the passing of Law Number 6 of 2014. With the implementation of regional autonomy, each region must be able to identify potential and leading sectors or basic sectors owned by the regions, both at the provincial and village levels. Unfortunately, there are still many regions that experience difficulties in discovering the potential and leading sectors they have, even though knowledge of the leading sectors of a region is very useful in order to be able to promote regional economic development and growth effectively and efficiently.

Several earlier studies have examined regional economic trends and structural shifts. (1) Using the SSA (Shift Share Analysis) method, Anastasia D'Ornary (2020) studies economic growth and shifts between economic sectors in Banggai Laut Regency, Central Sulawesi Province. LQ (Location Quotient) indicates that there has been a shift from the primary sector to the secondary and tertiary sectors, while the primary sectors are agriculture, power, clean water, hotel and restaurant commerce, and finance. (2) According to Marthin's (2020) research titled "shift share analysis of the economy of Sorong City with a GRDP proxy for 2013-2018," there are six sectors that are growing progressively; the mining sector has high competitiveness, while the agricultural, mining, and processing industry sectors are experiencing growth sluggishness. (3) Research conducted by Martina Kasikoen (2018) on the structure of the economy in a region, the shift in leading sectors, and the position of the regional sector in a larger area in Bogor district from 2013 to

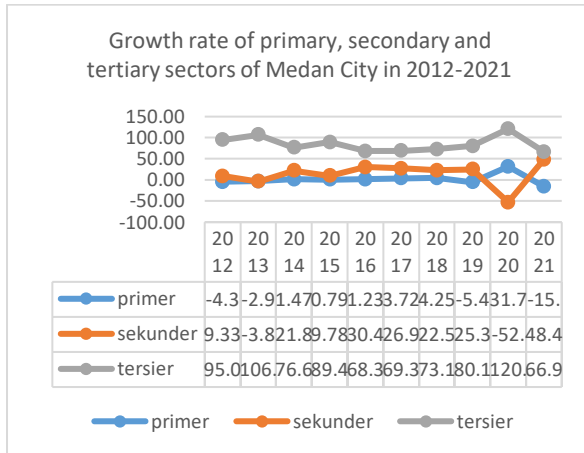
2016 using shift share analysis revealed a significant shift in economic sectors, such as the agricultural sector as a support and buffer, which has decreased.

During the Dutch era, Medan was known as Paris van Sumatra, and the superior plantation commodity, namely Deli tobacco, provided the most foreign exchange. In addition, Medan City is also known as the third largest city in Indonesia with metropolitan status and is the capital of North Sumatra Province, so most of the government and trade activities are in the region. Another potential possessed by the city of Medan is the support of natural resources and its strategic location. The city of Medan is almost completely bordered by Deli Serdang Regency, namely in the east, west, and south. At the same time, the northern part of Medan that faces the Malacca Strait, which is one of the busiest sea trade lanes in the world, has become the centre of Medan City's development and economic growth in the surrounding area.

Economic growth in Medan City fluctuated in the range of -1.98 to 7.66 percent from 2011 to 2021, with the highest growth rate in 2011 at 7.79 percent, then decreasing by 1 to 2.2 percent in 2013-2019, which is in the range of 5 to 6 percent, but there was a very high decrease in 2020 of 7.91 percent to be precise at -1.98 percent, but again experienced a pretty good increase in 2021 at 2.62 percent.

As a region that is the centre of the province and a strategic trade route, the economy of Medan City is dominated by the tertiary sector, or the service sector, which consists of eleven economic sub-sectors, namely wholesale and retail trade, car and motorcycle repair, transportation and warehousing, the provision of accommodation and food and drink, information and communication, financial and insurance services, real estate, company services, government administration, Defense, mandatory social security, education services,

health services, and other services. The transformation or shift in the Medan City economic sector in detail in the 2011–2021 period can be seen in the table below:



Graph 1. The growth rate of the primary, secondary, and tertiary sectors and the growth rate of the Medan City Gross Regional Domestic Product in 2012-2021

Source: Badan Pusat Statistik (BPS)

The dominance of the tertiary sector over other sectors in Medan can be seen in the table above, with the largest contribution in 2020, namely 120.90 percent of the GRDP rate of -1.98 percent. The next sector is the secondary sector with the largest contribution in 2021, which is 48.46 percent of the GRDP rate of 2.62 percent. And the last one is the primary sector, which saw a very high increase in 2021, 31.78 percent of the GRDP rate of -1.98 percent.

Based on the data table above, it shows the transformation of the economic structure of Medan, which has experienced fluctuating changes. Where the tertiary sector continues to experience transformation or shift with a tendency to increase and is quite good from year to year, although based on data showing that the dominance of the sector's contribution to Medan City's GRDP is filled by the tertiary sector, other sectors also continue to experience good changes and are also increasing. So, this study will look at how the changing economic structure of Medan City's

primary, secondary, and tertiary sectors will affect the GRDP growth rate from 2012 to 2021.

METHOD

This research was conducted using quantitative methods. A quantitative method is research that has a clear or systematic structure from the beginning to the research model and involves collecting data, samples, or certain populations to test the specified hypotheses. This study also uses a descriptive method, which describes the results of the previous quantitative data. We used secondary data from literature studies in this study, which included sources of literature, information, documentation, or publications from institutions related to this research.

The data used for the period 2011–2021 is derived from the Gross Regional Domestic Product (GRDP) of Medan City. The Klassen typology model was used to determine the description or pattern of the regional economic growth structure of the province, followed by shift share analysis to determine the transformation of the economic structure or shifts in economic sectors and the Location Question (LQ) model to determine the leading sectors in the Medan City region. In addition, it will be modified to reflect the direction of development through the Medan City RPJPD from 2006 to 2025. In this investigation, the following analysis was used:

1. Shift-share analysis method

The objective of the regional economic growth model Shift-Share Analysis is to discover performance indicators and competitive advantages of economic sectors in the Medan City region. North Sumatra Province GRDP data based on business fields in 2011–2021 and Medan City GRDP data based on business fields in 2011–2021 were utilized.

The analysis is the sum of the three basic components describing the relationship

between components, namely: first, the national share (NS), in order to see the effect of national economic growth on the regions. Second, proportional shift (PS) measures the shift or transformation of growth or decline in the region relative to the larger economy used as a reference. Third, differential shift (DS) is used to determine how competitive an economic sector is in smaller regions with a larger scope of the economy as a reference. The formula for Shift Share Estebab Marquillas is as follows:

$$SS = \left(\frac{Y_t}{Y_o}\right) - 1a + \left(\frac{Y_{it}}{Y_{io}} - \frac{Y_t}{Y_o}\right) + \left(\frac{y_{it}}{y_{io}} - \frac{Y_{it}}{Y_{io}}\right)$$

SS = Shift Share (NS + PS + DS)

Yt = Prov. total GDP North Sumatra last year

Yo = Prov. total GDP North Sumatra early years

Yit = GRDP sector i Prov. North Sumatra last year

Yio = GRDP sector i Prov. North Sumatra early years

yit = GRDP sector i of Medan City last year

yio = GRDP of sector i of Medan City in the early year

2. Location Quotient (LQ) Analysis Method

The location quotient technique (abbreviated LQ) This LQ technique is useful for studying and projecting regional economic potential and determining the level of specialization in an economic sector's basic or leading sectors. The calculations in the LQ technique are:

$$LQ = \frac{\left(\frac{X_{ir}}{X_r}\right)}{\left(\frac{X_{in}}{X_n}\right)}$$

Description:

Xir = GRDP of sector I at the regional level (City/Regency)

Xr = Total GRDP (all sectors) at the regional level (City/Regency)

Xin = GRDP of sector i at the national level (Province)

Xn = Total GRDP (all sectors) at the national level (Province)

The criteria for the results of the LQ calculation can be interpreted as follows:

a) $LQ > 1$, meaning that sector i in the City/Regency has a bigger role than sector i in the province, so that it has the potential to export products in that sector.

b) $LQ < 1$, meaning that sector i in the City/Regency has a smaller role than sector i as a province, so it requires efforts to increase or import because it is not sufficient for sector i in the area.

c) $LQ = 1$, meaning that sector i in the City/District has a role that is equal in value or balanced or enough to fulfil in its own region.

RESULT AND DISCUSSION

Klassen Typology Analysis

On both North Sumatra and Sumatra Island, Medan serves as a regional and national economic hub. In comparison to other provinces and cities, Medan City's total area of 265,10 km² represents only 3.60 percent of the entire area of North Sumatra Province. Its astronomical location is between 2° 27' and 2° 47' north latitude and 98° 35' and 98° 44' east longitude. The city of Medan is dominated by lowland areas with a northward-sloping topography and is the confluence of two major trading rivers, the Deli and Babura. Administratively, the city of Medan is divided into 21 sub-districts, 151 sub-districts, and 2,000 neighbourhoods.

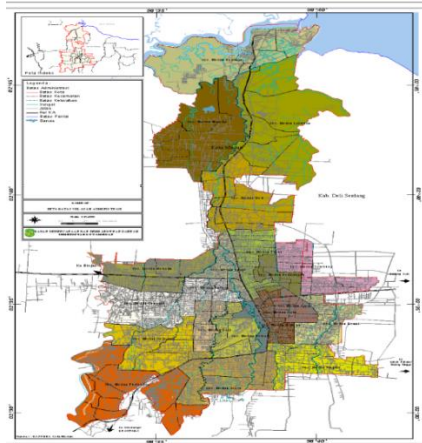
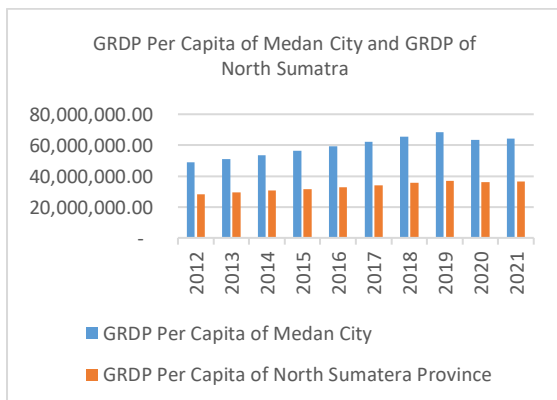
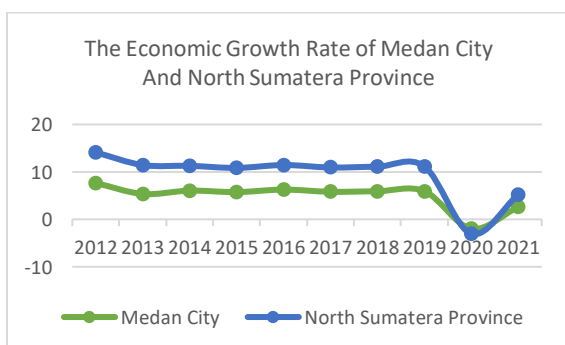


Figure 1. Administrative Map of Medan City

As a city that is on a strategic trade route, Medan City has a higher per capita GRDP and a higher rate of economic growth compared to its per capita GRDP and its national regional level economic growth rate, in this case, the province of North Sumatra. As in the chart below:



Graph 2. GRDP Per Capita of Medan City and GRDP of North Sumatra (Based on Constant Price)



Graph 3. The Economic Growth Rate of Medan City and North Sumatra Province (Based on Constant Price)

Based on the two graphs above, Klassen's typology of regional classification is seen through two factors: economic growth and GRDP per capita between regions. In this case, the results of the classification between Medan City and the province of North Sumatra are as follows:

GDRP Per capita (y)	ydi > yni (+) High)	ydi < yni (-) (Low)
The Economic Growth (r)		
rdi > rni (+) (High)	Type I (Medan City) Prosperous Region	Type II Underdeveloped Region in the process of development
rdi < rni (-) (Low)	Type III Prosperous Region in decline (potentially underdeveloped)	Type IV Underdeveloped Region

Table 2. The Klassen Typology of Medan City against The Province of North Sumatera Utara

The results of the Klassen typology analysis of Medan City against the province of North Sumatra are that the city of Medan is included in type I, namely a prosperous area or a rapidly growing and developed area where the Medan city area has a higher economic growth rate ($rdi > rni$) and a higher per capita income ($ydi > yni$) than its national area (which is wider): the province of North Sumatra. However, the city of Medan occupies the first position with the largest number of poor people, namely 193.03 people out of 1,343.86 poor people in the districts and cities in North Sumatra Province. Therefore, the Medan City government continues to improve performance and optimize potential sectors so that it can have an effect on reducing the number of poor people in areas of Medan City (2021 data).

Transformation of Economic Sectors Shift-share Analysis

The results of the shift share net shift show that Medan City's economic growth is generally experiencing good and progressive development, although based on the curve in

Graph 1, both the primary and secondary sectors experience fluctuating movements. The following are the results of the shift share analyst for the Medan City area:

Economic Sub-sectors	Change Components			Shift Share (%)	Actual Increase	Rank
	NS	PS	DS			
Agriculture, Forestry, and Fisheries	44,69	21,64	-34,64	-13,00	0,13	XV
Mining and Quarrying	42,78	30,35	-79,36	-49,01	-0,14	XVII
Processing Industry	50,08	13,69	-8,11	5,58	0,20	XIII
Electricity and gas procurement	48,03	20,44	-32,73	-12,29	0,11	XIV
Water supply, waste management, waste and recycling	49,31	28,08	16,06	44,14	0,72	V
Construction	54,54	28,76	16,56	45,33	0,67	III
Wholesale and retail trade, and repair of cars and motorcycles	53,13	26,96	15,91	42,87	0,64	VI
Transportation and warehousing	53,65	15,46	-46,70	-31,24	-0,11	XVI
Provision of accommodation and eating and drinking	55,19	26,47	-2,18	24,29	0,46	XI
Information and communication	55,02	52,09	8,24	60,33	1,02	II
Financial services and insurance	53,29	20,42	-3,96	16,46	0,35	XII
Real estate	53,66	31,06	13,69	44,75	0,70	IV
Company services	53,08	25,49	4,43	29,92	0,52	X
Public administration, defense and social security	56,59	25,54	7,33	32,87	0,51	IX
Education service	52,31	28,96	13,39	42,35	0,67	VII
Health service and social activities	57,47	33,77	28,19	61,96	0,81	I
Other services	51,76	28,22	13,59	41,81	0,67	VIII

Table 3. Calculation Results of Share Analysis, Net Shift, Actual Increase and Rank in Economic Sub-Sectors by Business Sector (GDP of Medan City in 2012 and 2021)

The findings of processing the shift share data reveal three components of change between 2012 and 2021 in the national share (NS), proportional share (PS), and differential share (DS) in the Medan City region. It can be seen that all subsectors contribute positively to the national share. The greatest national share, 57.76 billion Rupiah, is in the health services and social activities subsector, which means that when the value of economic growth in North Sumatra Province is positive, it will also have a good effect on economic growth in the Medan City subsector. The magnitude of this influence is due to the fact that the city of Medan is the centre of government or the capital of North Sumatra, so the dominant health service sector is centred in the city of Medan, thereby influencing the development, income, and social activities of the health service sector and the city of Medan. The mining and quarrying sector has the lowest national share value, at 42,78 billion Rupiah. The entire national growth component (national share) that has impacted Medan City's economy is 884,59 billion rupiah.

The proportional shift is the ratio of growth in each economic sub-sector to total growth at the provincial level, as well as its impact on the growth of other sub-sectors within the economic sphere it covers. Based on the PS value in Table 2, it is known that all or 17 of the economic sub-sectors are positive; this shows that the growth is positive so that it describes the effect of rapid growth on the same sub-sector in Medan City, so it can be predicted that Medan City's income will grow above the economic growth of the province. North Sumatra

The differential share or regional share growth component demonstrates the competitiveness of each district or city subsector relative to the province economic

subsector. If D_s is positive (+), the subsector has a competitive advantage over the area above it, in this example the province; if it is negative (-), the subsector has no competitive advantage over the area above it. agriculture, forestry, and fisheries; mining and quarrying; processing industries; electricity and gas procurement; transportation and warehousing; provision of accommodation and food and drink; financial services and insurance are the only economic sub-sectors with negative values in the table above. All subsectors in the primary sector were determined to be negative, indicating that the primary sector lacked a competitive value in the area above it. The health services subsector has the greatest competitiveness score, followed by the construction subsector, water supply, waste management, and waste and recycling. Indirectly, the Indonesian economy's structural transition shifted from the tertiary sector to the secondary sector. As a whole, however, the total growth component for Medan City's regional share has a negative value of 70.26 billion rupiah, indicating that Medan City has a lower level of competitive (economic) advantage than North Sumatra province or, based on the number of economic subsectors, does not have a competitive advantage.

The net shift component is the result of adding the proportional growth component (PS) and regional share growth (DS) with the aim of seeing which sub-sectors have progressive growth. Table 2 shows four sub-sectors with negative values, namely agriculture, forestry, and fisheries; mining and quarrying; electricity and gas procurement; as well as transportation and warehousing, meaning that these four sub-sectors are experiencing quite slow growth. On the other hand, there are 13 sub-sectors that have a positive value; in other words, this sub-sector is moving toward progressive economic growth.

The real increase in the tertiary sector, which remains superior to the primary and

secondary sectors, demonstrates that the structural adjustments that have happened in Medan City have not been excessively dominating or pronounced. Nonetheless, the secondary sector in Medan City has seen a significant shift; its value has increased significantly, and it is now placed third and fifth (into the top five) among all economic sectors. This is consistent with the 2006-2025 RPJP for the city of Medan, which aims to develop the secondary sector, namely industry and construction, with a contribution of more than 30% to GRDP, with the objective of bringing the industrial economy of the city of Medan in line with scientific and technological advancements.

The sub-sector that experienced the highest actual increase was the information and communication sub-sector, at 1.02 percent. In other words, even though this sub-sector was ranked second, it is undeniable that the information and communication sub-sector has great potential, especially in Medan City as a metropolitan city, so that advances in technology, information, and communication become the main means of socio-economic interaction as well as supporting the economic growth of urban communities. On the other hand, the first rank is occupied by the health services and social activities subsector, with an actual increase of 0.81 percent from 2012 to 2021, indicating a rapid growth rate and potential for development. This is in line with the 2006-2025 Medan City Long-Term Development Plan, the 2nd mission "to create a city community that is knowledgeable, masters technology, has faith, is devoted, and is self-sufficient," with the achievement target in the 4th RPJM-D for the 2020-2025 period, namely increasing the HDI to 81.44 with a life expectancy of 77.89 years. This real increase can't be separated from the COVID-19 pandemic that has hit many countries around the world, so the health services and social activities subsector has to work hard to restore public health and economic recovery.

Superior Sectors of Medan City

Analysis Location quotient (LQ)

Based on the calculation results from the LQ analysis, Medan City has five economic subsectors that have a comparative advantage ($LQ > 1$), if sorted from the highest, namely: water supply, waste management, waste and recycling, electricity and gas procurement, other services, health services, and social activities, as well as corporate services. This means that the five sectors are fundamental in the sense that they can meet the needs of goods and services in their regions while also having the ability to export those goods and services to other regions (districts or cities). These five sub-sectors are also a source of regional income due to an increase in the demand for goods and services, thereby increasing the volume of the sub-sector's productivity and its output.

Based on the global average LQ value per sector, the primary sector, or agriculture and mining as a whole, has a LQ value below 1, specifically 0.24, indicating that this agricultural industry is not a base sector or contains non-base. This indicates that imports from surrounding regions, amounting to 0.76, are necessary to meet the needs of this sector. This limitation is deemed appropriate because the geographical conditions of Medan do not support the activity of this sector. The heavily inhabited and office-heavy city of Medan demands an extensive supply of water, gas, power, and waste disposal. One equals 3.7582. The average number of tertiary sectors (services and trade) is 0.646 ($LQ > 1$), which does not imply that all subsectors are non-primary. In the tertiary sector, however, there are three subsectors with $LQ > 1$: other services with a mean of 2,099, health services and social activities with a mean of 1.338 and corporate services with a mean of 1,170. In addition to these five "base" sectors, twelve "non-base" sectors require supplies from other regions to maintain and support the regional economy, in this case the city of Medan.

CONCLUSION

Based on the results of research and discussion, it can be concluded that:

1. Based on the results of the Klassen Typology analysis, the City of Medan against the North Sumatra Province in 2012–2021 is included in Type I, namely a prosperous area or a rapidly growing and developed area where the Medan City area has an economic growth rate ($r_{di} > r_{ni}$) and per capita income ($y_{di} > y_{ni}$) that are higher than those of its national area (wider), namely the province of North Sumatra.
2. The results of the calculations in the shift share analysis show that the increase and change in the GRDP of the city of Medan in 2012–2021 is due to the effect of the increase that has occurred in the economic mix of the province of North Sumatra, with a total of half in each subsector of the GRDP of the city of Medan. The regional share growth component shows pretty good competitiveness because there are only 5 sub-sectors that have a negative value or are not as competitive as other regions. These are agriculture, forestry, and fisheries; mining and quarrying; the processing industry; buying electricity and gas; transportation and warehousing; providing lodging and food and drink; and providing financial and insurance services. The results of the shift share analysis show that overall, there are four sub-sectors with negative values, namely agriculture, forestry, and fisheries; mining and quarrying; electricity and gas procurement; as well as transportation and warehousing, meaning that these four sub-sectors are experiencing relatively slow growth. On the other hand, there are 13 other sub-sectors experiencing progressive economic growth, including the secondary sector (construction and water supply, waste management, and waste and recycling sub-sectors), which have increased quite high compared to the primary sector, so that a shift occurs from

the secondary sector to the secondary sector. In this case, the growth of Medan City's economy is generally good and moving forward. The transformation of the economic sectors of Medan City in 2012-2021 is moving forward, and there is a significant shift from the tertiary sector to the secondary sector, as stated in the Medan City Long Term Development Plan (RPJP) 2006-2025, which has a vision and mission to improve the sector of industry and trade. Meanwhile, the primary sector moves quite slowly and experiences fluctuating changes every year.

3. In the results of the Location Question (LQ) analysis in the city of Medan in 2012–2021, there are five economic sub-sectors that have a comparative advantage ($LQ > 1$): the water supply, waste management, waste, and recycling sub-sectors; procurement of electricity and gas; health services and social activities; corporate and other services. This means that the five sectors are important because they can meet the needs of their regions for goods and services and also have the potential to sell those goods and services in other districts, cities, or provinces.

SUGESTIONS

1. Based on the Medan City Long Term Development Plan 2006–2025, even greater effort is needed in developing the manufacturing, construction, and large trade industries sectors, which have enormous potential in urban areas but are still classified in the category of low competitiveness and non-base.
2. The government needs to pay attention to and play an active role in the growth and development of industries that are highly competitive but have slow growth, such as construction, transportation and storage, lodging and drinking, financial and insurance services, real estate, and educational services.
3. Hoped that the government will keep up the rate of growth in the health services

sector and social activities after the CO-19 pandemic ends, so that it can become a health centre for the province of North Sumatra, even though the CO-19 pandemic has had an effect on increasing the sector's GRDP.

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