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EXPORT POSITION OF INDONESIAN MANGO COMMODITIES IN THE INTERNATIONAL MARKET (Case Study in Seven Destination Countries)

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ABSTRACT

Indonesian mangoes have an excellent opportunity to participate in the international market, but amid intense competition in the international market, Indonesian mangoes feel unable to compete. This study analyzes trade specialization, comparative advantage, and competitive advantage, as well as Indonesia's position as a mango exporter in the global market. The *Trade Specialty Index* (TSI) is a method used to analyze trade specialization, while *Revealed Comparative Advantage* (RCA) is a method for analyzing comparative advantage, and *Export Product Dynamics* (EPD) is a method for analyzing competitive advantage and market position for Indonesian mangoes. The study falls under the quantitative category because it uses secondary data in the form of a time series that spans ten years, from 2012 to 2021. The research uses India, Thailand, and Pakistan as comparison countries and Singapore, Malaysia, France, the Netherlands, the United Kingdom, Spain, and Germany as destination countries. According to the results of the TSI analysis, Indonesian mangoes exhibit trade specialization as importers in five destination countries, except for Malaysia and Singapore. Malaysia and Singapore are in the growth stage, Germany is in the introduction stage, and four other countries are in the import substitution stage. According to the average value of *Revealed Comparative Advantage* (RCA), only two of the seven destination nations, Malaysia and France, exhibited strong competitiveness for Indonesian mangoes. The *Export Product Dynamic* (EPD) matrix reveals that Indonesian mangoes are in a retreating position toward the markets of Malaysia and Singapore. At the same time, the other five target countries are in a falling star position. Increasing the value of TSI, RCA, and EPD can be accomplished by improving post-harvest technology to increase production quantity and quality and developing marketing networks.

Keywords: EPD; export; mango; RCA; TSI

INTRODUCTION

International trade is the movement of goods between countries and includes imports and exports. The economic growth of a country, including Indonesia, is influenced by international trade. When the international economy is directed toward openness between nations, competition in international trade intensifies (Rahmadhani, 2018). Hodijah and Angelina (2021) argue that export products are an advantage for the economies of countries that start economic growth in exporting countries. One agricultural product with the potential and opportunity to develop into better products is horticultural products. The growth of several macro indicators, including export volume, GDP, employment, and farmer terms of trade (NTP), shows that the horticulture sub-sector makes a greater contribution to the development of the agricultural sector every year (Pitaloka, 2017). Horticultural exports in 2020 are estimated to reach US$424.13 million, the highest performance in the last six years (BPS, 2021).

Production of horticultural products in the form of national fruits increased by 4.51% in 2019 compared to 2018. Bananas, with 7,280,659 tons, dominated fruit production, followed by mangoes with 2,808,936 tons, siem oranges with 2,444,516 tons, pineapples with 2,196,456 tonnes, and durian

with 1,169,802 tons. Mango export performance must be maintained and improved because mango production in Indonesia increased by 6.41% or reached 211 thousand tons in 2019 compared to 2018, making it the third highest production fruit after bananas and pineapples. One of the most popular tropical fruits with significant economic value is the mango, which is still growing. One of the leading export commodities in the horticulture industry is mango. After India, Indonesia is known as the country that produces the most mangoes. This gives Indonesian mangoes great potential and opportunities to compete internationally. The Best Loved-Tropical is a designation for mangoes favored by people worldwide as tropical fruits (Oktavianto et al., 2015). High competitiveness or superiority above the world average is necessary for a nation to compete internationally. Two variables, namely comparative and competitive advantages, determine a country's ability to compete internationally (Mariana, 2016). A country will have a comparative advantage if it can produce goods and services in greater quantities, with higher quality, and at lower costs than other countries or their competitors. In other words, by specializing in producing products or services, the nation has high productivity and efficiency (Fauziah, 2019). Competitive advantage is the ability to offer products or services to customers in domestic and foreign markets in their preferred form, time, and location at the same or lower price than competitors and with a profit margin at least equal to the cost of use (opportunity cost) (Ervina, 2020).

Ariningsih et al., (2021) explained that mango is one of the periodic fruits in great domestic demand and has a promising export potential. Wide mango varieties are grown in Indonesia, but the Arumanis, Golek, Gedong, Manalagi, and Cengkir are the most popular and have the highest economic value. Mango is one of the most valuable and economically significant tropical fruits in the world and is grown worldwide. Mangoes are in great demand in the global trading market, and European countries are one of the most promising growth markets for mango exports (Mohamad et al., 2022). In the era of free trade, Indonesian mangoes have an excellent opportunity to participate in the international market. Still, they cannot compete in the face of intense competition in the international market. There are various causes, including low product quality, a lack of guarantee of quantity and continuity of product quality, a lack of market access, and relatively high product prices. Problems with the quality of Indonesian mango products so far include the varying quality (shape, size, color, and level of ripeness) as well as an unattractive and consistent physical appearance (Indrajati et al., 2021). Mango, as a wet and perishable product, requires a unique method in the delivery process because if the delivery of the fruit is not correct, it will cause the fruit to rot, and the sender of the fruit will suffer losses (Cahya, 2013).

It is necessary to study the trade specialization of Indonesian mango commodities in the international market by using the Trade Specialization Index (TSI) to find out whether Indonesia is a country that tends to be an exporter or importer of manga commodities (Hidayati & Suhartini, 2018). It is also necessary to understand comparative advantage through Revealed Comparative Advantage (RCA) analysis (Mahmudah, 2020) and the dynamics of the export position of mango commodities through Export Product Dynamic (EPD) analysis of Indonesian mango commodity exports in international markets (Santosa et al., 2018) so that Indonesia can maintain and develop its position in international trade. The difference between previous and current research lies in the commodity under study, namely mango. The use of several methods, including the Trade Specialization Index (TSI), Revealed Comparative Advantage (RCA) and also Export Product Dynamics (EPD), not only using the Revealed Comparative Advantage method (RCA) as previous studies. Based on the background and problems described, this study has several objectives, including analyzing trade specialization, comparative advantage, and competitive advantage, as well as Indonesia's mango export position in the international market. The research results show Indonesia's mango commodity position in the destination market compared to competing countries such as India, Pakistan, and Thailand.

MATERIALS AND METHODS

This type of quantitative research uses secondary data in a time *series* for ten years, from 2012 to 2021. The Central Statistics Agency (BPS), UNComtrade, journals, reference books, and previous research were used to obtain secondary data. This study was conducted between January and February 2023. To determine whether Indonesia is a country that tends to become an exporter or importer of mango commodities, it is necessary to evaluate the trade specialization of Indonesian mango commodities on the international market using the *Trade Specialization Index* (TSI) analysis method. It is also necessary to know comparative advantage by conducting a *Revealed Comparative Advantage (RCA)* analysis and the dynamics of the export position of mango exports by conducting an *Export Product Dynamic* (EPD) analysis on exports of Indonesian mango commodities on the

international market so that Indonesia can maintain and develop its position in international trade. Data processing is done with the help of Microsoft Excel software.

Trade Specialty Index (TSI)

TSI (*Trade Specialization Index*) is a method of analysis to determine whether a country for a particular product is an exporting country (exporter) or an importing country (importer) (Hidayati & Suhartini, 2018). The *Trade Specialization Index* (TSI) is formulated as follows (Ervina, 2020) :

$$\mathrm{TSI} = \frac{(\mathrm{Xia}-\mathrm{Mia})}{(\mathrm{Xia}+\mathrm{Mia})} \quad (1)$$

Description: X = Export; M = Import; i = Commodity Mango; a = Indonesia, India, Thailand and Pakistan.

The criteria for evaluating the *Trade Specialization Index* (TSI) are if it has a positive value of 0 to 1. The country (a) tends to become an exporter, or the commodity (i) has strong competitiveness. Meanwhile, if the value is negative from 0 to -1, country (a) tends to be an importer, or commodity (i) has low competitiveness. TSI can also be used to determine the growth rate of a commodity which is divided into 5 (five) stages, namely the introduction stage, which is *introduction stage* between -1.00 to -0.50; the *import substitution stage* is between -0.51 to 0.00; the *growth stage* is between 0.01 to 0.80; *maturity stage* is worth between 0.81 to 1; and the *re-import stage* is worth between 1.00 and 0.00 (Sidauruk, 2015).

Revealed Comparative Advantage (RCA)

RCA is an analytical method that analyzes the export product specialization that can still develop. This index compares the market share of a commodity or group of commodities in a country with the country's total exports and the commodity market share with total world exports. In general, *Revealed Comparative Advantage* (RCA) is defined as follows (Cahya, 2013) :

$$\mathrm{RCA} = \frac{\mathrm{Xij}/\mathrm{Xj}}{\mathrm{Xiw}/\mathrm{Xw}} \quad (2)$$

Description: X = export; i = Commodity Mango; j = Indonesia, India, Thailand and Pakistan; Xij = export value of commodity i in country j (US$); Xj = Total export value in country j (US$); Xiw = export value of commodity i in the world (US$); Xw = Total export value in the world (US$).

The RCA (*Revealed Comparative Advantage*) data analysis assessment criterion is if the RCA is more than 1. Country j has a comparative advantage over the global average resulting in high competitiveness. If RCA is less than 1, country j has a comparative advantage below the global average, implying that the product is not competitive.

Export Product Dynamic (EPD)

EPD (*Export Product Dynamic*) is an analytical method that analyzes products or commodities in a country's export trade flows that show the highest competitiveness and rapid productivity growth. Because this method uses the total share of exports (X) and the share of commodity exports (Y), the market position can be determined (Pradipta & Firdaus, 2014). *Export Product Dynamics* (EPD) is generally formulated as follows:

$$\mathrm{X} = \frac{\sum_{t=1}^{n}(\frac{\mathrm{Xij}}{\mathrm{Xiw}})_t \text{ x100\%} - \sum_{t=1}^{n}(\frac{\mathrm{Xij}}{\mathrm{Xiw}})_{t-1} \text{ x100\%}}{\mathrm{T}} \quad (3)$$

$$\mathrm{Y} = \frac{\sum_{t=1}^{n}(\frac{\mathrm{Xj}}{\mathrm{Xw}})_t \text{ x100\%} - \sum_{t=1}^{n}(\frac{\mathrm{Xj}}{\mathrm{Xw}})_{t-1} \text{ x100\%}}{\mathrm{T}} \quad (4)$$

Description: T = Number of years of analysis used

Export Product Dynamic (EPD) data analysis can be determined using the EPD matrix in Table 1.

Table 1. EPD matrix

Share of Country's Export in World Trade (X)	*Share of Product in World Trade (Y)*	
	Rising/Dynamic (+)	Falling/stagnant (-)
Rising/Competitive (+)	*Rising Star*	*Falling Stars*
Falling/Non-Competitive (-)	*Lost Opportunities*	*Retreats*

Source: Budiarto & Pratita (2022)

RESULTS AND DISCUSSION

Increased mango production in Indonesia creates opportunities for exports and import substitution. Increased production affects export supply positively. The greater the production volume, the greater the export supply, so the export volume will also be more significant, or vice versa (Raharja, 2020). Mango production in Indonesia should be maintained and developed to meet the needs and demand for mangoes in destination countries. The increasing number of mango-producing countries demands an increase in the quality and competitiveness of Indonesian mango products (Yudha & Nugraha, 2022). In 2019, total mango production in Indonesia was 2,808,939 tons, with East Java producing the most, 1,148,121 tons).

Meanwhile, the province with the lowest output was Papua, with 1,331 tonnes. East Java has a large production of mangoes because the area of mango harvest is more than 83,000 hectares. Mango productivity in East Java Province is also 1.04 quintals per tree. Probolinggo, Situbondo, and Pasuruan districts are the largest mango-producing areas in East Java. Pasuruan Regency and Situbondo Regency Since the 1970s, Probolinggo Regency, has been known as a mango center. Meanwhile, since the 1980s, Situbondo Regency and Pasuruan Regency (BPS, 2021).

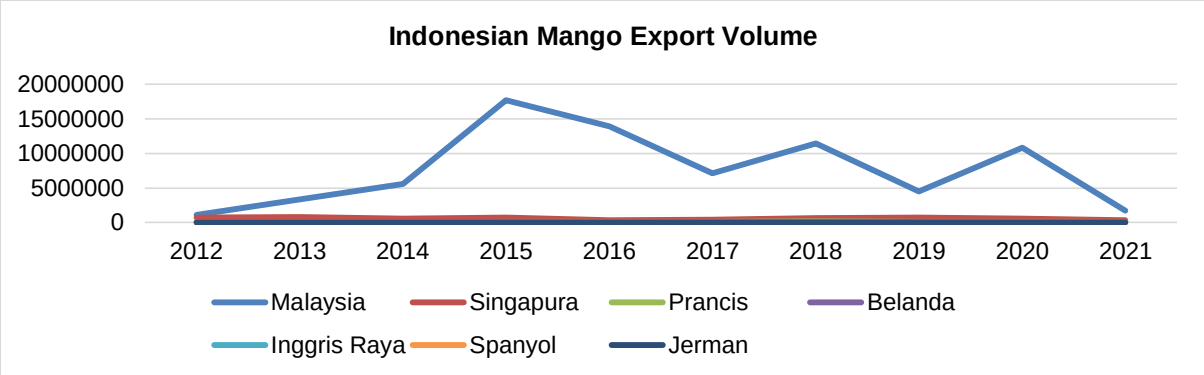

Figure 1. Indonesian Mango Export Volume (Source: UNComtrade, 2023)

Figure 1 illustrates the export volume of Indonesian mangoes to destination countries such as Singapore, Malaysia, France, the Netherlands, the UK, Spain, and Germany from 2012 to 2021, that is, over ten years. There were fluctuations in exports of Indonesian mango commodities, with Malaysia as the destination country, which had the most significant export volume with an average volume of 7,732,958 kg, followed by Singapore with an average volume of 578,913 kg, France with 95,373 kg, the Netherlands with 74,908 kg, the United Kingdom with 4,265 kg, Spain with 2432 kg, and Germany with 1994 kg. Malaysia has the highest export volume because Indonesia's main exports, especially mangoes, are still in nearby countries. Indonesia does not continuously export manga to England, Spain, and Germany yearly. This is due to various factors, including poor product quality, a lack of guarantees on the volume and continuity of quality products, low market penetration, and relatively higher product prices.

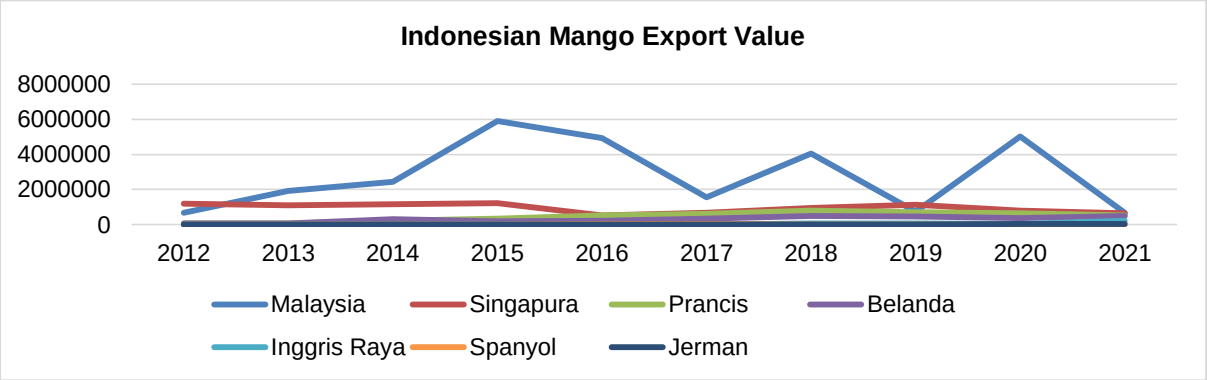

Figure 2. Indonesian Mango Export Value (Source: UNComtrade, 2023)

The export value of Indonesian mangoes fluctuated for export destination countries such as Singapore, Malaysia, France, the Netherlands, England, Spain, and Germany, as shown in the graph in Figure 2. These fluctuations were caused by various factors, including the quality and quantity of mangoes that Indonesian mango producers were unable to meet export needs, and abundant production is not matched by an increase in the quality of products suitable for export (Mahmudah, 2020). Malaysia has the highest export value of Indonesian mangoes, with an average of US$ 27,933.00. Singapore has the second-highest export value, with an average of US$ 932,901. Exports to France have an average value of 448,178 US dollars, and the average export value of the Netherlands is 296,931 US. Every year, the Indonesian government does not continue to export manga to England, Spain, and Germany. This is because Indonesia can still not export mangoes throughout the year due to being dependent on the fruit season. Mango production increases during the harvest season but decreases outside the harvest season. In addition, prices rise outside the harvest season and fall during the harvest season (Mahmudah, 2020). The UK exported Indonesian mangoes in 2016, with an average export value of $437,831. Spain resumed exporting Indonesian mangoes in 2013, with an average export value of $8,394. Meanwhile, Germany exported Indonesian mangoes again in 2014, with an average export value of US$11,295.

Trade Specialty Index (TSI)

The data in Table 2 shows that Indian mango commodities have positive trade specialization in the seven destination countries. This indicates that Indian mangoes are very competitive or that India is an exporting country for mango commodities (domestic demand is less than domestic supply) (Ervina, 2020). This was because India's exports of mangoes were higher than their imports. The relatively high volume of exports to destination countries indicates substantial export opportunities for India (Yudha & Nugraha, 2022). The average TSI score for India's exports to Malaysia, Singapore, and the UK markets is in the *growth stage*, indicating that India is producing extensively and exporting rapidly. This commodity has more supply than demand in the domestic market. While the average Indian TSI scores for French, Dutch, Spanish, and German destinations are mature, Indian mangoes are already at the standardization stage regarding relevant technology (Sidauruk, 2015).

Table 2. Mango TSI value

Market Destination	TSI Rating Average			
	Indonesia	India	Pakistan	Thailand
Malaysia	0.56	0.79	0.17	-0.57
Singapore	0.01	0.11	0.21	-0.47
French	-0.07	0.82	-0.22	-0.60
Dutch	-0.01	0.97	0.34	-0.34
Great Britain	-0.07	0.42	0.21	-0.65
Spanish	-0.16	0.99	0.24	-0.18
German	-0.59	0.84	0.23	-0.32

Source: UNComtrade, 2023 (processed)

Pakistani mangoes specialize in the trade as exporters to six destination countries, except France, because France is the only destination country with a negative value of -0.22, which indicates that Pakistani mangoes have low competitiveness or tend to be importers of these commodities

(supply smaller than domestic demand) (Ervina, 2020). The French destination market is in the *import substitution stage*. *The import substitution stage* shows that Pakistan's industrial competitiveness is weak because the production level is not high enough to achieve (optimal) economies of scale. The industry exports inferior goods to a certain extent, and domestic output remains lower than domestic demand (Sidauruk, 2015). Pakistan's mango exports to markets to Malaysia, Singapore, Netherlands, the UK, Spain and Germany are in a *growth stage*. The country begins large-scale production, and exports are increasing rapidly. The supply of these goods in the domestic market exceeds the demand (Sidauruk, 2015).

Thai mango specializes in the trade as an importer in seven destination countries due to the negative TSI value due to the number of imports of Thai mangoes, which is higher than the number of exports, which include Malaysia with a value of -0.57, Singapore with a value of -0.47, France with a value of -0 .60, Netherlands with -0.34, United Kingdom with -0.65, Spain with -0.18 and Germany with -0.32. The average value of Thai TSI's with the target markets of Malaysia, France and the UK is in the *introduction stage*. Later comers in Thailand will import these products at this stage. Meanwhile, the average scores of Thai TSIs in Singapore, the Netherlands, Spain and Germany are in the *import substitution stage*. Thailand's competitiveness is weak. This is because, in the *import substitution stage*, the production level is insufficient to achieve (optimal) economies of scale. Thailand exports substandard products, and domestic production remains lower than domestic demand (Sidauruk, 2015).

Indonesian mangoes specialize in trade as importers in five destination countries except Malaysia and Singapore. These countries have a positive value, which means that Indonesian mango products have strong competitiveness or tend to become exporters (domestic supply is more significant than domestic demand). The high value of TSI Indonesia so that it has strong competitiveness is caused by several factors, including quality according to the Indonesian National Standard (SNI) and high-quality state-subsidized seeds (Ervina, 2020). The destination markets for Malaysia and Singapore are in the *growth* stage, while France, the Netherlands, the UK and Spain are in the *import substitution stage*. *The import substitution stage* shows that Indonesia's competitiveness is weak because its production level is insufficient to achieve (optimal) economies of scale. Indonesia exports low-quality products to a certain extent, and domestic production is still lower than domestic demand. To increase the competitiveness of Indonesian mangoes, it is necessary to pay attention to good cultivation and post-harvest technology to improve product quality. The quality of food and agricultural products is usually assessed based on several quality parameters, including external factors (e.g., skin, texture, meat color) commonly used to assess the quality of food and agricultural products (e.g., fruit freshness, sugar content, acid index). Indonesian mangoes destined for the German market have an average TSI score of -0.59, indicating that they are in the *introduction stage*. People who are late (latecomers) in Indonesia currently import many of these products. The average TSI score is affected by changes in the volume of exports and imports of mangoes every year, which can be caused by various factors, including poor product quality, lack of guarantees for quantity and consistency of product quality, as well as weak market availability and relatively higher product prices (Indrajati et al . al., 2021).

Revealed Comparative Advantage (RCA)

The data in Table 3 shows that Indian mango products are competitive in the seven destination countries. Indian mangoes have an RCA value of greater than one, indicating that India has a comparative advantage over the world average, making Indian mangoes highly competitive in this destination market (Fauziah, 2019). The increase influenced the value and quantity of Indian mango exports. The Netherlands, UK, Germany, France, Malaysia, Spain and finally, Singapore had the highest average RCA values for Indian mangoes. This shows that the Netherlands is the most competitive destination market for Indian mangoes. Pakistani mangoes are very competitive in six destination countries, except for Spain. Pakistani mangoes have an RCA of less than one, indicating that Pakistan has a lower comparative advantage than the global average, making Pakistani mangoes less competitive in the Spanish market. The UK has the highest competitiveness for Pakistani mango exports compared to other market destination countries. Overall Pakistani mangoes were delivered of good quality. Still, there were cases of Pakistani mangoes being sent filled with fruit flies which led to stricter inspections and warnings, so Pakistan chose only to export mangoes that had been treated with hot water (Australian Broadcasting Corporation, 2014).

Thai mangoes are competitive in only three of the seven destination countries: Malaysia, Singapore and Germany. The average RCA with the target markets of Malaysia, Singapore, France, Netherlands, UK, Spain and Germany has a breakdown of values: Malaysia 4.96, Singapore 2.13, France 0.40, Netherlands 0.28, UK 0.72, Spain 0.29 and Germany 1.30. The average RCA value of

Thai mangoes in the Malaysian, Singaporean and German markets is more than one, which means that Thai mangoes have a comparative advantage compared to the world average, so Thai mangoes have strong competitiveness in these markets. Indonesian mangoes have the weakest competitiveness and only exist in two of the seven destination countries: Malaysia and France. Mangoes from Indonesia have the highest RCA, with France as the destination country having the highest RCA of 4.76 in 2018. France has an RCA value of greater than one as a destination country from 2014 to 2021, and the RCA value tends to increase yearly. In the ten years from 2012 to 2021, the value of *Revealed Comparative Advantages* (RCA) for Indonesian mangoes in the destination countries of Singapore, the Netherlands, England, Spain and Germany has always been less than one. So that it can be said that Indonesia does not specialize in mango commodities in the destination country. In other words, the competitiveness of Indonesian mango commodities is weak compared to other exporting countries (Mahmudah, 2020). Every year, changes in the value and volume of mango exports affect the average RCA value. Various factors, including poor product quality and no guarantee of quantity and continuity, can cause this.

Table 3. Mango RCA values

Market Destination	Average RCA Value			
	Indonesia	India	Pakistan	Thailand
Malaysia	2,27	1.97	18.59	4.96
Singapore	0.50	1,12	34,31	2,13
French	2.76	2.87	3,18	0.40
Dutch	0.50	15,43	3.35	0.28
Great Britain	0.15	10.33	55,45	0.72
Spanish	0.03	1.35	0.61	0.29
German	0.02	3.74	9,81	1.30

Source: UNComtrade, 2023 (processed)

Export Product Dynamic (EPD)

Table 4 shows that Pakistani mango products have the best market position, with six destination countries in a *rising star position*, except for Malaysia, which is in a *lost opportunity position*. As a destination country, Malaysia is in a *lost opportunity position*. The growth in the export market share (X) is negative, and the growth in the commodity market share (Y) is positive. *A lost opportunity* position is where a country's commodity exports cannot take over the export market share of the destination country, even though the demand for the product's market share increases. The condition of *lost opportunity* refers to a decrease in the market share of domestic products while the share of the export market increases, resulting in a loss of opportunities for export market share (Budiarto & Pratita, 2022). Pakistan's mango market position for destination countries Singapore, France, Netherlands, England, Spain and Germany is in a *rising star position*, with a *Growth of Export Market Share* (X) and *Growth of Commodity Market Share* (Y) positive. *A rising star* is an ideal market position because it has a large export market share. This position indicates that the country is gaining a larger market share for its rapidly growing products (Santosa et al., 2018).

Table 4. Comparison of mango EPD values

Market Destination	Market Position			
	Indonesia	India	Pakistan	Thailand
Malaysia	Retreats	Lost Opportunities	Lost Opportunities	Falling Stars
Singapore	Retreats	Retreats	Rising Star	Retreats
French	Falling Stars	Lost Opportunities	Rising Star	Retreats
Dutch	Falling Stars	Retreats	Rising Star	Rising Star
Great Britain	Falling Stars	Lost Opportunities	Rising Star	Retreats
Spanish	Falling Stars	Lost Opportunities	Rising Star	Falling Stars
German	Falling Stars	Rising Star	Rising Star	Lost Opportunities

Source: UNComtrade, 2023 (processed)

Thai and Indian mangoes have the best market position, with Thai mangoes in a *rising star position* in only one target market, namely the Netherlands and Indian mangoes in Germany. India's mango market for Malaysia, France, Great Britain and Spain is in a *lost opportunity position*, with a negative *Growth of Export Market Share (X) and a* positive *Growth of Commodity Market Share (Y).* Singapore and the Netherlands as market destinations are in a *retreat position*, where *the Growth of*

Export Market Share (X) and *Growth of Commodity Market Share* (Y) are unfavorable*. The retreat* is a market setback position where state products or goods are no longer in demand due to product movements that are not dynamic and competitive in the market (Fauziah, 2019). Germany is the only market destination country for Indian mangoes that is in a *rising star position*, with positive *Growth of Export Market Share* (X) and *Growth of Commodity Market Share (Y). Rising Star* is an ideal market position that aims to obtain the highest export market share for commodities characterized by the country's growth for fast-growing commodities (Harum, 2013).

The position of Thai mango market for Singapore, France and Great Britain markets is in a *retreat position*, where *the Growth of Export Market Share* (X) and *Growth of Commodity Market Share* (Y) are unfavorable*.* Germany is the only destination country for the Thai mango market which is in a *lost opportunity position*. T*he Growth of Export Market Share* (X) is negative, and *the Growth of Commodity Market Share* (Y) is positive. The position of the Thai mango market for Malaysia and Spain is in a *falling star position,* where *the Growth of Export Market Share* (X) is positive, and *the Growth of Commodity Market Share* (Y) is negative. A *falling star* market position is a position that is not expected by a country but is still better than *a lost opportunity* because there is an increase in market share even though it does not appear as a sustainable (dynamic) product or product in the global market (Pradipta & Firdaus, 2014). The Netherlands is the only destination country for the Thai mango market which is in a *rising star position*.

Indonesian mangoes do not have a single *rising star position* in their destination countries. Still, Indonesian mangoes are in a *falling star position* with destinations for markets in France, the Netherlands, Great Britain, Spain and Germany. The *Growth of Export Market Share* (X) and *Growth of Commodity Market Share* (Y) values for Indonesian mango commodities with destination countries Malaysia and Singapore have been negative for ten years. Indonesia's export of mango commodities with France as the destination country has a positive *Growth of Export Market Share* (X) value from 2012 to 2016 and 2018, while a negative value in 2017 and 2019 to 2021. Value *Growth of Commodity Market Share* (Y) for the destination country France in 2012, 2014, 2015, 2017 to 2020 has a positive value, while in 2013, 2016 and 2021, it has a negative value. The Netherlands as a destination country has a positive *Growth of Export Market Share* (X) value in 2012, 2014, 2016 to 2018, and 2021, while a negative value in 2013, 2015, 2019, and 2020. The Netherlands as a destination country has a *Growth of Commodity Market Share* (Y) was positive in 2012, 2015, 2017, 2020 and 2021, while in 2013, 2014, 2016, 2018 and 2019, it was negative.

Exports of Indonesian mango commodities with the United Kingdom as the destination country have a positive *Growth of Export Market Share (X) value* over ten years from 2012 to 2021. Mark *Growth of Commodity Market Share* (Y) destination countries for the United Kingdom in 2012, 2014, 2015, 2017 to 2020, the values were positive, while in 2013, 2017 and 2021, the values were negative. As a destination country, Spain has a positive Growth of Export Market Share (X) value from 2012 to 2016 while a negative value from 2017 to 2021. As a destination country, Spain had a positive *growth of Commodity Market Share* (Y) value in 2012, 2014, 2016, 2017, 2018, 2020 and 2021, while in 2013, 2015 and 2019, the values were negative. As a destination country, Germany has a positive *Growth of Export Market Share (X) value* over ten years from 2012 to 2021. As a destination country, Germany had a positive *growth of Commodity Market Share* (Y) value in 2012, 2014 to 2016 and 2020, while in 2013, 2017 to 2019 and 2021, it had a negative value. In the era of free trade, Indonesian mangoes have an excellent opportunity to gain a foothold in the international market. However, during intense competition, Indonesian mangoes are considered to be still not competitive (Indrajati et al., 2021). One reason is access to the Indonesian market, which is still limited, as illustrated in Table 4, which illustrates the position of the Indonesian mango market using the *Export Product Dynamics* (EPD) matrix.

CONCLUSIONS AND RECOMMENDATIONS

As shown by TSI, who tend to be importers, Indonesian mangoes are still unable to compete with Malaysia and Singapore in the growth stage, Germany in the *introduction stage*, and the rest in the *import substitution stage*. RCA shows that Indonesian mangoes tend to have weak competitiveness. The EPD matrix shows the target market for Malaysia and Singapore in the *retreat position,* while the rest are in the *falling star position*. Increasing the value of TSI, RCA, and EPD can be done by improving post-harvest technology to increase production quantity and quality and develop marketing networks.

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