

Analysis of Indonesian and Thai Palm Oil Export Competitiveness in the Indian Market

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ABSTRACT

This study aims to analyze the competitiveness of Indonesian and Thai palm oil exports in the Indian market using two main measurement approaches, namely Revealed Comparative Advantage (RCA) and Export Competitiveness Index (ECI). The study was conducted quantitatively with secondary data from 2013 to 2023. The results of the study show that Indonesia has a more stable and higher comparative and competitive advantage than Thailand. Indonesia's RCA value peaked at 22.16, while Thailand only reached the highest value of 9.29. Likewise, Indonesia's ECI value is relatively stable in the range of 0.50–1.18, in contrast to Thailand which is very volatile, from 0.0000079 to 1895.09. These results indicate that Indonesia's position as a major palm oil exporter in the Indian market is still very strong, even though competition with Thailand has increased in recent years.

KEYWORDS: competitiveness; India; Indonesia; palm oil; Thailand

INTRODUCTION

Agriculture is one of the most important sectors for Indonesia. During the economic crisis and the Covid-19 pandemic, the agricultural sector was the sector that was still able to survive in the face of these quite difficult conditions. In addition, the agricultural sector can also be used as a foundation to support the national economy. The agricultural sector plays a very important role in maintaining the stability of the village economy during the Covid-19 pandemic (Laeli *et al.*, 2021). The agricultural sector contributed high GDP in 2019-2022. The GDP of the agricultural sector in 2019 was IDR 2,012.7 trillion and continued to increase until 2022 to IDR 2,428.9 trillion with an average percentage of 13.02% of total state revenue (Ritonga *et al.*, 2025).

The agricultural sector includes various sub-sectors that support each other. These sub-sectors include food crops, horticulture, forestry, livestock, fisheries, and plantations. The plantation sub-sector is a sector that has strong resilience in all conditions. From this sector, Indonesia produces many crops that can be utilized by the community domestically or for export to other countries. The competitiveness of Indonesian agricultural products has a fairly high value in the international market (Kusumaningrum, 2019). One of the plantation commodities that has high production and competitiveness in the market is palm oil. Palm oil commodities have a high selling value in the international market than other commodities in the plantation sector (Advent *et al.*, 2021). The increase in plantation land area is balanced with technology that continues to advance, making palm oil production increase every year. Indonesia's palm oil production continues to increase and creates

opportunities in the future (Abidin, 2020) . Most of Indonesia's palm oil production is exported in the form of palm oil or *Crude Palm Oil* (CPO) and palm kernel oil or *Palm Kernel Oil* (PKO).

Indonesia is the largest palm oil exporter in the world followed by Malaysia and Thailand (Patone et al., 2020a) . In 2012, the value of Indonesia's CPO exports to the world was 7,252,519,443 kg or 7.25 million tons. In the same year, Indonesia was able to export 630,272,204 kg or 630 thousand tons of PKO to the world (UN *Comtrade* , 2012). In addition to Indonesia, Thailand is one of the competing countries for palm oil exports. Thailand's palm oil production in 2012 was 218,428,544 kg of CPO and 17,536,627 kg of PKO (UN *Comtrade* , 2012). Indonesia and Thailand have similar target markets. Both countries export their palm oil production to various countries in Asia, Europe, and several countries in the Middle East.

India is one of the destination countries for Indonesian and Thai palm oil exports. The high import of Indian palm oil is due to the high population so that the need for palm oil also increases. In 2012, India imported 6,052,882,080 kg of CPO and 162,796,820 kg of PKO (UN *Comtrade* 2012). Indonesia and Thailand as major producers of palm oil have a strong position to meet the country's palm oil demand. However, in 2018, India raised import duties on CPO products to 44% and derivatives to 45% (Sukirno and Romdhon, 2020) . Different from other competing countries whose values are less than that. This is feared to hamper the rate of Indonesian palm oil exports to India. Therefore, this study was conducted to determine the comparison of Indonesia's competitive strength with Thailand in palm oil exports, especially for CPO products to India.

METHODOLOGY

Research Design

This study uses a quantitative approach. The quantitative approach is a research method based on numbers and numerical calculations. This approach aims to describe the relationship between research variables using statistical analysis (Jailani, 2023) . In this study, the data collected is in the form of numbers which will then be analyzed using the *Revealed Comparative Advantage* (RCA) statistical analysis. From this study, it will be known how strong the competitiveness of Indonesian palm oil exports is compared to Thailand in the Indian market.

Research Location Selection Method

The location of this research was taken purposively or intentionally. This method was taken because until now, Indonesia is still the largest exporter of palm oil in the world and one of its competitors is Thailand which is in third position. This method was taken because it is in accordance with the relevance of the research topic, where both countries are the main producers of palm oil in the world. The export destinations of the two countries include Asia, Europe and the Middle East with the main destination country being India.

Data Collection Methods and Data Sources

This study uses secondary data to analyze the export trends of Indonesian and Thai palm oil. The data taken is palm oil export data with HS code (*Harmonized System*) 151110. *The Harmonized System* is a detailed classification of goods to determine the documents that must be prepared by exporters and importers (Sartika et al ., 2025) . The data taken includes palm oil export data from 2013-2023. The sources of data collection are reliable data sources such as government reports, reports from international organizations (FAO, WTO), and related statistical agencies. This study also uses scientific journals, news publications, and international trade databases (UN *Comtrade* and Trade Map). The sources were chosen because they are relevant to the data needed to support research on the export trends of palm oil in the two countries. So that it can describe accurately and its truth can be accounted for.

Data Analysis Methods.

Data analysis in this study uses the *Revealed Comparative Advantage* (RCA) method to evaluate the competitiveness of Indonesian and Thai palm oil in the Indian market. The RCA value is calculated by comparing the proportion of each country's palm oil exports to India to the world's total palm oil exports to India. An RCA value > 1 indicates that a country has a comparative advantage in the product in the target market. The RCA formula used is:

$$RCA = \frac{\frac{x_{ij}}{x_{it}}}{\frac{x_{wj}}{x_{wt}}}$$

Where,

x_{ij} = export value of product i (palm oil) by country j (Indonesia or Thailand) to market t (India)

x_{it} = total exports of all products by country j (Indonesia or Thailand) to India

x_{wj} = total exports of product i (palm oil) by the world to India

x_{wt} = total exports of all products by the world to India.

In addition, there is also an RCA index which is a comparison between the RCA value in the current year and the RCA value in the previous year. If the RCA index > 1, it means that there is an increase in the export performance of the product. If the RCA index < 1, it means that there is a decrease in the export performance of the product (Noi *et al.* , 2023).

To measure competitive advantage , research This uses ECI (*Export Competitiveness Index*) analysis. This analysis is used to determine the competitive advantage of a country's commodity to compete with the same commodity from other countries within a certain period of time. If the ECI value is > 1, the export trend is said to be increasing. Conversely, if the ECI value is < 1, the export of the commodity has decreased. Here is the formula for the ECI analysis.

$$ECI = \frac{\left(\frac{x_{ij}}{x_w}\right)^t}{\left(\frac{x_{ij}}{x_w}\right)^{t-1}}$$

Where,

x_{ij} = value of Indonesian or Thai palm oil exports

x_w = total value of world palm oil exports

t = time period (years)

t-1 = previous year

RESULTS AND DISCUSSION

Export trends to India

Based on data on Indonesian palm oil exports to the Indian market during the period 2013 to 2023, there are quite significant fluctuations. In 2013, Indonesia's export value reached around 3.09 billion US dollars, but decreased in 2014 to around 2.89 billion dollars. In 2015, it recorded a fairly sharp increase to 3.82 billion dollars, but decreased again in 2016 to 2.95 billion dollars. The peak of exports occurred in 2017 with the highest value of 4.63 billion dollars, followed by a slight decrease in 2018 and 2019, around 4.01 billion dollars and 3.99 billion dollars, respectively. In 2020, the export value increased again to 4.39 billion dollars, before plummeting drastically in 2021 to only 1.89 billion dollars, most likely due to the impact of the COVID-19 pandemic. However, exports began to recover in 2022 with a value of 2.88 billion dollars and continued to rise in 2023 to 3.12 billion dollars.

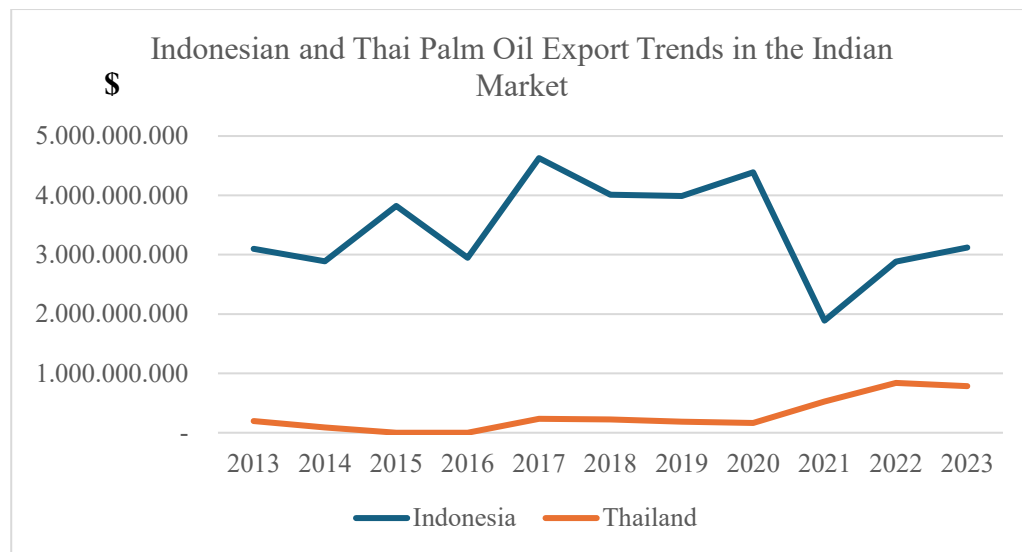


Figure 1 Trend of Indonesian and Thai Palm Oil Exports in the Indian Market 2013-2023

Overall, the trend of Indonesian palm oil exports to India shows an up and down pattern with a fairly strong influence of external factors, but still shows potential for recovery in recent years. Based on the Markov chain analysis in the *National Palm Oil Export Business Cycle study*, Indonesian palm oil exports have a long-term positive growth opportunity of 51.7%, with India being the most influential destination country. In addition, the results of the panel regression show that household consumption in India has a positive and significant effect on exports, while the strengthening rupiah exchange rate has a negative impact on export volume. Thus, India remains a potential strategic partner, and an adaptive export strategy is needed by considering macroeconomic dynamics and world CPO prices to maintain sustainable palm oil export growth to the Indian market (Lubis and Anam, 2023).

Based on data on Thailand's palm oil exports to India from 2013 to 2023, there are quite varied dynamics. In 2013, the export value reached around 198 million dollars, but experienced a significant decline in 2014 to around 88 million dollars. Thailand's export data in 2015 and 2016 were not available or recorded as very low not because there were no exports overall, but because only a few specific commodities experienced a significant decline. The withdrawal of foreign investment by several large Thai companies such as Thai Oil, PTT Thailand, and Charoen Pokphand which had an impact on certain sectors, including palm oil exports. The military coup in 2014 and the prolonged political crisis caused uncertainty that caused foreign investors to withdraw their funds from the Thai market on a large scale, with foreign funds recorded to have left around IDR 4 trillion from the Thai stock exchange. This investment withdrawal has an impact on the decline in production capacity and exports in sectors controlled by these large companies, including the agricultural and agro-industrial sectors such as palm oil (DetikFinance, 2014).

In addition, Thailand's palm oil exports are also affected by external factors such as the decline in global palm oil commodity prices due to increased production from other countries and restrictions on the use of CPO in the international market. This price decline has depressed the volume and value of Thailand's palm oil exports, which is exacerbated by unstable domestic political conditions and declining foreign investment (Sidik, 2023). However, in 2017 there was a spike in exports to 233 million dollars and remained high in 2018 at 223 million dollars. After that, the export value experienced a consecutive decline in 2019 and 2020, to around 186 million dollars and 163 million dollars, respectively. Interestingly, the trend increased drastically again in 2021 with a value of 526 million dollars and continued to soar in 2022 to the highest value in a decade, namely 839 million dollars. Although in 2023 there was a slight decrease to 783 million dollars, this value still shows a very high export figure compared to previous years. Overall, the trend of Thai palm oil exports to India has shown a significant increase in recent years, reflecting the increasingly strong market potential in the country. The surge in Thailand's palm oil exports to India in recent years reflects a great opportunity to support Thailand's growing domestic sector and strengthen Thailand's position as a major supplier in the ASEAN region (Naufal and Suprehatin, 2021).

Comparative Advantage (RCA)

Revealed Comparative Advantage (RCA) Index data for Indonesian and Thai palm oil exports to the Indian market in the 2013-2023 period, Indonesia shows a much higher comparative advantage compared to Thailand. Indonesia's RCA value is consistently above 10, with the highest peak reaching 22.16 in 2019, while Thailand has a much lower RCA value, ranging from 1.13 to 9.29 in certain years, even in 2015 and 2016 there was no data (Table 1). Thailand experienced a drastic decline in RCA values in 2015-2016 due to domestic political instability (Harbela, 2024). In 2023, the Revealed Comparative Advantage (RCA) value for Indonesian CPO (*Crude Palm Oil*) products was recorded at 13.03, while Thailand had an RCA value of 7.16. The RCA value exceeding one in both countries literally shows that both Indonesia and Thailand have a comparative advantage in CPO production and exports compared to other CPO producers in the world. The main supporting factors are the area of palm oil plantations, production efficiency, and product quality (Yudha and Bagaskara, 2024).

Table 1 RCA of Indonesian and Thai Palm Oil Exports 2013-2023

Year	RCA	
	Indonesia	Thailand
2013	17.07	2.72
2014	14.82	1.13
2015	15.42	-
2016	18.01	-
2017	21.12	2.26
2018	20.15	2.31
2019	22.16	1.63
2020	20.59	1.46
2021	10.52	4.90
2022	10.60	9.29
2023	13.03	7.16

Source: Processed data, 2025

Meanwhile, although Thailand also has a comparative advantage with an RCA value above one in several years, its value is still far below Indonesia. This shows that Thailand has not been able to compete with Indonesia's dominance in the Indian market. The decline in Thailand's RCA value in 2015 and 2016 also reflects the impact of political instability affecting the country's exports. (Harbela, 2024). In the context of the Indian market, the increasing demand for palm oil provides a great opportunity for Indonesia to maintain and increase its export market share. India itself is one of the largest consumers of palm oil in the world with consumption of around 8.8 million metric tons in 2024/2025 and a growth rate of edible oil consumption of around 3-4% per year. This increase in consumption is supported by India's commitment to using sustainable palm oil and focusing on

increasing domestic production through the *National Mission on Oil Palm program*. The high demand from India that continues to grow is a strategic opportunity for Indonesia to strengthen its position as a major exporter of palm oil in the global market (InfoSawit Editorial Team, 2025). The dynamics of Indonesia's RCA value which has remained high for more than a decade shows that Indonesia is able to optimally utilize its comparative advantages in this market (Patone et al., 2020).

Competitive Advantage (ECI)

Table 2, which contains the ECI value of Indonesian and Thai palm oil exports during the period 2013 to 2023, shows that Indonesia has consistently maintained relatively stable export competitiveness and tends to be superior to Thailand, especially in recent years.

Table 2 1 of Indonesian and Thai Palm Oil Exports 2013-2023

Year	ECI	
	Indonesia	Thailand
2013	0.975282168	2,176123517
2014	0.881217316	0.396060459
2015	1,108064112	7.88402E-06
2016	0.923829187	84.61934836
2017	1.185927823	1895,091426
2018	0.874688646	1.143186433
2019	1.078933408	0.704624653
2020	0.952165017	0.803175071
2021	0.502513331	4.74829125
2022	1.080235856	1.569429221
2023	1,164026208	0.834227773

Source: Processed data, 2025

Indonesia's ECI value ranged from 0.5 to 1.18 during the period, with a relatively stable trend and several years showing an increase, such as in 2015 (1.11), 2017 (1.19), 2022 (1.08), and 2023 (1.16). This shows that Indonesia has a fairly strong and consistent competitive advantage in palm oil exports to the Indian market. Indonesia has a strong and consistent competitive advantage in exporting *Crude Palm Oil* (CPO) to India, supported by the largest palm oil plantation area of 15.08 million hectares in the world and the RCA (*Revealed Comparative Advantage*) value which is consistently above 1, indicating high export competitiveness. Although Indonesia's land productivity (2.70 tons/ha/year) is still below Malaysia, its total production volume still dominates the market. Indonesia also recorded an average *Acceleration Ratio (AR)* value of 1.00, indicating a strong ability to capture the export market. This advantage needs to be strengthened by improving production technology and developing downstream industries so that Indonesia is not only superior in quantity, but also in quality and added value of palm oil products (Elfira et al. , 2023).

Thailand, on the other hand, experienced extreme volatility in its ECI value. In 2017, its ECI value jumped drastically to 1895.09, due to the very low export value base in the previous year. Years such as 2015 (0.0000079) and 2014 (0.39) showed the weak competitiveness of Thailand's exports in the early period. The sharp decline that occurred in those years was caused by domestic political instability after the military coup in May 2014 which led to the acceleration of the election and continued until 2016 due to the resignation of Prime Minister Yingluck Shinawarta (Susetyo, 2025).

Based on the ECI values of the two countries, Indonesia has a competitive advantage over Thailand in terms of palm oil exports to India for the period 2013-2023. Political stability and policies that support exports are the main factors that strengthen Indonesia's ECI value over Thailand. The relatively stable ECI value shows that Indonesia has a dominant competitive advantage compared to Thailand (Rahman and Monandes, 2021).

CONCLUSION

Based on the results and discussions that have been described previously, the conclusions in this study are as follows:

1. Indonesia's palm oil exports to India remain the largest and most dominant with a fluctuating trend but show potential for long-term recovery and growth. This shows a significant upward trend and strengthens Indonesia's position as a major supplier in the ASEAN region. Meanwhile, Thailand's palm oil exports to India have a mixed trend. The decline occurred in the early years, but in recent years there has been a significant increase but still below Indonesia. Both countries have strong potential, with different characteristics and dynamics, so they require an adaptive and sustainable export strategy to maintain and improve competitiveness in the global market.
2. Indonesia has a higher, more stable and sustainable level of palm oil export competitiveness compared to Thailand in the Indian market. This advantage makes Indonesia the main supplier of palm oil to India with a position that is difficult for Thailand to compete with in the long term.

It is expected that Indonesia can continue to strengthen its palm oil export strategy to India by increasing adaptation to market dynamics, strengthening product downstreaming, and maintaining production quality and sustainability. In addition, it is necessary to expand export market diversification and strengthen collaboration with business actors so that competitiveness is maintained and Indonesia's position as the world's main supplier of palm oil is increasingly solid.

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