

# Analysis of Leading Commodities on The Sumatra Island

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**Abstract.** Commodity identification in each province is required so that business sector development is more efficient, adds value, and produces optimal results. The purpose of this research is to examine the leading commodities and provinces on the Sumatra Island that have a comparative advantage in the agriculture, forestry, and fishery sectors. PDB, PDRB, and Sub-Sector PDRB in 2015-2021 data from agencies such as BPS, BI, and Bappenas are used, with the *Location Quotient (LQ) and Revealed Comparative Advantage (RCA)* methods. The results show that all of the data passed the classical assumption test. The highest LQ value for each province on the Sumatra Island differs, but agriculture, forestry, and fisheries are the basic sectors in all provinces. The RCA value of the agriculture, forestry, and fishery sectors demonstrates that all provinces on the Sumatra Island have high competitiveness because they can meet their own regional needs and even export outside the region.

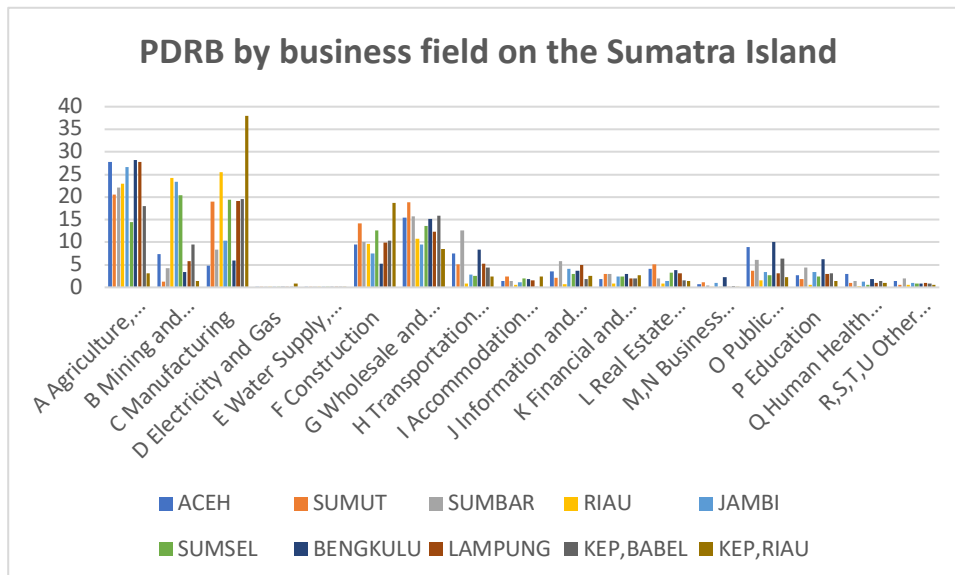
**Keywords:** PDB, sector PDRB , LQ, RCA

## 1 Introduction

Regional development is urgently needed as a means of reducing development disparities between regions, spurring socioeconomic development, and preserving life in one region. Regional development also aims to align sector and regional development activities. So that the use of all resources is optimized for the overall prosperity of the community. (Regional Infrastructure Development Agency 2017). Sumatra Island is Indonesia's largest island, so its economic development has a significant impact on the overall state of the Indonesian economy. Sumatra Island has the second-fastest economic development after Java Island, with an area of approximately 443,065.8 km<sup>2</sup>. Natural resources with high economic value, such as palm oil, tobacco, petroleum, tin, bauxite, coal, and natural gas, become capital for development in all provinces on the Sumatra Island. According to (Iyan 2014), the agricultural sector contributes the most to the formation of the Gross Regional Domestic Product (PDRB) for all provinces on the Sumatra Island. The agricultural sector accounts for about 22.27% in the economic structure on the Sumatra Island. Determination of commodities is an absolute requirement to be able to know what commodities the leading commodities in the agricultural sector are.

This research tries aims to analyze the leading sectors in each province on the Sumatra Island in terms of PDRB. According to Table 1.1, the agricultural sector is the dominating sector in all provinces on the Sumatra Island, implying that good agricultural development will increase the welfare of the people in all provinces on the Sumatra Island. Other sectors, such as mining and quarrying, industrial and manufacturing, which is also the biggest sector after agriculture, play an essential part in the establishment of PDRB.

The development of PDRB by business field based on current prices on the Sumatra Island can be seen in Figure 1.1.



Source : (BPS Bangka Belitung Province 2019)(BPS 2021)(Central Bureau of Statistics of North Sumatra Province 2019)

**Figure 1.1. PDRB by business field on the Sumatra Island**

The agricultural sector includes a variety of business fields such as food crops, horticultural crops, plantation crops, livestock, agricultural services and hunting, forestry and logging, and fisheries. (BPS 2021). The transformation of development must continue; a move in the economic structure toward industry is unavoidable, while still supporting the development of the main sector, mainly agriculture sector. Processing agricultural products necessitates the industrial sector in order to add value to the agricultural products generated. According to (Kuncoro Mudrajad 1997), the process of economic transformation experienced by developing countries, which was initially more subsistence and concentrated on the agricultural sector, to a more modern economic sector that was heavily dominated by the industrial and service sectors. The agricultural sector is one of the subsistence sectors that was first formed merely to support household needs, but with the advancement of knowledge and technology, this sector has grown to become a prominent sector in all provinces throughout Indonesia, particularly on the Sumatra Island. Food crops, horticultural crops, plantation crops, livestock, agricultural services and hunting, forestry and logging, and fisheries are all part of the agricultural sector (BPS 2021). The transformation of development must continue; a shift in the economic structure toward industry is unavoidable, while supporting the development of the main sector, mainly agriculture. The industrial sector is required for agricultural product processing in order to add value to the agricultural products generated. According to (Kuncoro Mudrajad 1997). Leading commodities are commodities that have strategic value from various considerations, such as physical considerations (soil and climatic conditions), socio-economic and institutional (technological mastery, human resource development, infrastructure and socio-cultural conditions) to be developed in one area. (Sitorus, S.R.P., Mulya, S.P., Iswati, A., Panuju, D.R.,

and Iman 2014). The superior commodities in one region are different, through the superior potential it can be illustrated the ability of the region to produce products, create value, make real use of resources, provide employment opportunities, generate income for the community, have prospects for increasing productivity and investment and have high competitiveness. (Aditya Mulawarman 2017). what needs to be developed in an area is to have the ability to produce and sell products efficiently and effectively by using local resources for export and generate regional wealth and job creation (Zamhari, Sitorus, and Pravitasari 2017). This research has numerous goals, including analyzing superior commodities between provinces on the Sumatra Island, to analyze areas that have a comparative advantage in the agricultural, forestry and fishery sectors between districts on the Sumatra Island.

## **2. Literature review**

### **2.1. Theory of Regional Economic Development**

National and regional development have a close relationship (support each other) because national development encourages regional development and on the other hand regional development strengthens national development. Arsyad (1999) argues that: Regional economic development is a process that includes the formation of new institutions, development of alternative industries, improvement of the capacity of the existing workforce to produce good products and services, identification of new markets, transfer of knowledge. knowledge and development of new markets. Another opinion was put forward by Adisasmita (2014: 41), saying that regional development is a problem that studies development behavior, the interaction of human resources with other resources in spatial planning. This research analyzes the development process in the spatial planning and places it in the structure of the *development landscape*.

Regional economic development is a system in which local governments and communities manage available resources and create a partnership pattern between local governments and the private sector in order to create new jobs and increase economic activity (growth) in the region (Arsyad 2010). Tarigan (2005:46) holds that regional economic growth is the increase in general community income that occurs in the region, i.e. the increase in all *added value* that occurs. The ability of the region to grow is inseparable from the role of the existing sectors in an economy. Widianingsih and Wiwin (2015). Kuncoro (2000) further explained that regional development should pay more attention to a region's advantages and special characteristics. Development must also be capable of increasing population income per capita and increasing the attractiveness of the region in order to attract new investors to invest in the region, which will stimulate more economic activity. Local governments' ability to identify sectors with advantages/weaknesses in their area is becoming increasingly important. Advantaged sectors have better development prospects and are likely to encourage other sectors to develop (Tarigan, 2005).

According to Todaro, three factors determine economic progress in a society (2000). These factors are expressed as follows: Capital accumulation, which includes all new land, physical equipment, and human resources investments, Population and labor force increase, as well as technological advancement. It was also revealed that a region's economic growth is influenced by both internal and external forces. Internal factors are the carrying capacity of the region's economy, including human resources, investment, natural resources, and facilities and infrastructure to support operations. Meanwhile, external factors are government intervention in the allocation of development money through Presidential Instruction funding and other types

of funds in targeted regions or sectors. However, according to Adisasmita (2014: 44) that the effectiveness of each regional development policy depends on how the small centers improve their socio-economic organization as service centers for rural residents. In relation to agricultural production, the small centers above can carry out three functions, namely: Acting as a local market point of accumulation of local agricultural products for consumption in the rural area; Acting as a center for the collection of export products as a shipping chain from consumer agricultural areas abroad; Provide agricultural inputs (inputs and infrastructure) or other services which encourage villagers to introduce technological changes in production.

## **2.2. Theory of Economic Base**

According to the *economics fundamental theory*, the rate of economic growth of a region is based on how much its exports have increased. Economic activities are grouped into basic and non-basic activities. Tarigan (2005): 28. According to Arsyad (1999:116) states that Tori's economic theory holds that a territory's economic growth is mostly determined by the demand for goods and services from outside the region. This presumption gives rise to the knowledge that a region will have a leading sector if it can outcompete other locations in the same sector to generate exports.

The economic basis theory stresses export sector activities as fundamental activity and demonstrates economic progress through economic linkages between a country and other countries. Another concept, the Location Quotient, highlights the requirement to determine the leading sector (LQ). Disasmita (2014): 73 There are four methods that can be used, according to Tarigan (2005:32–35), to determine whether a sector or activity is a basic sector or not: the direct method, the indirect method, the mixed method, and the *Location Quotient* method.

## **2.3. Development of Leading Sector as a Regional Development Strategy**

The main problem in regional development is the emphasis on development policies based on the characteristics of the region in question (*endogenous development*). By utilizing human resource potential. This orientation leads to the region adopting measures in the development process to create new job opportunities and stimulate economic growth. (Arsyad, 1999: 108). Tambunan (2001:198) According to classical economic thought, economic development will be more advanced, and people will be more prosperous in places rich in *natural resources* than in areas lacking in natural resources.

The level of regional development varies according to the potential of each region. This has an impact on the creation of PDRB due to sectoral differences (Gross Regional Domestic Product). The higher the rate of regional income growth, the bigger the contribution of the economic sector that has contributed value to the establishment of PDRB in a region. (Hendayana Intercession) (2003: 1). Leading sectors also provide added value and large production, have a large multiplier effect on other economies, and are in high demand in both domestic and export markets (Wulandari 2010). Essentially, it is related with a form of comparison, whether on an international, regional, or national scale. In the international scope, a sector is said to be superior if the sector is able to compete with the same sector as other countries. Meanwhile, at the national level, a sector can be categorized as a leading sector if the sector in a certain area is able to compete with the same sector produced by other regions, either in the national or domestic market. (Bahri 2018)

According to Yusuf (2013: 19), four conditions must be met for a sector to be designated as a priority sector: Because there are technological changes that are creatively

adopted, thus the new production function shifts with wider capacity development, the sector must produce products that have a large enough demand, so that the growth rate develops rapidly as a result of the demand effect; there must be an increase in reinvestment of the products of the priority sectors, both private and government; the sector must develop, so that it can give effect to other sectors.

### 3. Research methodology

#### 1. Location Quotient (LQ)

According to Arsyad (2010), the weaknesses of the LQ technique are (a) local community tastes or consumption patterns differ both between regions and within the same area, (b) average consumption needs for one type of good differ for each region, and (c) materials for inter-regional industrial needs. The LQ calculation results show if (a) the LQ value of a sector  $> 1$  indicates that the sector in question is a leading sector; or (b) the LQ value of a sector:

$$LQ = \frac{\left(\frac{X_i^r}{X^r}\right)}{\left(\frac{X_i^n}{X^n}\right)} \quad (1)$$

Where :

LQ = *Location Quotient Coefficient*

$X_i^r$  = added value of the agricultural, forestry and fishery sectors in the district r

$X_i^n$  = added value to the agriculture, forestry and fishery sectors in North Sumatra Province

$X^r$  = PDRB ADHK agriculture, forestry and fishery sectors in the district r.

$X^n$  = PDRB ADHK agriculture, forestry and fishery sectors in North Sumatra Province

Criteria :

$LQ \geq 1$  : The agricultural, forestry and fishery sectors are categorized as basic sectors

$LQ < 1$  : The agriculture, forestry and fishery sectors are categorized as non-base sectors

#### 2. Revealed Comparative Advantage (RCA)

The RCA method compares the share of a commodity or product of a sector in the district's overall export to the share of similar items on the Sumatra Island's export market. *Balassa's Revealed Comparative Advantage Index* (RCA) of Balassa compares a country's export market share of a certain industry to that sector's market share in the global market. This RCA index can be used to determine a commodity's competitive advantage position in the international market in comparison to other producing countries. (Nugrohadi 2015). *Revealed Comparative Advantage* (RCA) is a number that shows the level of comparative advantage of an export commodity from a particular country compared to the same commodity from other countries in the world. (Yusuf, 2012:67)

The formula to calculate the RCA is:

$$RCA = \frac{\frac{X_{iN}}{X_N}}{\frac{X_{iW}}{X_W}} \quad (2)$$

Where :

RCA = *Revealed Comparative Advantage Coefficient*

$X_{iN}$  = Export value of agriculture, forestry and fishery sectors in the district r

$X_N$  = PDRB ADHK agriculture, forestry and fishery sectors in the district r

$X_{iW}$  = Export value of agriculture, forestry and fishery sectors in North Sumatra

$XW$  = PDRB ADHK agriculture, forestry and fishery sectors in North Sumatra

Criteria

$RCA < 1$  : export commodities has no comparative advantage.

$RCA = 1$ : export commodities have the same comparative advantage as the average of all countries in the world.

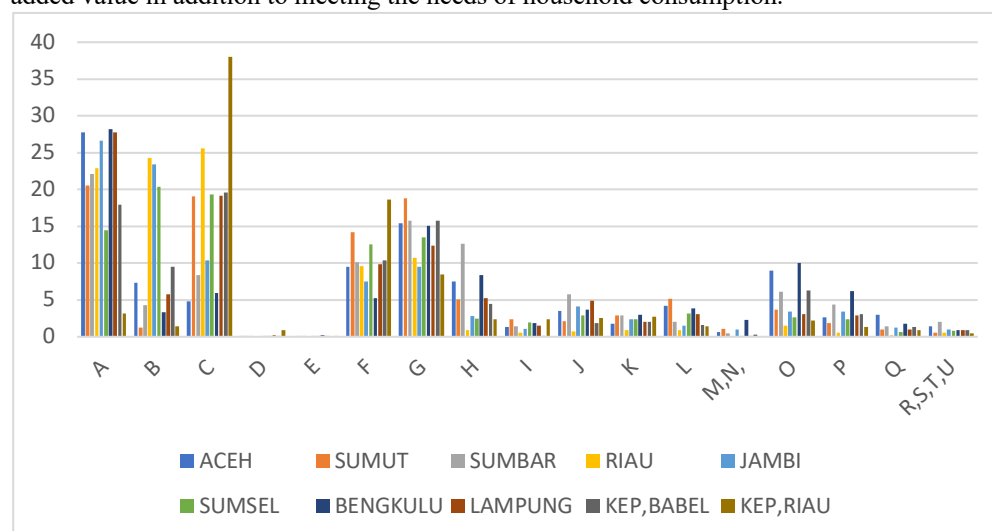
$RCA > 1$  : export commodities have a higher comparative advantage compared to other countries' comparative advantage.

## 4. Result and Discussion

### 4.1. The Province's Leading Sector on the Sumatra Island

The production units used in the calculation of PDRB in this presentation are grouped into business fields (sectors): (A) Agriculture, Forestry, and Fisheries; (B) Mining and Quarrying; (C) Processing Industry; (D) Electricity and Gas Procurement; (E) Construction; (G) Wholesale and Retail Trade, Car and Motorcycle Repair; (H) Transportation and warehousing; (I) Accommodation and food and drink provision; (J) Information and Communication Services; (K) Financial and Insurance Services; (L) Real Estate Services; (M,N) Company Services; (O) Government Administration, Defense, and Mandatory Social Security; (P) Educational Services; (Q) Health Services and Social Activities; and (R,S,T,U) Other Services.(BPS 2022).

Figure 4.1 depicts the role of the agricultural sector in all provinces on the Sumatra Island. In comparison to other sectors, agricultural sector is the most established. This is also attributable to the fact that, due to its subsistence character, agricultural sector was the first sector to be developed. Along with the advancement of technology and the enhancement of human resource quality, the agricultural sector has begun to consider how it may deliver higher added value in addition to meeting the needs of household consumption.



Source : BPS , 2021

**Figure 4.1.** Distribution of PDRB by business field on the Sumatra Island in 2009. (%).

The leading sector is determined by examining if an area has an *endowment factor*. It is envisioned that this factor will emerge as a result of investment activities carried out by parties from outside the region or from inside the region itself. This investment is the economic underpinning. The criteria for leading sectors vary greatly, including the sector's contribution to economic development, employment, inter-sector linkages, and added value production. (Rahmah Farahdita Soeyatno, SP 2019) In addition, the criterion for linking the agriculture industry to other sectors. This criterion can be seen from how the role of the agricultural sector is not only seen from the primary products produced, but also must be related to the processing and trading industries. (Saragih 2018)

#### **4.2 Leading Sector In Aceh Province**

Tourism is one of the many potential aspects of NAD Province. History shows that the Sultanate of Aceh is one of the top five in the world in terms of Islamic development. Throughout the NAD Province, there are numerous historical sites. NAD Province's agricultural goods, which include rice and secondary crops, are another source of promise. Furthermore, NAD Province offers tremendous potential for marine and plantation products. (Aceh n.d.).

In Aceh Province, the agricultural sector remains the largest contributor to PDRB. The purpose of this research is to analyse the value of *Location Quotient* (LQ) to the extent of the agriculture sector's involvement in the country. Furthermore, LQ analysis can determine the degree of specialization of economic sectors in a single location that use the base sector and the *leading sector*. LQ computes the difference between the output share of sector I in the city or district and our output share of sector I in the province. The leading sector here refers to the business sector that will not run out if the regional government exploits it. LQ analysis can also be used as a tool for simpler economic development with all its advantages and limitations. (R. Jumiyanthi 2018)

Aceh Province has a sectoral PDRB based on the business sector. This describes each sector's role to Gross Regional Domestic Product (PDRB). The health services sector and social activities, the government administration sector, the agricultural sector, the Transportation and Warehousing sector, are the largest sectors compared to other sectors. Others are followed by wholesale and retail trade; car and motorcycle maintenance are some sectors with a LQ value  $> 1$ , indicating that these are the base sectors in Aceh Province. Several other sectors that are not the basic sector are the mining and quarrying sector, the manufacturing industry sector, the electricity and gas procurement sector, the water supply sector, waste management, waste and recycling, the construction sector, the accommodation and food and drink supply sector, the information and communication sector, financial services and insurance sector.

#### **4.3 Leading Sector In North Sumatra Province**

North Sumatra Province is the agriculture, forestry and fishery sector, real estate sector, wholesale and retail trade sector; car and motorcycle repair, construction sector, transportation and warehousing sector, water supply sector; waste management, waste, and recycling, these sectors have an LQ value  $> 1$ . This signifies that these are the primary industries in North Sumatra Province. These sectors have a significant impact on the region's overall development. The basic sectors are export-oriented because they can meet the needs of the North Sumatra Province and have more production that can be exported outside of the North Sumatra Province.

Several other sectors that have an LQ value  $< 1$  are the mining and quarrying sector, the manufacturing sector, the electricity and gas procurement sector, the accommodation and food and drink supply sector, the information and communication sector, the financial and insurance services sector, the supply and accommodation and food and beverage sector, the information

and communication sector, the financial and insurance services sector, the corporate services sector, the government administration sector, defense and compulsory social security, the education services sector, the health services sector and social activities, and other sectors. This means that these sectors are non-basic sectors in North Sumatra Province, non-basic sectors are sectors that only produce goods and services for the needs of North Sumatra Province and have not exported to outside North Sumatra Province.

#### **4.4 Leading Sector In West Sumatra Province**

West Sumatra is a province of Sumatra Island, including the capital city of Padang. West Sumatra Province stretches from north to south along the west coast of central Sumatra, the Bukit Barisan plateau in the east, and a number of islands off the coast, including the Mentawai Islands. This 42,012.89 km<sup>2</sup> province is bordered by four provinces: North Sumatra, Riau, Jambi, and Bengkulu. (Wikipedia, n.d). Transportation and trade sector, agriculture sector, water supply sector; waste, waste and recycling management, wholesale and retail trade sector; car and motorcycle repair, information and communication sector, government administration sector, defense and compulsory social security, education service sector, health service sector, and social activities, other service sectors have a LQ value >1. This signifies that these are the basic sectors in West Sumatra Province. These sectors have a significant impact on the region's overall development. The basic sectors are export-oriented sectors because they can service the demands of West Sumatra Province while also producing goods that can be exported outside of West Sumatra Province. Several other sectors that have an LQ value < 1 are the mining and quarrying sector, the manufacturing industry sector, the electricity and gas procurement sector, the construction sector, the accommodation and food and drink supply sector, the financial and insurance services sector, the real estate sector and the corporate services sector.

#### **4.5 Leading Sector In Riau Province**

The PDRB of Riau Province consists of the mining and quarrying sector, the agricultural sector, and the manufacturing industry sector. These sectors have an LQ value > 1. This means that these sectors are the base sectors in Riau Province. These sectors have great potential in determining overall development in the region. The basic sectors are export-oriented sectors, because this sector is capable of producing to meet the needs of the Riau Province area, and has more production that can be exported outside the Riau Province.

Several other sectors that have an LQ value < 1 are the electricity and gas procurement sector, water supply sector, waste management, waste and recycling, construction sector, wholesale and retail trade sector, car and motorcycle repair, transportation and warehousing sector, sector provision of accommodation and food and drink, information and communication sector, financial and insurance services sector, real estate sector, corporate services sector, administration sector, defense and compulsory social security, education services sector, health services sector and social activities and other service sectors.

#### **4.6. Leading Sector In Jambi Province**

Jambi Province is located in the central part of Sumatra Island, at 0o45'-2o45' South Latitude and 101o10'-104o55' East Longitude. It borders Riau Province in the north, the South China Sea in the east, Riau Islands Province in the south, and Sumatra Province in the north. It is bounded to the south and west by the province of West Sumatra. (Jambil, n.d). Agriculture, forestry and fishery, water supply, waste, waste and recycling management, government administration, defense, and mandatory social security sectors, education services sector, health services sector, and social activities sector all have a LQ value >1. This signifies that these are



the fundamental sectors in Jambi Province. These sectors have a significant impact on the region's overall development. The basic sectors are export-oriented because they can meet the demands of the Jambi Province and have more production that can be exported outside of the Jambi Province. Other sectors with a LQ value  $<1$  include manufacturing, electricity and gas procurement, construction, wholesale and retail trade, car and motorcycle repair, transportation and warehousing, accommodation and food and drink provision, information and communication, financial and insurance services, real estate, corporate services, and other service sectors.

#### **4.7. Leading Sector In South Sumatra Province**

South Sumatra Province's economy based on the amount of Gross Regional Domestic Product (PDRB) based on current prices in 2019 totaled IDR 455.23 trillion, an increase of IDR 35.50 from IDR 419.723 trillion in 2018. The mining and quarrying industry (20.55%) and the processing industry (19.25%) contributed the most. Furthermore, three other major sectors have a considerable impact on PDRB. Agriculture, fishery, and forestry (14.39%), wholesale and retail commerce (13.55%), car and motorbike maintenance (13.55%), and building (12.50%) are the three sectors.(Purwanto 2020).

The agriculture sector, forestry and fishery sector, mining and quarrying sector, water supply sector, waste management, trash and recycling, and building sector are the PDRB shapers in South Sumatra Province. These sectors have a LQ value  $>1$ , indicating that they are the basic sectors in South Sumatra Province. These sectors have a significant impact on the region's overall development. Several other sectors that have an LQ value  $<1$  are the manufacturing sector, the electricity and gas procurement sector, the wholesale and retail trade sector, car and motorcycle repair, the transportation and warehousing sector, the provision and accommodation and food and beverage sector, the information and communication sector, the financial and insurance services sector, the real estate sector, the corporate services sector, the government administration sector, defense and compulsory social security, the education services sector, the health services sector and social activities, and other service sectors.

#### **4.8. Leading Sector In Bengkulu Province**

Bengkulu is a province in Sumatra which is located at coordinates  $5^{\circ}40' - 2^{\circ} 0'$  latitude  $40' - 104^{\circ} 0'$  east longitude with an area of 19,788.70 km<sup>2</sup> (7,640.46) bordering West Sumatra (north side); Lampung (south side); Indian Ocean (West); Jambi and South Sumatra (east).(Bengkulu 2020)

According to Bengkulu Province's business sectors, the following sectors the shapers of PDRB: agricultural sector, forestry and fishery, water supply, waste management, waste and recycling, retail trade, wholesale trade, car and motorcycle repair, transportation and warehousing, real estate, corporate services, government administration, mandatory social security, education services, health services, and social activities, these sectors have an LQ value  $> 1$ . This means that these sectors are the basic sectors in Bengkulu Province. This indicates that these sectors are the basic sectors in Bengkulu Province and have a large potential on the region's overall development. The basic sectors are export-oriented sectors, because this sector is capable of producing to meet the needs of the Bengkulu Province, and has more production that can be exported outside the Bengkulu Province.

The mining and quarrying sector, manufacturing industry sector, electricity and gas procurement sector, construction sector, accommodation and food and drink supply sector, information and communication sector, financial and insurance services sector, and other service sectors are a few other sectors with a LQ value below 1. Sectors with a LQ value  $<1$  can

only satisfy the needs of the Bengkulu Province since they have not been able to create goods and services to satisfy needs outside of the province.

#### **4.9 Leading Sector In Lampung Province**

The shapers of PDRB according to business fields in Lampung Province are the agricultural sector, forestry and fishery sector, water supply sector, waste management, waste and recycling, construction sector, wholesale and retail trade sector, car and motorcycle repair, transportation and warehousing sector, sector real estate, corporate services sector, government administration sector, defense and compulsory social security, education service sector, health services sector and social activities these sectors have an LQ value  $> 1$ . This means that these sectors are the base sectors in Lampung Province. This sector has great potential in determining the overall development of the region. The basic sectors are export-oriented sectors, because this sector is able to produce to meet the needs of the Lampung Province area, and has more production that can be exported outside the Lampung Province area.

Several other sectors that have an LQ value  $< 1$  are the mining and quarrying sector, the manufacturing industry sector, the electricity and gas procurement sector, the construction sector, the provision and accommodation and food and beverage sector, the information and communication sector, the financial and insurance services sector, and other service sectors.

#### **4.10. Leading Sector In Riau Islands Province**

Riau Islands (abbreviated Kepri) is an Indonesian province. Riau Islands Province is bounded to the north by Vietnam and Cambodia; to the east by Malaysia and the province of West Kalimantan; to the south by the provinces of Bangka Belitung and Jambi Islands; and to the west by Singapore, Malaysia, and the province of Riau. (Yulisman, 2022). The mining and quarrying sector, the processing industrial sector, the water supply sector, waste management and recycling, and the construction sector are the PDRB shapers in the Riau Islands Province. These sectors have a LQ value  $>1$ . This means that these sectors are the base sector in the Riau Islands Province. These sectors have great potential on the region's overall development. The basic sectors are export-oriented sectors, because this sector is capable of producing to meet the needs of the Riau Islands Province, and has more production which can be exported outside the Riau Islands Province.

Several other sectors that have an LQ value  $< 1$  are the agriculture sector, the electricity and gas procurement sector, the Wholesale and Retail Trade sector; Car and Motorcycle Repair, Transportation and Warehousing sector, Accommodation and Food and Drink Provision sector, information and communication sector, financial and insurance services sector real estate sector, corporate services sector, Government Administration sector, Defense and Mandatory Social Security, education services sector, the health services sector and social activities, other service sectors.

#### **4.11. Leading Sector In Babel Island Province**

The overall land area and ocean area of the Bangka Belitung Islands Province is 81,725.06 square kilometers, with the land area accounting for at least 16,424.06 square kilometers, or 20.10% of the total area. Meanwhile, the marine area of the Bangka Belitung Islands is roughly 65,301 square kilometers, or 79.90% of the overall area of the islands. (Kepri n.d). The sectors that make up PDRB according to business fields in the Province of the Bangka Belitung Islands are the agricultural sector, the forestry and fishery sector, the mining and quarrying sector, and the manufacturing industry sector, the wholesale and retail trade sector,

car and motorcycle repairs, the real estate sector, government administration sector, defense and compulsory social security, education service sector, health service sector and social activities these sectors have an LQ value > 1. This signifies that these are the basic sectors in Lampung Province have enormous potential for influencing the region's overall development. The basic sectors are export-oriented sectors because they can meet the demands of the Bangka Belitung Islands Province and have more production that can be exported outside of the Bangka Belitung Islands Province. Other sectors with a LQ value <1 include electricity and gas procurement, water supply, waste management, waste and recycling, construction, mining and quarrying, transportation and warehousing, food and drink accommodation provision, information and communications, financial and insurance services, and corporate services.

#### 4.12. The base area for the agricultural, forestry and fishery sectors is between provinces on the Sumatra Island

Competitiveness is one of the criteria that determines a region's success in international trade. The problem of competitiveness is explained theoretically by several theories, one of which is by Porter in (Karlinda 2012), who states that competitiveness is the ability of a commodity to join foreign markets and to survive in such markets. Competitiveness also refers to a country's ability to market its own products in comparison to the capabilities of other countries. From the table of leading sectors in all provinces on Sumatra Island, the agricultural sector in all provinces is the leading sector or the base sector, which has an LQ value > 1, meaning that all provinces are able to produce to meet their own food needs without having to import from other provinces. This research does not analyze partially for the types of plants but analyzes by using the accumulation figures from all sectors of agriculture, forestry and fishery. It is undeniable that certain types of agricultural commodities are in short supply at times, but this is seasonal because the types of agricultural products are very vulnerable to changes in the weather, resulting in crop failure, and eventually a certain type of commodity is reduced in one area and must be imported from other regions or even other countries.

Based on these considerations, this research only focuses on analyzing the competitiveness of the agriculture, forestry and fisheries sectors. In international trade, a commodity's competitiveness can be seen from its comparative advantage. The comparative advantage of a product can be seen from the value of RCA (Revealed Comparative Advantage). *Revealed Comparative Advantage* (RCA) is a number that shows the level of comparative advantage of an export commodity from a particular country compared to the same commodity from all other countries in the world. (Yusuf, 2012:67).

**Table 4.1.** RCA Value of Agriculture, Forestry and Fisheries Sub-Sector

PROVINCE	YEAR						
	2015	2016	2017	2018	2019	2020	2021
ACEH	20,80	21,20	21,52	21,58	21,71	21,58	21,09
NORTH SUMATRA	4,79	4,75	4,74	4,74	4,75	4,72	4,82
WEST SUMATRA	60,16	59,89	59,55	59,74	60,04	58,19	58,37
RIAU	18,86	19,34	19,72	20,32	20,86	20,12	20,17
JAMBI	67,71	67,99	68,05	68,56	69,34	66,41	66,38
SOUTH SUMATRA	33,33	33,25	32,99	32,82	32,78	31,28	31,30

BENGKULU	22,24	22,14	22,08	22,18	22,31	21,28	21,35
LAMPUNG	42,43	42,29	42,10	42,20	42,31	41,03	41,36
BANGKA BELITUNG ISLAND	18,42	18,54	18,58	18,76	19,17	18,71	18,45
RIAU ISLAND	54,57	54,48	55,93	56,47	56,84	56,35	56,45

Source : Processed Data

The following are the results of the RCA analysis of the fisheries sub-sector between districts in North Sumatra Province. Table 4.1 shows that all provinces on the island of Sumatra have RCA values  $>1$ , indicating that all provinces can supply consumption needs in agriculture, forestry, and fisheries. This RCA value also demonstrates that each province has the ability to export, whether to other parts of the country or even exporting abroad. All provinces on the Sumatra Island are regions with a comparative advantage or strong competitiveness against the fisheries sub-sector, allowing them to remain export-oriented to the destination area.

## 5. Conclusion

The regional government must be concerned with the diversity of regional potentials, natural resource features, and human resources in each region. All provinces in Sumatra have RCA values  $>1$ , indicating that all provinces can supply consumption needs in agriculture, forestry, and fisheries. This RCA value also demonstrates that each province has the ability to export, whether to other parts of the country or even outside. All provinces on the Sumatra Island are regions with a comparative advantage or strong competitiveness against the fisheries sub-sector, allowing them to remain export-oriented to the destination area.

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