THE ANALYSIS OF EXPORT COMPETITIVENESS ON INDONESIA'S PALM OIL, COCOA AND COFFEE COMMODITIES IN INTERNATIONAL MARKETS

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Abstract
Agricultural commodities that are competitive in the international market are divided into three groups: plantation, food crops and forestry. The commodities with the greatest export potential within the plantation sector are coconut, coffee, cocoa and palm oil. Nevertheless, the lack of processing facilities for palm oil, coffee and cocoa means that Indonesia is unable to export finished products to overseas markets. Furthermore, these three commodities also encounter processing issues that fail to meet international standards, which can diminish their competitiveness. This study aims to investigate the competitiveness of a country in the international market. The data utilized in this study is secondary data. Secondary data were obtained from the Central Statistics Agency, the FOA website, and the UNCOMTRADE website. The data analysis employed qualitative analysis methods to assess the competitive advantage of Indonesian coffee, cocoa and palm oil commodities in the international market. The results indicated that, overall, the competitiveness of these commodities to destination countries was satisfactory, as evidenced by the RCA value exceeding 1. However, the cocoa commodity exhibited a competitiveness score below 1 when assessed against the United States.

*Keywords: **competitiveness, ISP, plantation commodities, PMI, RCA, and export Value***

1. INTRODUCTION

The competitiveness of a country is defined by the competitiveness of its leading commodities and its trading system. A country's competitiveness can be evaluated in terms of absolute and comparative advantage. The term "absolute advantage" is used to describe a situation in which a country has higher productivity or cost efficiency in the production of a particular good in comparison to other countries. In contrast, the term "comparative advantage" is used to describe a situation in which a country is more productive or efficient in the production of goods and services in comparison to other countries (Suhardi & Afrizal, 2021). Comparative advantage is defined as the advantage that firms or countries have when they are able to produce a particular good or service at a higher level of efficiency or with greater quality compared to the rest of the market. The concept of comparative advantage is realised when a country is able to produce a greater quantity of a good or service at a lower cost than other countries (Dewi & Isharina, 2022).

In contrast, the advent of free trade has also intensified the competitive landscape between countries. Any country seeking to enhance its competitiveness must endeavour to sustain the expansion of both the quantity and quality of its exports. Indonesia also continues to pursue the objective of increasing its export Value in both the oil and gas and non-oil and gas sectors. The non-oil and gas sector represents the largest contributor to the country's foreign exchange through export activities. The largest non-oil and gas sector is that of the plantation subsector (Kemendag, 2023). The shift in the export orientation of forest products and mining materials towards agricultural commodities is indicative of Indonesia's enhanced competitiveness in the global market (Zuhdi et al., 2022). Agricultural commodities that are competitive in the international market are divided into three groups: plantation, food crops and forestry (BPS, 2021). The commodities with the greatest export potential in the plantation sector are coffee, cocoa and palm oil. The export level of Indonesia's plantation commodities in the international market is presented in Table 1 below:

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Table. 1 Total Export Value of Indonesian Plantation Commodities

Export Value of Indonesian Commodities			
Yeras	Coffee	Cocoa	Palm Oil
2017	448.905,78	24.112,21	27.512.648,37
2018	277.475,40	27.826,57	27.893.676,49
2019	326.263,01	30.860,07	27.488.741,95
2020	375.670,63	30.528,90	25.936.721,76
2021	380.347,72	22.280,08	25.531.971,83

source: www.uncontrade (*processed*,2023)

Table 1 provides an overview of the export value of the three most significant plantation commodities in Indonesia: coffee, cocoa and palm oil. Overall, it can be observed that the value of cocoa exports decreased between 2017 and 2021, after which there was a period of fluctuation. In contrast, the value of coffee exports increased significantly. This indicates that Indonesia's export potential for the three commodities is markedly disparate. This discrepancy can be attributed to the varying degrees of competitiveness exhibited by palm oil, cocoa, and coffee commodities in the international market. Nevertheless, the export potential of plantation commodities in Indonesia is considerable. This is supported by the data from the Ministry of Trade (2023), which indicates that Indonesia's total exports during 2022 were recorded at USD 291.98 billion. In 2022, there was a 26.07 percent increase in exports compared to the 2021 period.

Indonesia is one of the coffee exporting countries in the international market. The United States (US) is the main destination for national coffee exports in 2021 with a Value reaching 194,769.1 US$ million and the next largest coffee export destination country is Egypt with a Value of 89,082.7 US$ million and then to Japan with 65,434.1 US$ million, although the amount of Indonesian coffee exports to Japan is relatively small with 9th place in Indonesia's coffee export destination in 2022, Japan has been cooperating with Indonesia for 55 years, Japan is also the largest trading partner country for Indonesia in terms of exports and imports. Then the Value of Indonesian coffee exports to Malaysia also has a 4th place with a value of US$ 49,100.4 million. Cocoa as a commodity also has problems that can reduce its competitiveness in the international market. Indonesian cocoa still faces several very serious problems that need to be addressed immediately. These problems include production, processing and trade.

The main problem in the production sector is the low productivity of the crop, which is only 850 kg/hectare compared to its potential of 2 tonnes/hectare. This low productivity results in high production costs, which in turn reduces the value and competitiveness of the export product (Ginting *et al*, 2021). Indonesia is also one of the world's largest exporters of crude palm oil (CPO). China and India are the largest markets for the country's palm oil exports. CPO exports to these two countries accounted for 29% of the total value of Indonesian palm oil exports. Indonesia's palm oil exports to the Bamboo Curtain country reached US$4,547.93 million, followed by India at US$3,111.85 million, Pakistan at US$2,458.09 million and the United States at US$1,618.29. (Palm oil / CPO exports are also inseparable from various derivative products carried out for trade. The quality of palm oil, cocoa and coffee products is the main reason for the low competitiveness of these products. This is in line with research by Bagio et al. (2021), which states that Indonesian coffee will be rejected by the international market in 2021 due to the 0% pesticide content and the content of glysophate-type herbicides, which is close to the permissible limit, in coffee beans from several supplier countries, including Indonesia. On the other hand, the productivity of Indonesian oil palm plantations is also low. This has led to an increase in land conversion, as operators tend to favour extensification. Some of the above factors hinder efforts to improve the competitiveness of palm oil, coffee and cocoa commodities. In addition, the limited processing industry for palm oil, coffee and cocoa has resulted in dependence on raw material exports to destination countries. To improve the competitiveness of these export commodities, it is necessary to increase their value added and competitiveness in the international market.

Furthermore, the competitiveness of Indonesian palm oil, coffee and cocoa commodities will be determined by the main export destination countries. This is why researchers are interested in analysing the export competitiveness of Indonesian palm oil, cocoa and coffee commodities in the international market. Based on the description above, the problem formulation in this study is how the export competitiveness of Indonesian palm oil, coffee and cocoa commodities in the international market. This study aims to examine the export competitiveness of Indonesian palm oil, coffee and cocoa commodities in the international market. Furthermore, the hypothesis of this study is that the RCA value of Indonesian export commodities is estimated to be more than one (RCA> 1), which means that it has a comparative advantage so that it has strong competitiveness in the international market.

2. RESEARCH METHODS

This research has been conducted in Indonesia. The method used in this research is a quantitative method using secondary data in the form of time series data starting from 1992 - 2022. This research will start in August - December 2023. The scope of this research examines the competitiveness of Indonesian palm oil to (India, China and Pakistan), the competitiveness of Indonesian cocoa to (United States, India and Tingkok) and the competitiveness of Indonesian coffee to destination countries (United States, Japan and Malaysia) The palm oil, cocoa and coffee commodities used for analysis in this study are all palm oil, cocoa and coffee included in HS Codes 1511 (Palm Oil), HS 1801 (Cocoa Beans) and HS 09 (For Coffee) according to the United Nations Commodity Trade (UN Comtrade). This study uses a time range of 30 years starting from 1992-2022. The data used in this study is secondary data. Secondary data were obtained from the Central Bureau of Statistics, Food and Agriculture Organization (FAO), United Nations Commodity Trade Statistics Database (UNCOMTRADE) and other information obtained from various literature and internet.

This study uses secondary data with annual time series. The position of competitiveness and trade specialisation uses data from 1992 to 2022. Quantitative and qualitative analysis methods were used to analyse the data. The aim was to systematically and accurately describe the facts, characteristics and relationships between the phenomena under study. Qualitative analysis was used to analyse the competitive advantage of Indonesian palm oil, cocoa and coffee commodities in the international market. Quantitative analysis was used to analyse the market structure and comparative advantage of palm oil, cocoa and coffee commodities in the international market. Microsoft Excel 2010 software was used for data processing. In addition, the competitiveness of palm oil, cocoa and coffee commodities was calculated using the Revealed Comparative Advantage (RCA) analysis method. The competitiveness analysis is measured using the Revealed Comparative Advantage (RCA) analysis method using export data of Indonesian palm oil, cocoa and coffee to various major export destinations and world markets in units (US$/tonne). The concept of the RCA method is to measure the comparative advantage of a country's commodity exports in the international market. This study calculates the RCA in the 3 main export destination countries of Indonesian palm oil, cocoa and coffee. Systematically formulated as follows:

$$RCA = \frac{Xi/Xt}{Wi/Wt}$$

Description:

RCA : Competitiveness of Indonesian Coffee, Palm Oil and Cocoa in international markets.
X_i : Export value of Indonesian palm oil/cocoa/coffee to destination countries
X_t : Total value of Indonesian export products to destination countries
W_i : World export value of palm oil/cocoa/coffee to destination countries
W_t : Total value of world exports by destination country

In the calculation of the RCA, if the results show a commodity number RCA>1, then the country is considered to have a comparative advantage; otherwise, if the results show a RCA < 1, then the comparative advantage is low or below the world average (Aprilia R, 2015).

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3. RESULTS AND DISCUSSION

The development of Indonesia's coffee export Value between 1992 and 2021 exhibited an increasing trend, with an average annual growth rate of 3.42%. In 1992, Indonesia exported 238.68 thousand tonnes of coffee, with an export value of USD 656.01 million. By 2021, these figures had increased to 382.93 thousand tonnes and USD 851.72 million, respectively. Over the past decade, from 2012 to 2021, the Value and value of Indonesia's coffee exports have exhibited contrasting trends. While the Value has grown by 1.35% annually, the export value has declined by 2.92% annually. This is illustrated in the following figure, which depicts the trend in Indonesia's coffee export Value to destination countries:
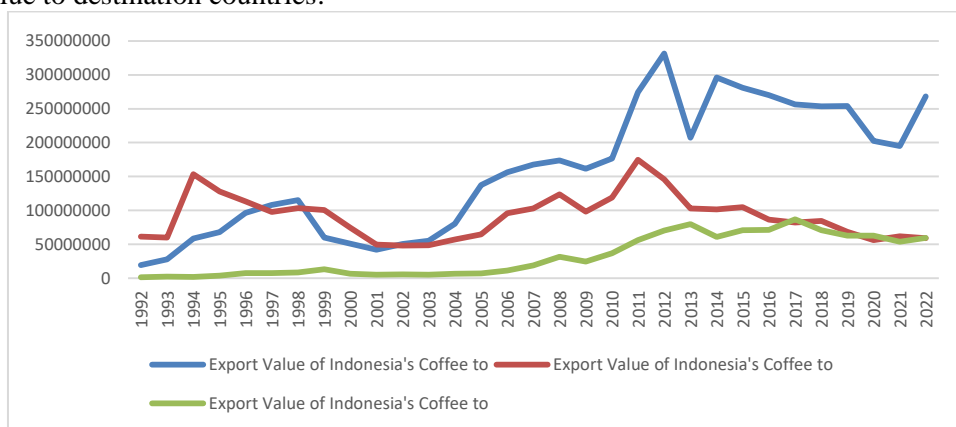

Figure 1.Trend in Export Value of Coffee to Destination Countries

Figure 1 above illustrates that the movement of Indonesia's coffee export Value to the US, Japan and Malaysia between 1992 and 2000 exhibited a tendency towards fluctuation. This is because at this time, Indonesia had not prioritised coffee as a significant export commodity to the US, Japan and Malaysia. Since 2000, Indonesia has begun to focus on developing its coffee export potential. In the 2018-2020 period, there was also a significant decrease in the Value of coffee exports to the US, Japan and Malaysia due to the global pandemic caused by the novel coronavirus (COVID-19). This is due to a notable surge in Indonesia's coffee export Value to the United States, Japan, and Malaysia. Figure 2 illustrates the trend in the export Value of cocoa commodities to destination countries.:
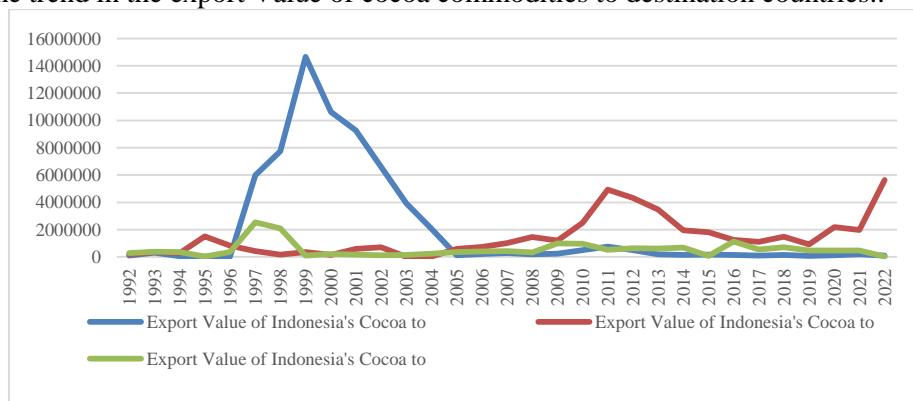

Figure 2. Trend in Export Value of Cocoa to Destination Countries

From 1995 to 2010, the trend of Indonesia's cocoa bean exports exhibited considerable volatility, with a notable decline in particular for the United States as a destination country. Conversely, the majority of exported cocoa commodities are in the form of raw materials. The greater export of cocoa beans than processed cocoa demonstrates that Indonesia has lost a significant amount of potential added value from the cocoa processing industry. This is due to the significant price differential between cocoa beans and processed cocoa. The Value and value of cocoa exports to the

United States, India, and China fluctuated between 2008 and 2021. This is due to the fact that since 2007, the Indonesian government has concentrated its efforts on the advancement of palm oil industry, in the form of palm oil products and biodiesel products derived from palm oil. This has had a significant impact on the export movement of other plantation commodities, such as cocoa and coffee. Furthermore, Figure 3 and Figure 4 illustrate the trend in Indonesia's palm oil commodity export Value as follow:
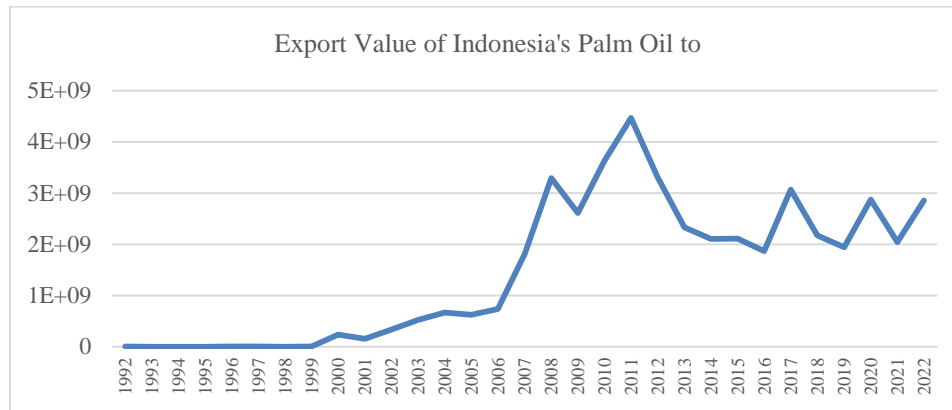

Figure 3. Trend of palm oil commodity export Value to India

In terms of Value, palm oil exports to India during 1992-2005 did not experience a significant increase, and even tended to be static. The trend of palm oil export Value to China and Pakistan can be seen in Figure 4 below:
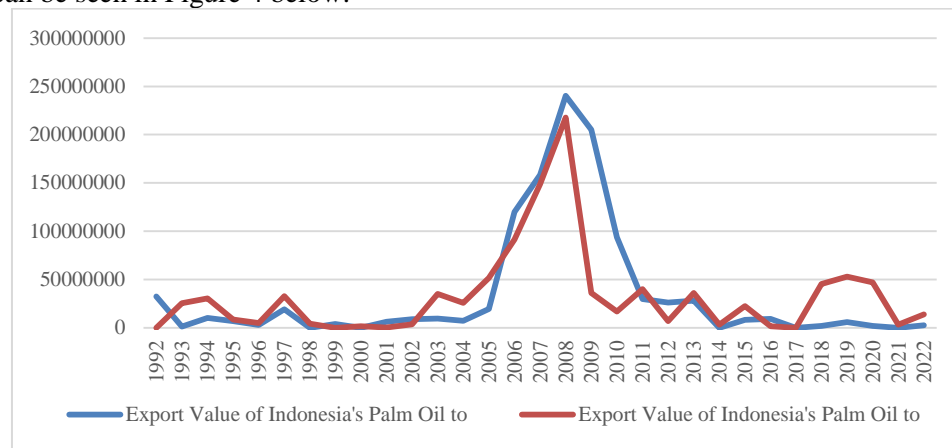

Figure 4. Trend in the Value of exports of palm oil commodities to China and Pakistan

In terms of Value, palm oil exports to China and Pakistan did not increase significantly between 1992 and 2005, nor did the value of Indonesian palm oil exports to India. This is because in those years, palm oil was not yet the main focus of the Indonesian government to be developed in Indonesia. This is due to the limited information and knowledge about palm oil production in Indonesia at that time. Indonesia still chooses to export other commodities such as cocoa and rubber. However, the export value of palm oil commodities to India, China and Pakistan tends to increase from 2006 to 2022, although there are fluctuations in certain years. This is because, since 2006, Indonesia has emphasised palm oil, particularly palm oil products, as an export commodity in Indonesia.

This was followed by a decline in palm oil exports to India, China and Pakistan in 2012-2014 due to government programmes to produce biodiesel from palm oil. This led to a decline in palm oil production in Indonesia. In 2019, although the Value of exports tended to decrease due to the Covid-19 conditions, the decrease was not in line with the value of palm oil exports, which tended to increase to India, China and Pakistan. A country's export competitiveness can be measured by the extent to which it has a comparative advantage in a product. The Revealed Comparative Advantage

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(RCA) index shows a country's comparative advantage or export competitiveness in a good relative to the world (Tambunan, 2001). Based on the calculation results with the analysis of Indonesia's Revealed Comparative Advantage (RCA) to the destination country, the RCA index is obtained as follows:
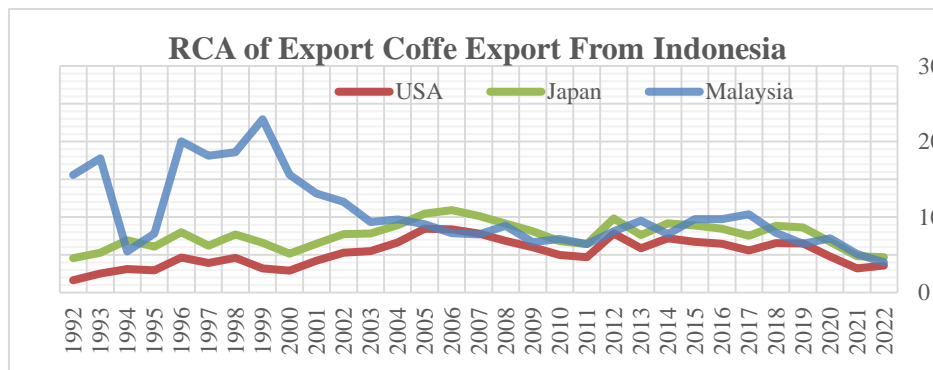

Figure 5. Revealed Comparative Advantage (RCA) of Indonesia's coffee in 1992-2022

Based on Figure 5 above, the competitiveness of Indonesian coffee to the destination country of the United States is classified as very high with an average value of 5.22. This means that Indonesian coffee exports to the United States are competitive because they have an average RCA value > 1. This is consistent with research (Rojaba & Jalunggono, 2022) that Indonesia has a comparative advantage in the export destination markets of Malaysia, Germany and the United States for the period 2011-2020. Then, the competitiveness of Indonesian coffee to Japanese destination countries is also classified as very good with an average value of 2.32 (>1), meaning that Indonesian coffee exports to Japan are competitive. This means that Indonesian coffee exports to Japan are competitive because they have an average RCA value of >1.

The competitiveness of Indonesian coffee in the export market to Malaysian destinations is classified as very high in the period 1992-2022 with an average value of 10.49. This means that the Indonesian coffee export to Malaysian destinations is highly competitive because it has an average RCA value of >1. The Indonesian government needs to take a stand to establish good relations with the Malaysian government both in terms of exports and labour. This is confirmed by research by Fitri et al. (2023) which states that Indonesia and Malaysia have a relationship in AFTA which is applied one of them in the coffee commodity trade. Because Indonesia is in the producer position and Malaysia is in the consumer position. Furthermore, the level of development of the RCA Index of Indonesian Cocoa commodity exports to export destination countries is shown in Figure 6, as follows:
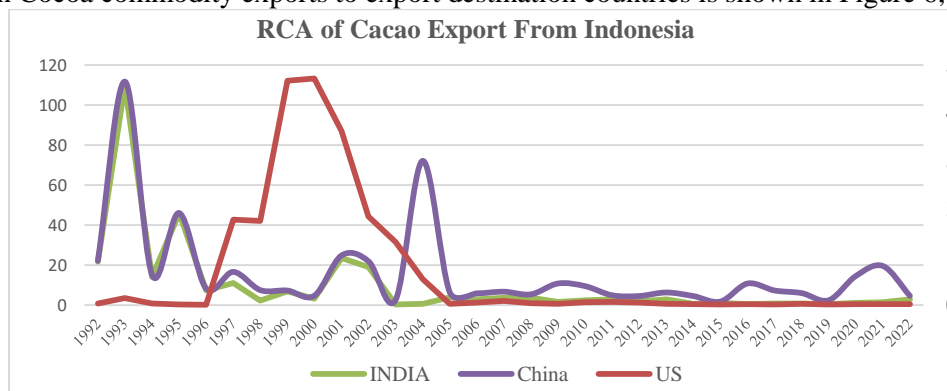

Figure 6. Revealed Comparative Advantage (RCA) of Indonesia's cocoa in 1992-2022

In Figure 6.1 above, we can see the Revealed Comparative Advantage (RCA) index of Indonesian cocoa to several export destination countries during the period from 1992 to 2022. The destination country is the United States (US), where the competitiveness of Indonesian cocoa exports is at <1 with an average value of 0.76, indicating that Indonesian cocoa exports are very weakly

competitive in the US. Some of the factors affecting Indonesian cocoa exports to the US are quality, price and export taxes (Tarigan et al., 2023). As for Indonesian cocoa exports to India, they are still said to be very competitive, where the competitiveness of Indonesian cocoa exports averaged 9.7 >1 in 1992-2002. For Indonesian cocoa exports to China during the period 1992-2022, the Revealed Comparative Advantage Index is at an average of 6.2. This indicates that Indonesian cocoa exports to China are highly competitive. In the RCA method, when the RCA value> 1 indicates that the commodity has a comparative advantage and a high level of specialisation because the export share of the commodity concerned in the total exports of Indonesia is greater than the world average export share of the commodity concerned to the destination country which in this case is the US, India and China. Furthermore, the level of development of the RCA index of Indonesian palm oil commodity exports to export destination countries is shown in Figure 7, as follows:
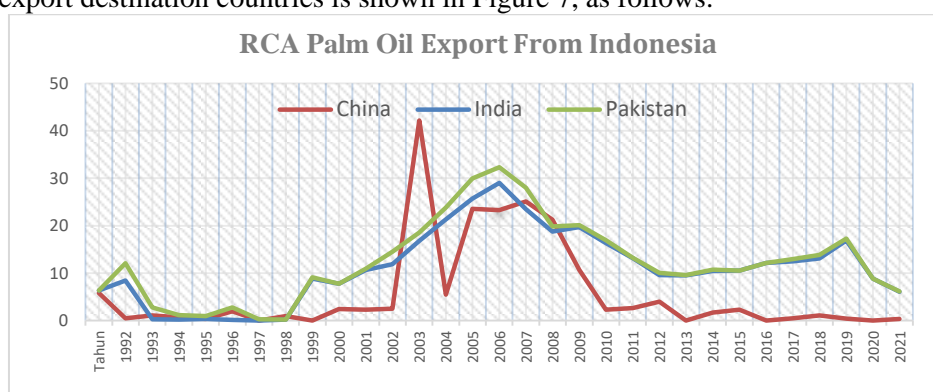

Figure 4.1 Revealed Comparative Advantage (RCA) of Indonesia's palm oil in 1992-2022

Based on Figure 7. above the Revealed Comparative Advantage (RCA) Index of Indonesian palm oil to several export destination countries during the period from 1992-2022, for the destination of India is at an average RCA (11.26), this indicates that the competitiveness of Indonesian palm oil exports to India is still in the high category. This is reinforced by Simanjuntak's research, et al., (2024) which explains the calculation results of RCA (Revealed Comparative Advantage) show that China, India, Pakistan, the United States, Bangladesh, the Netherlands, and Spain have an RCA above 1 indicating that Indonesia has a comparative advantage in the Palm Oil Export market in these seven countries.

Indeks Revealed Comparative Advantage (RCA) index of Indonesian palm oil to Chinese export destinations during the period 1992-2022 with an average RCA (5.98), this indicates that Indonesian palm oil to Chinese destinations has good competitiveness. This is in line with the research of Prayitno & Widyawati (2021) which proves that the results of the RCA of Indonesian palm oil have high competitiveness against China. For the Revealed Comparative Advantage (RCA) Index of Indonesian palm oil to Pakistan's export destination countries during the period 1992-2022 with an average RCA number (1.28), this indicates that Indonesian palm oil to Pakistan's destination countries has competitiveness with an average number> 1. This is in line with the research of Firdaus et al., (2022) which states that the State of Pakistan and the surrounding region which has great market potential, encourages Indonesia to increase its exports to the country.

4. Conclusion

From the above results it can be concluded that the overall competitiveness of coffee, cocoa and palm oil commodities to destination countries has good competitiveness, because the RCA value is > 1, except for the cocoa commodity to the United States which has competitiveness < 1. This shows that there is great potential to increase export Values to various destination countries in the international market.

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