



The Competitiveness Of Indonesian Frozen Shrimp (HS030617) Export in European Market

Jesica Karindra Agustia¹, Ignatia Martha Hendrati²

Development of Economics Study Program, Faculty of Economics and Business, University of Pembangunan Nasional "Veteran" Jawa Timur

Email: ¹⁾ 19011010130@student.upnjatim.ac.id, ²⁾ ignatia.hendrati.ep@upnjatim.ac.id

How to Cite :

Agustia, J.K., Hendrati, I.M., (2024). The Competitiveness Of Indonesian Frozen Shrimp (HS030617) Export in European Market. EKOMBIS REVIEW: Jurnal Ilmiah Ekonomi Dan Bisnis, 12(2). doi: <https://doi.org/10.37676/ekombis.v12i2>

ARTICLE HISTORY

Received [15 December 2023]

Revised [25 March 2024]

Accepted [24 April 2024]

KEYWORDS

Frozwn Shrimp (HS030617),
RCA, EPD

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ABSTRACT

Shrimp is one of the top ten major commodities that significantly contribute to foreign exchange earnings in the fisheries sub-sector. Indonesia is among the world's fourth-largest exporters of frozen shrimp commodities. The European market holds a 25% share as one of the main global importers of shrimp products. The research method employed includes Revealed Comparative Advantage (RCA) to analyze competitiveness through comparative advantage and Export Product Dynamic (EPD) to assess competitive positions in the European market from 2018 to 2022. The research results indicate that Indonesian frozen shrimp (HS 030617) exhibits high competitiveness in the European market, except in Italy and Spain. Meanwhile, through competitive advantage, the competitive export position of Indonesian frozen shrimp commodities (HS 030617) varies in the European market.

INTRODUCTION

Economic growth is one of the indicators that a country can use to assess and evaluate the economic development conditions towards improvement over a specific period (Yuni, 2021). The economic growth of a region is basically influenced by comparative advantages, competitive advantages, and economic potential. Therefore, harnessing and developing the entire economic potential become a top priority that needs to be explored and developed in achieving sustainable regional economic development (Paputungan, Canon, & Dai, 2022).

International trade is one of the factors influencing the economic growth of a country. International trade involves the exchange of goods and services between the residents of one country and those of another based on mutual agreement (Layna & Dewanta, 2022). Export, as an economic indicator, plays a crucial role in advancing and driving a country's economy, and its performance should be consistently maintained and improved. If a country engages in more exports than imports, its national income will increase, positively impacting economic growth (Rinaldy, eddie and Ikhlas, Denny and Utama, & Ardha, 2021).

Geographically, Indonesia is the world's largest archipelagic country, with over 70 percent of its territory dominated by water, providing the advantage of abundant fisheries resources (Immanuel, 2021). The primary fisheries commodity commonly exported by Indonesia is shrimp. Shrimp is ranked first among Indonesia's fisheries exports, contributing 14.13 percent of the export volume and 42 percent of the export value (Damayanti & Sugiarto, 2022).

In 2022, Indonesia ranked fourth as the world's largest exporter of frozen shrimp (HS 030617), dominating 10.12% of the global frozen shrimp export market (ITC, 2023). With its production capabilities and track record, Indonesia should have opportunities to increase frozen shrimp exports to international markets, aligning with the growing global shrimp consumption (BPS, 2023).

The primary global markets for shrimp products are located in the Americas, Asia, and Europe. Imports from these regions constitute 32%, 27%, and 25% of the total global shrimp import demand, respectively. With a continuously growing demand, shrimp has become one of Indonesia's key fisheries export commodities. Indonesia exports shrimp in various forms, including fresh, frozen, and dried and salted, with 88.5% of Indonesian shrimp exported in frozen form (Osaka, 2022)

Indonesian frozen shrimp (HS 030617) has the potential to compete in the European market, aiming to reach nations like Belgium, Denmark, France, Germany, Italy, Netherlands, Russia, Spain, and Sweden, based on the descriptions given above. Therefore, to assess the opportunities and potential export performance of Indonesian frozen shrimp, an analysis is needed to examine the level and competitive position in the European market.

LITERATURE REVIEW

International Trade

In the era of free trade and globalization, international trade plays a crucial role in meeting a country's needs by engaging in trade or business with other nations (Rusydia, 2018).

Competitiveness is a key component in determining whether a country can succeed in international trade, showcasing the ability of products to enter and sustain in a market (Itamary, 2022). A country's competitiveness is determined by the productivity with which it uses its natural resources, people, and capital. Essentially, competitiveness is needed to enhance living standards and quality of life and to shift towards a market-oriented economic existence. Furthermore, competitiveness aims to improve the productivity of production factors and technical efficiency in the production process (Pandriadi & Mario, 2019)

In efforts to boost exports, Indonesia inherently has many potential and profitable products to develop. Export supply is the amount of commodity that a country can sell. The more the amount of production, the export supply of a country will increase. Export demand is the amount of an export commodity demanded by a particular country. (Rivai et al., 2021).

Comparative Advantage is the ability that a country has to create an item at a low cost when juxtaposed with the costs used by other countries in producing the good (Ramadhani, Hendrati, & Asmara, 2021). A country can achieve competitive advantage nationally if it meets four interrelated conditions forming four corners of a diamond-shaped structure. These include the existence of creating factors such as skilled labor or infrastructure, demand conditions and quality requirements within the country for industrial outcomes, linked and competitive supporting industries internationally, and the industrial strategy, structure, and competition system (Mahrina & Yulianasari, 2021)

Shrimp

Shrimp is a fisheries commodity that contributes significantly to national export performance, and is ranked first in fisheries sector exports with the highest export value contribution. Indonesian shrimp are exported in fresh, frozen, and dried and salted form. Among these, 88.5% of Indonesian shrimp is exported in frozen form (Kusuma & Sari, 2021). Shrimp is a

marine product with high protein content, selenium, minerals, and antioxidants that can help maintain the immune system. The high demand for shrimp in the European market is due to the high level of fish and seafood consumption. Additionally, the low fisheries production in Europe results in the reliance on imports to meet seafood consumption needs, including shrimp, often in frozen form (CBI, 2023)

METHODS

This study uses a quantitative methodology to assess the Indonesian frozen shrimp's (HS030617) export potential to the European market, specifically Belgium, Denmark, France, Germany, Italy, the Netherlands, Russia, Spain, and Sweden. Exports of frozen shrimp bearing the HS number 030617 are the main subject of the investigation. The information gathered takes the shape of secondary data in time series spanning from 2010 to 2022. Official sources of the information include UN COMTRADE, Trademap (ITC), and BPS.

Data processing and analysis techniques are carried out quantitatively descriptively. Quantitative analysis is done with RCA and EPD analysis. The calculation results from RCA and EPD analysis will be described according to the theory of the analysis tool.

Revealed Comparative Advantage (RCA)

By analyzing the contribution of a certain commodity's exports to the nation's overall exports relative to that commodity's portion of global trade, the RCA technique is utilized to assess a country's export performance. Analyzing a product or commodity's degree of comparative advantage is the goal of the RCA analysis approach (Balqis and Yanuar, 2021).

The value of RCA is obtained from the following formulation:

$$RCA = \frac{x_p/x_q}{y_p/y_q}$$

Explanation:

Xp = The value of Indonesian frozen shrimp shipments to the European market (US\$).

Xq = Total value of Indonesian commodities exports to the European market (US\$).

Yp = The total value of global frozen shrimp shipments to Europe (US\$).

Yq = The total value of global commodities exports to Europe (US\$).

The interpretation states that if the RCA value is higher, frozen shrimp (HS 030617) has a better level of competitiveness and comparative advantage. Conversely, a score of less than one for the RCA indicates low competitiveness. (Damayanti & Sugiarto, 2022).

Export Product Dynamic (EPD)

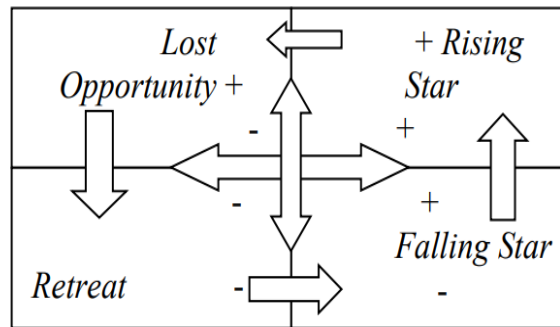
Indonesian frozen shrimp (HS 030617) commodities are assessed for their competitive advantages and market position in the European market using the EPD technique. A commodity's company strength and degree of market attractiveness are both shown by an EPD analysis. A product's attractiveness is determined by how quickly demand for it is growing in relation to a specific market objective. The growth of a country's market share in the destination country serves as a proxy for business strength information (Pudyastusi, Sambado, & Windhani, 2018). The result of the combination will be the market position character of the four categories of products that were evaluated. Rising Star, Lost Opportunity, Falling Star, and Retreat are the four categories (Wati and Aini, 2022).

Quadrant I indicate a rising star position which means that Indonesian frozen shrimp (HS 030617) is a dynamic product in a competitive market in Europe. Quadrant II indicates a lost opportunity position, meaning that Indonesia missed the chance to expand the market share of frozen shrimp (HS 030617) in Europe (an undesirable position Quadrant III shows the retreat

position, namely Indonesian frozen shrimp products (HS 030617) are no longer desired by the European market. The falling star position in Quadrant IV denotes that while Indonesia's market share in the European market is growing, it is not competitive when it comes to frozen shrimp goods (Rivai, Munizu, & Mahyuddin, 2021).

These classifications aid in our comprehension of the characteristics and competitiveness of frozen shrimp originating from Indonesia inside the European market.

Figure 1 Quadrant Market Position EPD Method



Source : Wati & Aini, 2022

Axis X: Rate of growth in the market share of frozen shrimp (HS 030617) exports from Indonesia in the European market (percentage)

$$\text{Sumbu X} = \frac{\sum_{t-1}^t \left(\frac{X_t}{W_t}\right) \times 100\% - \sum_{t-1}^t \left(\frac{X_t}{W_t}\right)_{t-1} \times 100\%}{T}$$

Axis Y: Rate of growth in the market share of total exports from Indonesia in the European market (percentage)

$$\text{Sumbu Y} = \frac{\sum_{t-1}^t \left(\frac{X_t}{W_t}\right) \times 100\% - \sum_{t-1}^t \left(\frac{X_t}{W_t}\right)_{t-1} \times 100\%}{T}$$

Explanation :

- X_i = The value of Indonesian frozen shrimp shipments to the European market (US\$).
- X_t = Total value of Indonesian commodities exports to the European market (US\$).
- W_i = The total value of global frozen shrimp shipments to Europe (US\$).
- W_t = The total value of global commodities exports to Europe (US\$).
- t = Year t
- $t-1$ = The year before
- T = The total number of years examined

RESULTS

Revealed Comparative Advantage

The results of calculations using RCA analysis are useful in determining the degree of export competitiveness of frozen shrimp (HS 030617) commodities from Indonesia due to comparative advantage in the European market.

Table 1 RCA Calculation Results of Indonesia's Frozen Shrimp (HS030617) export to European Market in 2018-2022

Country	Year				
	2018	2019	2020	2021	2022
Belgium	5.87	11.43	4.44	4.80	6.19
Denmark	6.45	4.92	1.78	1.83	0.73
France	6.92	8.41	7.90	5.55	3.35
Germany	7.31	3.94	2.74	1.83	3.55
Italy	1.40	0.87	0.57	0.37	0.54
Netherland	3.54	2.52	4.35	3.26	2.92
Russia	3.37	2.55	5.32	4.92	2.71
Spanish	0.16	0.21	0.26	0.07	0.75
Sweden	40.25	16.89	13.01	14.80	9.83

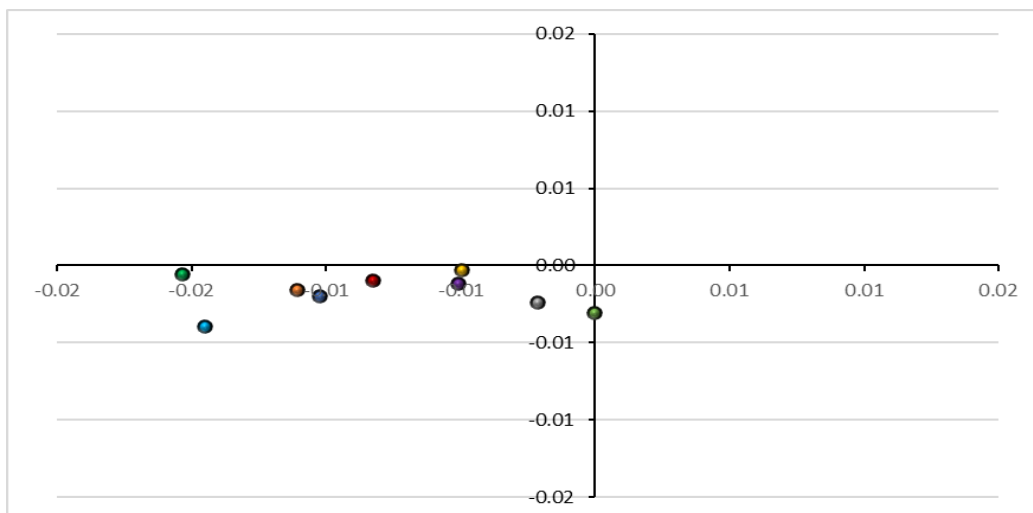
Source : International Trade Center, 2023 (Data Processed)

It can be seen from Table 1 that the RCA values in countries such as Belgium, France, Germany, Netherland, Russia, and Sweden are always above 1. This indicates that frozen shrimp (HS 030617) from Indonesia has a high comparative advantage and is capable of competing in each year during the export period in the European market. Meanwhile, the RCA value for Denmark from 2018 to 2021 shows a high comparative advantage, but in 2022, the RCA value decreases and falls below 1. This suggests that frozen shrimp (HS 030617) from Indonesia has a low comparative advantage in Denmark. Similarly, the RCA values for Italy from 2019 to 2022 indicate a low level of comparative advantage. The same trend is observed in Sweden, where the RCA values from 2018 to 2022 are below 1, indicating that frozen shrimp (HS 030617) from Indonesia has a low level of competitiveness in Sweden.

Export Product Dynamic (EPD)

The results of calculations using EPD analysis are useful for determining the competitive position of frozen shrimp commodity (HS 030617) exports from Indonesia through competitive advantage in the European market.

Figure 2 EPD Calculation Results of Indonesian Frozen Shrimp (HS 030617) export to European Market in 2018-2022



Negara	Sumbu X	Sumbu Y	Posisi Pasar
Belgium	-0.0110	-0.0016	Retreat
Denmark	-0.0049	-0.0003	Retreat
France	-0.0082	-0.0010	Retreat
Germany	-0.0051	-0.0012	Retreat
Italy	-0.0021	-0.0025	Retreat
Netherland	-0.0145	-0.0040	Retreat
Russian	-0.0103	-0.0020	Retreat
Spain	0.0000	-0.0031	Falling Star
Sweden	-0.0153	-0.0006	Retreat

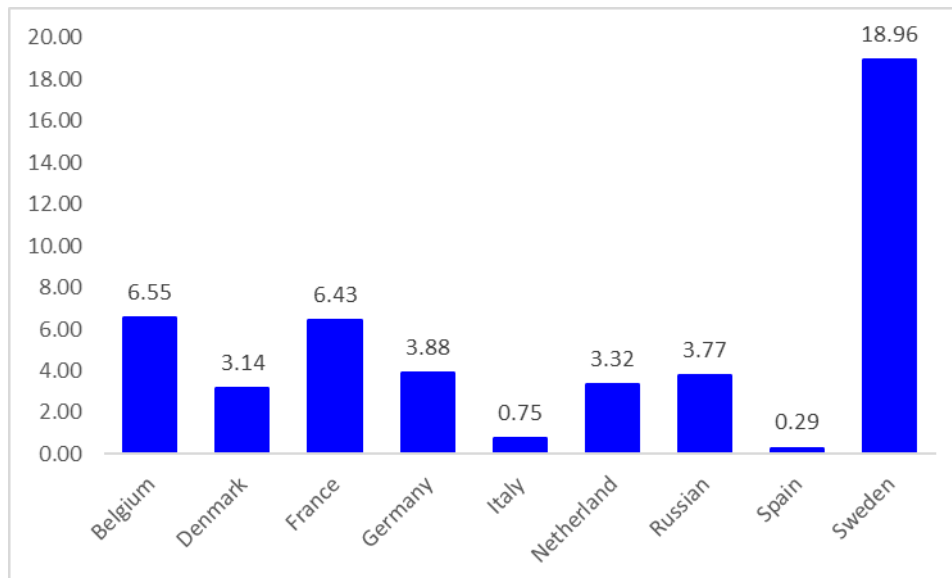
Source : International Trade Center, 2023 (Data Processed)

EPD analysis provides information about the position of the Frozen Shrimp commodity from Indonesia (HS 030617) in the European market. The results of EPD analysis from 2018 to 2022 indicate that the competitive advantage of frozen shrimp (HS 030617) from Indonesia is only in two positions, namely Retreat and Falling Star. Except for Spain, which is in a Falling Star position, every nation is in a Retreat posture. The Falling Star position indicates that, although not for the Indonesian frozen shrimp (HS 030617) commodity, Indonesia's market share in the European market is growing or competitive. The following nations are in a retreat position: Belgium, Denmark, France, Germany, Italy, Netherlands, and Russia; on the European market, frozen shrimp from Indonesia (HS 030617) is no longer sought.

DISCUSSION

Revealed Comparative Advantage (RCA)

Figure 3 Average RCA of Indonesian Frozen Shrimp (HS 030617) export to European Market in 2018-2022



Source : International Trade Center, 2023 (Data Processed)

The average RCA analysis results from 2018 to 2022 show that frozen shrimp from Indonesia (HS 030617) has a comparative advantage with varying levels of competitiveness in each examined country. The competitiveness level with the highest average RCA is in Sweden, with an average RCA value of 18.96. Following in descending order are Belgium, France,

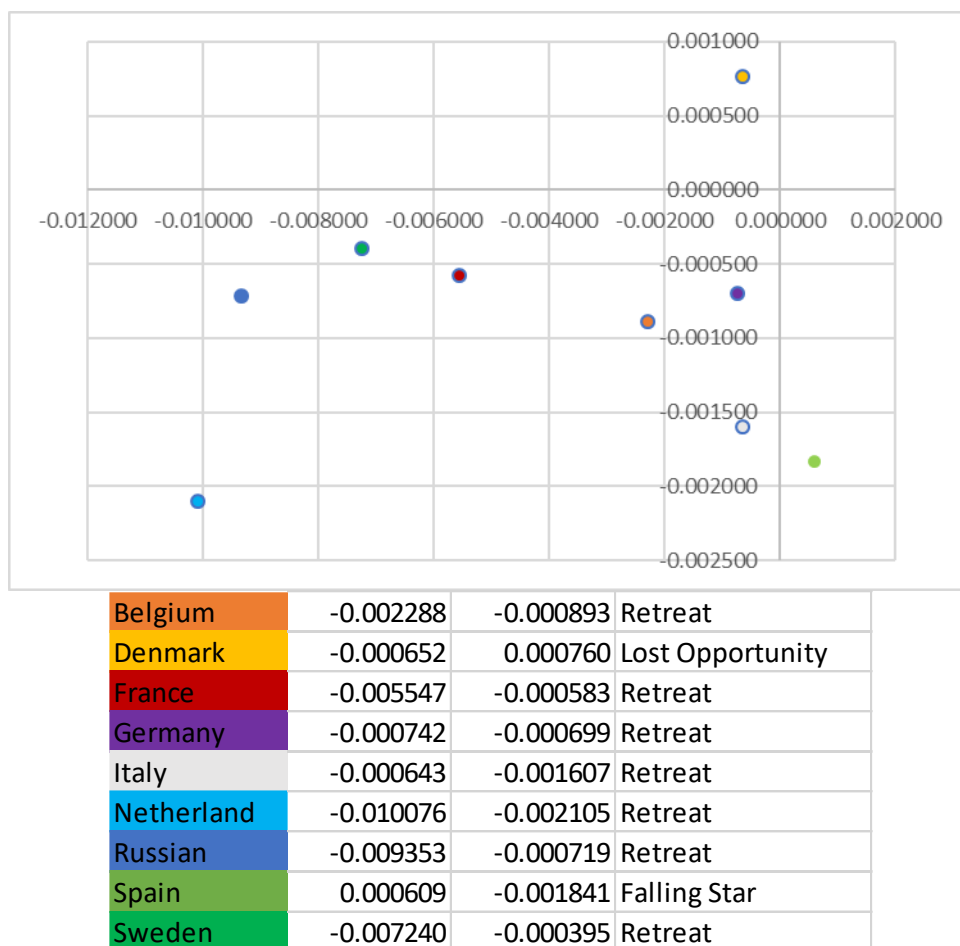
Germany, Russia, Netherland, and Denmark. Countries with low competitiveness, showing an RCA below one, include Italy and Spain.

Export Product Dynamic (EPD)

During the COVID-19 pandemic, there was a decrease in exports in the European market in 2020, resulting in the EPD analysis during the COVID-19 period averaging in a Retreat position. In 2020, in terms of volume, Europe's shrimp imports amounted to around 35,000 tons, 25% lower than in 2019. This decrease is significant and can be partly explained by the COVID-19 situation in Europe, as the food service sector experienced a significant decline (CBI, 2023)

Given this situation, the EPD method attempts to analyze from 2020 to 2022 to assess the competitive advantage of frozen shrimp from Indonesia (HS 030617) during the COVID-19 period in the European market.

Figure 4 EPD Calculation Results of Indonesia’s Frozen Shrimp (HS030617) Export to European Market in 2020-2022



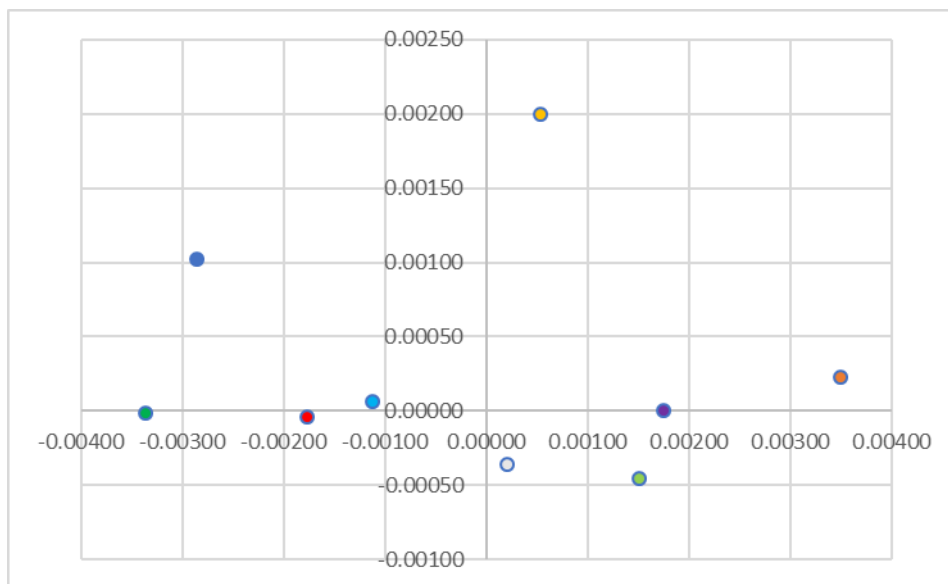
Source : International Trade Center, 2023 (Data Processed)

From 2020 to 2022, the EPD analysis indicates the competitive advantage of frozen shrimp (HS030617) in the European market, resulting in market positions such as Retreat, Lost Opportunity, and Falling Star. In the Retreat position, several countries in the European market, including Belgium, France, Germany, Italy, Netherland, Russia, and Sweden, signify that the frozen shrimp product (HS030617) from Indonesia is no longer desired in these countries. Meanwhile, in the Lost Opportunity position, it shows that Indonesia missed the opportunity to expand the market share of frozen shrimp (HS030617) in Denmark. The Falling Star position is

observed in Sweden, indicating that Indonesia's market share in Sweden has increased or is competitive, but not for the frozen shrimp product (HS030617).

During the COVID-19 period from 2020 to 2022 in the European market, the EPD analysis averaged in a Retreat position, similar to the period from 2018 to 2022, although there were some changes in the positions of certain countries. Therefore, using EPD analysis, an attempt is made to analyze the period after COVID-19, from 2021 to 2022, to determine the competitive advantage of frozen shrimp from Indonesia (HS030617) in the European market.

Figure 5 EPD Calculation Results of Indonesia’s Frozen Shrimp (HS030617) Export to European Market in 2021-2022



Negara	Sumbu X	Sumbu Y	Posisi Pasar
Belgium	0.00350	0.00022	Rising Star
Denmark	0.00054	0.00200	Rising Star
France	-0.00176	-0.00004	Retreat
Germany	0.00176	-0.000001	Falling Star
Italy	0.00021	-0.00036	Falling Star
Netherland	-0.00111	0.00006	lost opportunity
Russian	-0.00286	0.00102	lost opportunity
Spain	0.00152	-0.00046	Falling Star
Sweden	-0.00336	-0.00002	Retreat

Source : International Trade Center, 2023 (Data Processed)

The EPD analysis results from 2021 to 2022 indicate that the competitive advantage of frozen shrimp from Indonesia (HS 030617) in the European market varies across different positions. In the Rising Star position, Belgium and Denmark are observed, signifying that frozen shrimp from Indonesia (HS 030617) has become a dynamic product in a competitive market in Belgium and Denmark. In the Retreat position, France and Sweden are identified, suggesting that product frozen shrimp from Indonesia (HS 030617) is no longer desired in France and Sweden. In the Falling Star position, Germany, Italy, and Spain are noted, indicating that Indonesia's market share in Germany, Italy, and Spain has increased or is competitive, but not for the frozen shrimp product. Meanwhile, in the Lost Opportunity position, Netherland and Russia are mentioned,

implying that Indonesia missed the opportunity to expand the market share of frozen shrimp (HS 030617) in Netherland and Russia.

CONCLUSION

The analysis of Indonesia's frozen shrimp (HS 030617) exports' competitiveness in the European market leads to a number of results. The RCA analysis from 2018 to 2022 indicates that some nations are more advantageous than others in the European market. Sweden has the highest average RCA values, followed by Belgium, France, Germany, Russia, the Netherlands, and Denmark. However, Spain and Italy are among the least competitive nations.

Using EPD analysis, it can show that Indonesia's frozen shrimp commodities during 2018 to 2020 are on average in a *retreat* position, meaning that Indonesian frozen shrimp products (HS 030617) are no longer desirable in the European Market. This happened because in 2020 international trade was hampered due to Covid-19 so that after conducting an analysis during Covid-19, namely 2020 to 2022, it also produced an average *retreat* position except Denmark, which was in the *Lost Opportunity* and Spain which was in the *Falling Star* position.

Subsequently, the analysis post-Covid-19, from 2021 to 2022, revealed competitive advantages in the European market. In the Rising Star position, Belgium and Denmark were identified, while France and Sweden were in the Retreat position. The Falling Star position included Germany, Italy, and Spain, and the Lost Opportunity position covered Netherland and Russia.

Suggestion

Numerous obstacles were met during the investigation, as indicated by the examination of the competitiveness of Indonesian frozen shrimp (HS 030617) exports to the European market. These restrictions include the use of data only for a five-year period, from 2018 to 2022, the exclusive focus on the frozen shrimp commodity (HS 030617), and the limitation of study to the European market.

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