



Analysis of Export Competitiveness and Export Potential of Blood Clams in Rokan Hilir Regency with Dumai City to Malaysia

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ABSTRACT

This research aims to analyze the export competitiveness of blood clams to Malaysia from Rokan Hilir Regency compared to those from Dumai City. Moreover, it attempts to find out the potential for exporting blood clams from Rokan Hilir Regency to Malaysia in the future. The method of research applied is a type of quantitative one, using secondary data in the form of a time series from 2017-2021. Secondary data were obtained from agencies such as the Maritime Affairs and Fisheries Service of Riau Province, the Central Bureau of Statistics of Riau Province, and the Ministry of Maritime Affairs and Fisheries as well as other sources related to research. The analysis technique used is Revealed Comparative Advantage (RCA) and trend analysis. Data processing was conducted using Microsoft Excel 2007 software. The results of the research show that in the last five years, the blood clams exported from Rokan Hilir Regency did not have comparative competitiveness with Malaysia, indicated by an average RCA value of <1 . However, the export potential of Blood Clams in Rokan Hilir Regency to Malaysia in the future shows a positive trend.

Keywords: Export, Export Competitiveness, Blood Clams, Comparative, RCA, Trend Analysis

1. Introduction

One of the districts in Riau Province which has the highest amount of fishery production is in Rokan Hilir Regency. Rokan Hilir Regency has an area of 8,881.59 KM² with potential land for the development of marine aquaculture waters of 1,142 KM². Rokan Hilir Regency is one of the districts that has great potential in the sector of difficulties and fisheries. Most of the residents of Rokan Hilir make a living as fishermen because they are in a coastal area adjacent to the Malacca Strait.

As for one of the fishery products of Rokan Hilir Regency, namely blood clams. Rokan Hilir Regency is the only area in Riau Province that cultivates blood clams. However, in the cultivation of blood clams in Rokan Hilir Regency, there was a problem, where the Blood Clams seeds were still taken directly from nature because Rokan Hilir has not been able to provide the blood clams seeds themselves. Nonetheless, Rokan Hilir has tried to coordinate with the center for the blood clam hatchery center. It has also responded to this.

Rokan Hilir Regency, from a regional and international perspective, is in a very strategic position because the northern part of Rokan Hilir Regency directly faces the Malacca Strait so that international shipping routes can increase the potential for marketing fishery products such as Blood Clams to export destination countries. One of the export destinations for Rokan Hilir Regency Blood Clams is Malaysia.

The demand for blood clam imports in Malaysia tends to increase every year; nevertheless, if you look at the number of blood clam exports from Rokan Hilir Regency, it tends to fluctuate. In 2019 there was an increase in the highest number of exports, namely 693,705 kg with an export value of IDR 9,227,455,000, this was because at that time export activities of fishery products could be carried out directly from Pekanbaru City to the destination country. Previously, if you wanted to export fishery products by air, you had to go to Kualanamu airport in Medan, North Sumatra, or through other areas in Sumatra. Furthermore, in 2020 the number of exports decreased by 111,295 kg with an export value of IDR 1,020,497,500. This was because at that time the Covid-19 pandemic occurred which resulted in restrictions on export and import activities. Likewise, in 2021, which is still in a state of the Covid 19 pandemic, the number of exports of blood clams from Rokan Hilir has increased slightly, namely 162,290 Kg with an export value of IDR 2,319,330,000.

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The cause of this fluctuation can also be due to competition between districts. For the last five years in a row, apart from Rokan Hilir Regency which has been consistent in exporting blood shells to Malaysia, Dumai City has also been consistent in exporting blood shells with the same main destination country, namely Malaysia. The two areas are also directly adjacent to the Malacca Strait. The number of Blood Clams exported from production is greater than that of Rokan Hilir Regency.

In 2017 there were as much as 3.05% of blood clams production was exported to Malaysia, different from Rokan Hilir Regency which was only 0.11%. Likewise, in subsequent years, the percentage of blood clams from Dumai that were exported to total production was greater than that of Rokan Hilir Regency. The highest percentage fell in 2019, where as much as 20.78% of Blood Mussel production was exported to Malaysia, while Rokan Hilir Regency only amounted to 7.70%. However, if you look at the number of existing blood clam exports, both Rokan Hilir Regency and Dumai City have experienced fluctuations, where the highest number of Dumai City Blood Clams exports was in 2019, namely 365,155 kg.

Therefore, the authors are interested in conducting this research with the title "Analysis of Export Competitiveness and Export Potential of Blood Clams from Rokan Hilir Regency to Dumai City to Malaysia" where in this study the authors will analyze the export competitiveness of blood clams from Rokan Hilir to Dumai as a comparison. In addition, the authors also want to identify the potential for export competitiveness of blood clams in Rokan Hilir to find out how to forecast the export competitiveness of blood clams in the next few years. Thus, the availability of this information will help the government of Rokan Hilir and other parties involved in realizing the success of the export of blood clam commodities.

Based on the background of the problem in the description above, the formulation of the problem in this study is "How is the competitiveness and export potential of Rokan Hilir Blood Clams to Malaysia?". Considering the formulation of the problem above, the purpose of this study is to determine the competitiveness and export potential of Rokan Hilir blood clams to Malaysia.

Every country conducts international trade for two main reasons which are a source of trade gains (gains from trade) for the country. The first reason is because countries trade differently from one another. Each country has the opportunity to benefit from the differences by doing something relatively better. The second reason is that countries trade to achieve economies of scale in production. That is, if each country produces only a certain amount of goods, that country can produce goods on a larger scale and therefore more efficiently than it can produce all kinds of goods. World trade patterns that occur reflect a combination of these two motives (Nufus, 2022).

International trade theory studies the relationship of interdependence between countries. This theory analyzes the flow of goods, services, and payments between a country and other countries in the world, the policies directed at regulating these flows, and their influence on the welfare of the country. This is due to the influence of the country's socio-cultural, political, and military relations. The basis for international trade and the benefits derived from trade will be analyzed in this theory (Sari and Tety, 2017).

Basically, several theories explain the emergence of international trade. First, in the Pre-Classical Theory of Mercantilism, adherents of mercantilism argue that the only way for a country to become rich and strong is to export as much as possible and import as little as possible. The second, Classical Theory, classical theory consists of the Theory of Absolute Advantage (Adam Smith) which explains international trade occurs by specializing in the production and export of goods if the country has an absolute advantage and importing goods if the country does not have an absolute advantage and Theory Comparative Advantage (David Ricardo), which is different from Adam Smith, David Ricardo (1971) states that international trade can occur even though a country does not have an absolute advantage, simply by having a comparative advantage in prices for a relatively different commodity (Helpman, 2010). The keyword for this theory is comparative, which means that nothing is absolute or relative. These countries can mutually benefit from trade even though there are countries that are the most productive, or through a 3rd country that has the same advantage (disadvantage) in producing different goods or services, which is just a difference in the method (Darmayuda and Syapsan, 2014). Third, Modern Theory, Modern International Trade Theory began when a Swedish economist named Eli Heckscher (1919) and his student Bertil Ohlin (1935) explained international trade which could not be explained by the theory of comparative advantage. The classical theory of comparative advantage contains international trade that occurs because there are differences in the factors of production that are explicitly conveyed between countries. However, the classical theory of comparative advantage does not explain the reasons for this difference in productivity. Eli Heckscher and Bertil Ohlin (Heckscher-Ohlin) developed the theory of comparative advantage and theory of absolute advantage to convey modern international trade theory (Salvatore, 2013). The Heckscher-Ohlin theory of international trade patterns states that: "Commodities which in the process of production demand more (abundant factors) and less (scarce factors) will be exported in exchange for commodities whose production processes demand factors in equal proportions. opposite. Thus, indirectly, factors in excess supply are exported and factors in scarce supply are imported (Utami, 2019)".

Ricardo criticizes the theory of absolute advantage, which states that international trade can only be carried out by countries that may only be able to carry out production processes for certain goods that have absolute advantages or countries that can carry out production processes to achieve absolute profits only with profits obtained through specialization. the production of each country in commodities that have an absolute advantage, which is exchanged for the output of commodities that have no absolute advantage (absolute disadvantage). It is as if this theory only applies to countries that can specialize in the production of commodities that have an absolute advantage.

Based on that weakness, David Ricardo put forward a new idea within the scope of international trade, namely the theory of comparative advantage. According to Ricardo (1817), a country that does not have an absolute advantage can be involved in profitable international trade, if the country can specialize in the production of goods that have a comparative advantage in terms of costs or have lower costs than other countries because countries that successfully produce goods with relatively lower costs and relatively cheaper prices compared to other countries have a comparative advantage (Kurniawan, 2021).

According to Setiawan and Lestari (2011), the factors that cause international trade are the information revolution and transportation, Interdependence of needs, Economic liberalization, The principle of comparative advantage, and the need for foreign exchange. Sukirno (2006) explains that there are eight factors that drive international trade, including to meet domestic needs for goods and services, the desire to gain profits and increase state revenues, differences in the ability to master science and technology in managing economic resources, and excess products. in the country so that new markets are needed, there are differences in conditions such as natural resources, climate, labor, culture, and population which cause differences in production results and production limitations, there are similarities in tastes for an item, the desire to open cooperation, political relations and support from other countries, and The occurrence of the era of globalization so that no country in the world can live alone.

According to the Law of the Republic of Indonesia Number 7 of 2014 concerning trade, export is defined as the activity of removing goods from the customs area. The customs area includes the land area, waters, and air space in it, as well as certain places in the exclusive economic zone. Export is one of the international trade activities, which plays a key role in the economic development of a country. Exports are very important for the Indonesian economy for two reasons, namely as the main source of foreign exchange which is needed mainly to finance imports for the needs of domestic industry and society, and as one of the drivers of economic growth, which means increased employment opportunities and reduced poverty. Thus, exports are an important part of international trade. Sukirno (2008) said that three factors determine a country's export level, namely the competitiveness and economic conditions of other countries, protection of other countries, and foreign exchange.

Meanwhile, the concept of competitiveness originates from the concept of comparative advantage by David Ricardo. Competitiveness can be seen from three different levels, namely country, industry, and company level. Competitiveness comes from the Latin, *competere*, which means involvement in a business competition market in a market that describes the economic strength of a country (Ambastha, 2004). Competitiveness is the ability of companies, industries, regions, countries, or between regions to produce relatively high and sustainable factors of income and employment factors to face international competition. In international competition, especially in the competitiveness of export products, there are three aspects that need attention, namely: Price, Product Quality, and Time of Delivery (Amir, 2004).

Tambunan (2009) describes that there are three methods of assessing competitiveness, namely the first through Revealed Comparative Advantage (RCA). This method explains that if a country's exports of a type of goods which are a percentage of the country's total manufactured exports are higher than the share of exports of the same goods in total world exports, then this country has a comparative advantage over the production and exports of these goods. The second method is the Trade Specialization Index (ISP), where this index can be used to find out whether a country's product type can become an exporter or importer and monitor the country's product experiencing saturation or growth. The third method is the Acceleration Ratio (AR) which shows whether a country can seize overseas markets or its position is getting weaker in the export market.

A method commonly used to determine a country's competitiveness is Revealed Comparative Advantage (RCA). The concept of Revealed Comparative Advantage (RCA) here is not about the ability to survive in the market or enter the market, but talks about the position of export commodities compared to other commodities. Revealed Comparative Advantage (RCA) is the most widely used index in analyzing comparative advantage. RCA was introduced by Bella Ballasa in 1965. This approach is popular due to its simple calculations and ease of meeting the required data requirements (Tampubolon, 2019). However, the problem that often arises in RCA is the data used, sometimes export-import data does not reflect the real value, but there are distortions such as government protection policies, export subsidies, and import restrictions, so RCA calculations will also experience distortion (Sahinli, 2014).

According to KBBI (Great Dictionary of the Indonesian Language), potential is an ability that can be developed. According to Prakosa (2005), the potential is the ability of a person or other thing that can be explored and developed to achieve certain goals. The potential is carried out to measure how much export competitiveness can maintain success or increase success in the following year. To calculate how big the potential for export competitiveness of Blood Clams the authors use trend analysis calculations. Trend analysis is an analytical tool used to estimate or forecast the future. A good forecast requires data that is observed over a long enough period so that the results obtained from an analysis can be used to how much fluctuation occurs. In the theoretical concept, the most decisive time series analysis forecast is the strength and accuracy of the data obtained such as the period of the data collected (Hasan, 2016).

According to Sunyoto (2011), the size of the change depends on the factors that influence it and the time series of certain variables, so it can be defined that trend analysis is an analysis that describes or shows the average change of a certain variable from time to time. The average change in a variable that tends to decrease in value is called a negative trend. The change in the average of one variable that has increased in value is called a positive trend.

2. Research Method

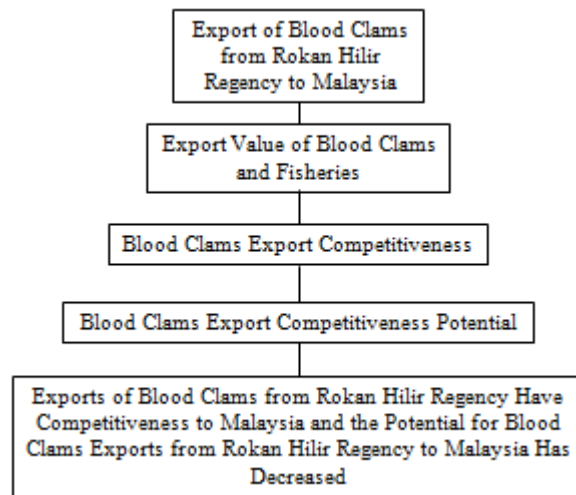


Figure 1. Research Framework

The hypotheses of this study are: 1) Exports of Blood Clams from Rokan Hilir Regency have export competitiveness to Malaysia, 2) The potential for export competitiveness of Blood Clams from Rokan Hilir Regency to Malaysia has decreased.

3. Results and Discussion

If symbols are defined in a nomenclature section, symbols, and units should be listed in alphabetical order with their definition and dimensions in SI units.

The competitiveness of a product or commodity in an area can be estimated through comparative advantage. Comparative advantage analysis in this study uses the Revealed Comparative Advantage (RCA) analysis tool aimed at two regions, namely Rokan Hilir Regency and Dumai City from 2017 to 2021.

Based on the results of the research that has been carried out, the Revealed Comparative Advantage (RCA) value for Blood Clams exports from Rokan Hilir Regency and Dumai City to Malaysia from 2017-2021 is as follows:

Table 1. RCA Value of Blood Clams Exports from Rokan Hilir Regency and Dumai City

YEAR	ROKAN HILIR REGENCY	DUMAI CITY	INFORMATION
2017	0,65	1,17	Dumai City has competitiveness and Rokan Hilir Regency does not have competitiveness
2018	1,01	0,80	Rokan Hilir Regency has competitiveness and Dumai City does not have competitiveness
2019	0,78	2,02	Dumai City has competitiveness and Rokan Hilir Regency does not have competitiveness
2020	0,90	1,33	Dumai City has competitiveness and Rokan Hilir Regency does not have competitiveness
2021	1,05	0,96	Rokan Hilir Regency has competitiveness and Dumai City does not have competitiveness
AVERAGE	0,88	1,26	DUMAI CITY HAS COMPETITIVENESS AND ROKAN HILIR REGENCY DOES NOT HAVE COMPETITIVENESS

Based on Table 1, it can be seen that the RCA values for Rokan Hilir Regency and Dumai City both experienced fluctuations. In 2017 the RCA value for Rokan Hilir Regency was 0.65 and the RCA value for Dumai City was 1.17. This shows that the RCA value for Dumai City is greater than the RCA value for Rokan Hilir Regency. In contrast, in 2018 the RCA value for Rokan Hilir Regency was 1.01 and the RCA value for Dumai City was 0.80. This shows that the RCA value for Rokan Hilir Regency is greater than the RCA value for Dumai City. In 2019 the RCA value for Dumai City was 2.02. This is the highest RCA value

for the last five years both in Dumai City and in Rokan Hilir Regency. Meanwhile, the RCA value for Rokan Hilir Regency in 2019 was only 0.78. This shows that the RCA value for Dumai City is far greater than the RCA value for Rokan Hilir Regency. In 2020 the RCA value for Dumai City decreased by 1.33 and vice versa the RCA value for Rokan Hilir Regency increased by 0.90. However, this still shows that the RCA value for Dumai City is greater than the RCA value for Rokan Hilir Regency. In 2021 the RCA value for Dumai City will decrease again to 0.96 and the RCA value for Rokan Hilir Regency will increase by 1.05. This shows that the RCA value for Rokan Hilir Regency is greater than the RCA value for Dumai City.

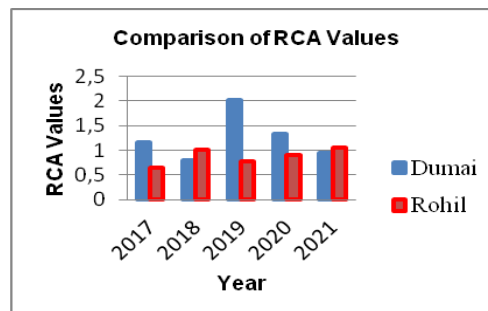


Figure 2. Graph of Comparison of RCA of Rokan Hilir Regency and Dumai City

Figure 2 shows a graph of the development of Blood Clams exports from two regions, namely Dumai City and Rokan Hilir Regency to Malaysia which tends to fluctuate. Even though for the past five years the RCA value for Rokan Hilir Regency has often been below the RCA value for Dumai City, if you pay attention from 2019 to 2021, the RCA value for Rokan Hilir Regency shows a continuous increase. In contrast to the Dumai City RCA value, if you pay attention from 2019 to 2021 the Dumai City RCA value has continuously decreased.

As for forecasting the potential competitiveness of a product or commodity in the future, it can be estimated through trend analysis. Trend analysis in this study uses the least square method which is aimed at two regions, namely Rokan Hilir Regency and Dumai City in the next ten years.

The results of forecasting RCA values from Rokan Hilir Regency and Dumai City to Malaysia for the next ten years are as follows:

Table 2. Forecasting of RCA Values of Blood Clams in Rokan Hilir Regency and Dumai City

Number	Year	Trend Analysis	
		Rokan Hilir Regency	Dumai City
1	2022	1,09	1,29
2	2023	1,16	1,3
3	2024	1,23	1,31
4	2025	1,3	1,32
5	2026	1,37	1,33
6	2027	1,44	1,34
7	2028	1,51	1,35
8	2029	1,58	1,36
9	2030	1,65	1,37
10	2031	1,72	1,38

Based on Table 2 it can be seen that the forecasting of the RCA value of exports of Blood Clams in Rokan Hilir Regency and Dumai City for the next ten years will continue to increase until 2031. From 2022 to 2025 the RCA value of Rokan Hilir Regency will be smaller than the RCA value of Dumai City and From 2026 to 2031 the RCA value for Rokan Hilir Regency will be greater than the RCA value for Dumai City.

This indicates that in the next ten years, the export of Blood Clams from Rokan Hilir Regency will seize the Malaysian market from the export of Blood Clams from Dumai City.

Trend analysis or forecasting that has been done shows that Rokan Hilir Regency and Dumai City will both experience an increase and have competitiveness (> 1). However, it is estimated that from 2022 to 2025 the RCA value for Dumai City will be greater than the RCA value for Rokan Hilir Regency. In contrast, in 2026-2031 the RCA value for Rokan Hilir Regency will be far greater than the RCA value for Dumai City. In 2031 the RCA value for Rokan Hilir Regency will reach 1.72 and Dumai City will be 1.38. This indicates that the potential for Blood Clams from Rokan Hilir Regency to Malaysia is getting bigger, as well as forecasts for Malaysia's need for Blood Clams in the next six years which will continue to increase.

Table 3. Forecasting the Total Demand for Blood Clams in Malaysia and the Total Production of Rokan Hilir Blood Clams

YEAR	MALAYSIAN NEEDS	PRODUCTION OF ROKAN HILIR
2022	3.004.750	6.231.456
2023	3.250.058	5.348.004
2024	3.495.366	4.464.552
2025	3.740.674	3.581.100
2026	3.985.982	2.697.648
2027	4.231.290	1.814.196

Based on Table 3, it can be seen that Malaysia's need for blood clams is increasing, while the forecast for blood clam production in Rokan Hilir Regency in the next six years will decrease. Therefore, it is hoped that the government of Rokan Hilir Regency can optimize the cultivation of blood clams as a means of increasing the production of blood clams because, on the other hand apart from Malaysia, there is a large enough potential to enter Thailand.

Table 4. Forecasting the Total Needs for Blood Clams in Thailand and Singapore

	THAI NEEDS	SINGAPORE NEEDS
2022	15.549.466	4.557.742
2023	16.538.770	4.182.904
2024	17.528.074	3.808.066
2025	18.517.378	3.433.228
2026	19.506.682	3.058.390
2027	20.495.986	2.683.552

Based on Table 4, it can be seen that Thailand's increasing need for blood cockles will continue to increase for the next six years. This indicates that there is also considerable potential to expand market share to Thailand and Malaysia. In contrast to Singapore, which is declining. So the researcher does not recommend expanding market share to Singapore.

4. Conclusions and Suggestions

Based on the results of the research that has been done in the previous chapter, it can be concluded that:

1. In the last five years, the export of Blood Clams from Rokan Hilir Regency did not have comparative competitiveness and every year the position of export competitiveness of Blood Clams tends to decrease. This is because Rokan Hilir Regency has not been able to provide the Blood Clams seeds themselves and there are still cases of blatant theft of crops.
2. In the coming year the export potential of Rokan Hilir Regency Blood Clams looks very good, this is shown based on the results of RCA forecasting calculations which show an increase every year.

Based on the research results of these problems, the things that can be done in the future are as follows:

1. There needs to be a stronger push from the government and business stakeholders to cultivate blood clams to meet the Malaysian market. One effort that can be made is to provide blood clam seeds so that they can be used as a means of increasing the development of blood clam production. After that, the government should also support and pay attention to permits regarding the business of cultivating blood clams so that cultivators get legal protection from theft which often occurs and causes yields to always decrease.
2. For future researchers, it is hoped that it will focus more on research on the analysis of the factors that influence the export of blood clams, especially in Rokan Hilir Regency, and be able to develop further research related to the position of export competitiveness of blood clams in Rokan Hilir Regency as an effort to face competition. So that a more in-depth study can be carried out to assist the development of blood clam cultivation in producing and exporting blood clams abroad and can also assist the government in the process of making international trade policies related to the export of blood clams.

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