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Analysis of Tea Competitiveness and Factors Affecting Tea Competitiveness of North Sumatra Province, Indonesia in the Malaysian Market

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Abstract. Increased exports of North Sumatra tea to the Malaysian market will increase competitiveness. This potential provides added value to the national tea processing industry. The research objectives analyzed the competitiveness of North Sumatra tea in the Malaysian Market and analyzed the factors that affect the competitiveness of North Sumatra tea in the Malaysian Market. The research method uses Revealed Comparative advantage (RCA) and Export Product Dynamic (EPD) to analyze the competitiveness of North Sumatra tea in the Malaysian Market. Multiple Linear Regression to analyze factors that affect the competitiveness of North Sumatra tea in the Malaysian Market. The results showed that North Sumatra has strong comparative but weak competitive competitiveness in the Malaysian Market. The factors that affect the competitiveness of North Sumatra tea are the volume of North Sumatra tea exports, which has a positive and insignificant effect; the domestic price of North Sumatra tea, which has a significant negative effect;. The export price of North Sumatra tea and the export price of Kenyan tea have a negative and insignificant effect on the competitiveness of North Sumatra tea to the Malaysian Market. Please state explicitly specific suggestions for further research.

Keywords: competitiveness; tea; export; revealed comparative advantage; export product dynamic

INTRODUCTION

Indonesia is one of the countries in the world that still utilizes primary sectors such as (agriculture, forestry, and marine) for leading commodities in International Trade (Christa in Farlian & Masthura, 2021). One of Indonesia's leading export commodities is tea. Functional drinks containing the leaves of tea have been shown to offer many health functionalities, particularly to lower blood glucose levels, due to its bioactive compounds (Rekasih, 2021). The dry tea commodity of North Sumatra Province produced by PT Perkebunan Nusantara IV is a potential export plantation commodity that is expected to fulfil the tea export market. North Sumatra is one of the plantation centers in Indonesia. North Sumatra tea commodity production has the potential to be developed. Problems faced in the development of tea in North Sumatra, especially PT Perkebunan Nusantara IV in Simalungun Regency, is losing competition with tea commodity products from other countries, such as Kenya, Sri Lanka, and China. This occurs because most of the tea plants in Simalungun Regency are quite old. Most of the tea plants in Simalungun Regency are still old Dutch plants. Helopeltis bradyi is a significant pest that causes yield losses and reduces the quality of tea plantations by piercing and sucking the sap of tea leaves (Asmara et al., 2021).

The main issue for the local-oriented business processes is Value Added Tax (Murwendah & Desyani, 2023). Therefore, the quality is difficult to compete in the international market. Whereas North Sumatra tea plants have advantages, namely the plant varieties have resistance to Hemileia vastatrix tea leaf pox disease and the products produced have 14 kinds of variants grouped based on the level of fineness of tea powder, aroma, and taste of tea. Even in 2022, PT Perkebunan Nusantara IV has managed to meet the standards of anthraquinone levels reaching 0.01 parts per million (ppm), able to penetrate the standards set by Europe which is below 0.02 ppm (PT Perkebunan Nusantara IV, 2022). This is an opportunity offered by North Sumatra Province for tea exports, which is quite promising in exports (Kementerian Pertanian, 2020). However, the increase in processed tea exports is not supported by the per capita tea consumption of the Indonesian population which has

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tended to decline in the last ten years, namely by 66.13% (Asmara et al., 2021).

The main export destination countries for North Sumatra tea are Malaysia, China, the United States, Pakistan and Russia. The highest export of North Sumatra tea is to Malaysia. Kenya and Sri Lanka are the largest tea exporters in the world, and importing countries such as Malaysia also import tea from Kenya and Sri Lanka, so as a competitor country in tea exports to Malaysia, it is necessary to know the advantages of tea produced by Kenya and Sri Lanka, so that North Sumatra can compete and improve the quality of tea in order to compete in the international market. The volume of tea exports (dry tea) from North Sumatra to Malaysia can be seen in **Figure 1.**

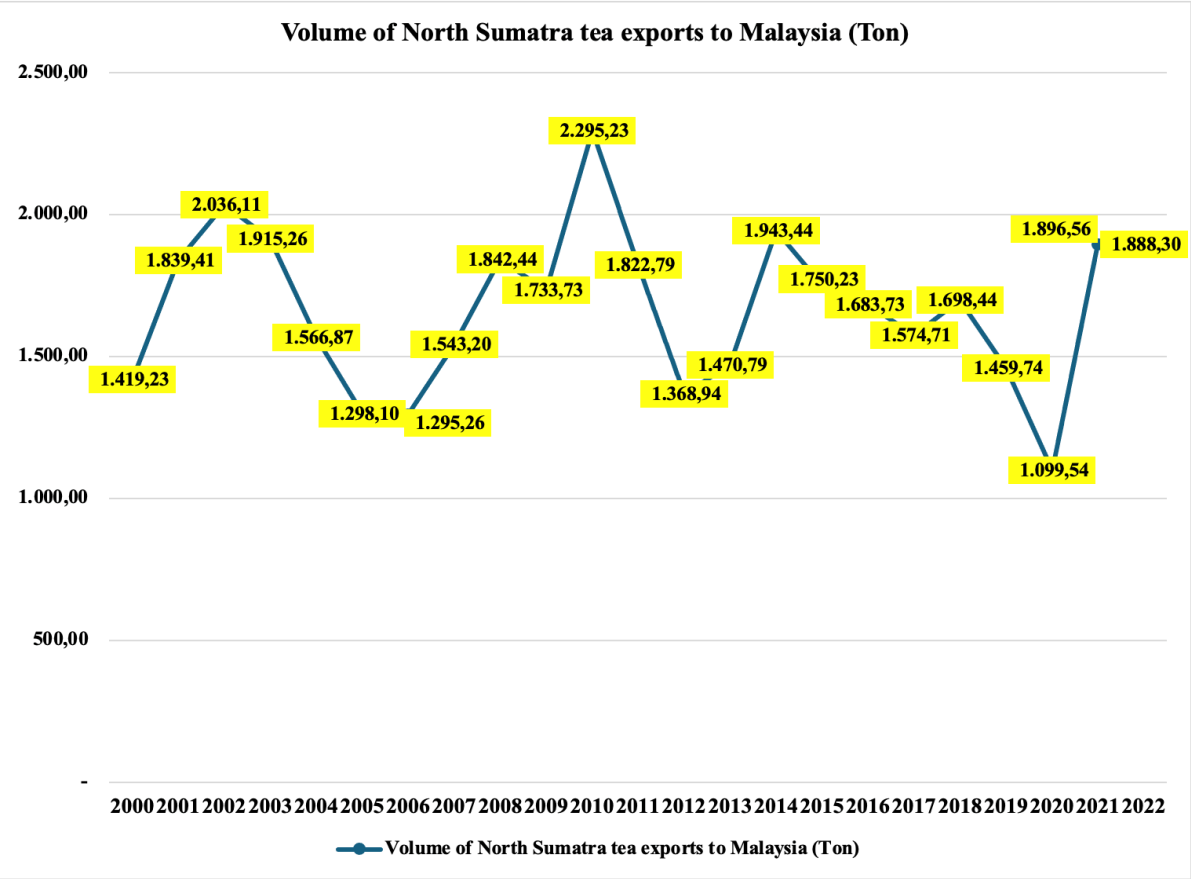

Figure 1. The volume of North Sumatra tea exports to Malaysia (BPS – Statistics of North Sumatra, 2000-2022)

The volume of tea exported to Malaysia from 2000 to 2022 has fluctuated and tended to decline but has increased in the last two years. In 2022, the market share of North Sumatra tea exports to Malaysia was only 0.72% while in 2002 it had reached the highest figure of 20.34%. Constraints that hinder the development of tea export volumes in North Sumatra include a decrease in the area of tea plantations that are converted to other crops such as oil palm, lack of rejuvenation of old tea plants, relatively high production costs, low tea quality, and changes in consumer preferences in Malaysia, as well as competition with tea from other countries that offer more competitive prices, contributed to the decline in the volume of North Sumatra tea exports to Malaysia. Therefore, a new study on the competitiveness of North Sumatra tea is

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needed, which includes comparative competitiveness and competitive competitiveness. Related to comparative competitiveness, based on research on Increasing the Export Competitiveness of Indonesian Tea Processed Products in the International Market (Jannati et al., 2020), shows that Indonesian tea commodities have comparative competitiveness with an RCA value> 1 in the international market. Meanwhile, related to competitive competitiveness, based on research on the Competitiveness Analysis of Indonesian Tea in the International Market (Safitri, 2018), shows that the position of Indonesian green tea commodities is in the Rising Star position, which means that this tea commodity has a high market share in an export market that is also growing, but for Indonesian black tea it is in the Lost Opportunity position, which means that this black tea commodity operates in a growing global market, but its competitive competitiveness is decreasing. This indicates that despite increasing global demand, Indonesia is unable to capitalize on the opportunity to increase black tea exports. This condition is in line with the explanation that North Sumatra's black tea export volume fluctuates and tends to decline, but has increased in the last two years.

The challenge for plantations in the future is to increase the competitiveness not only of producing countries in tropical regions, but also with developed countries which continuously carry out research to produce plantation products (Siyum et al., 2022). The success of a commodity in international trade is determined by its competitiveness (A. A. Ginting et al., 2022). Competitiveness is one of the criteria that determines a country's success in international trade. One indicator of competitiveness is market share. If the market share of a commodity increases, it means that the competitiveness of that commodity increases (Masitah & Hasbiadi, 2022). Indonesian exports rely heavily on comparative and competitive advantage factors as the main determinant of the level of competitiveness (Muslika & Tamami, 2019). A country's ability to enter international markets and be able to maintain market share in that market can be seen from the comparative and competitive advantages of the commodities it exports (Azizah et al., 2024).

Based on the background description, this research is important because it analyzes competitiveness, which can be seen from comparative advantage and competitive advantage so that it can be seen the potential competitiveness of North Sumatra tea in the Malaysian Market; this is different from previous studies which only analyzed competitiveness by looking at comparative advantage alone.

Factors affecting the competitiveness of North Sumatra Province tea in the Malaysian Market using four variables, namely the volume of North Sumatra tea exports, the domestic price of North Sumatra tea, the export price of North Sumatra tea, and the export price of Kenyan tea. In this study, these variables are important to analyze because they can find out the right policies used to improve the competitiveness of North Sumatra tea in the development of North Sumatra tea processing, while previous studies only used two variables, namely export volume and tea export prices. The factors influencing Indonesia's tea exports in the international market are export volume and export prices. The export volume of Indonesian tea has a positive effect on the competitiveness of Indonesian tea products. The factor influencing Indonesia's tea exports in the international market is domestic prices. Meanwhile, international tea prices have a positive effect on the competitiveness of Indonesian tea.

The purpose of this study is to analyze the competitiveness of North Sumatra tea in the Malaysian Market and analyze the factors that affect the competitiveness of North Sumatra tea in the Malaysian Market.

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METHODS

The sampling technique in this study uses purposive sampling. Thus, the sampling process is conducted non-randomly (Latifa et al., 2021). The research was conducted in a quantitative and descriptive manner using time series data for the period 2000-2022 (Mahendra et al., 2024). The competitiveness analysis of North Sumatra tea in the Malaysian Market was analyzed using Revealed Comparative Advantage (RCA) to analyze Comparative advantage and Export Product Dynamic (EPD) to analyze Competitive advantage. One of the methods used to determine a country's comparative advantage is the Revealed Comparative Advantage method. With the RCA method, we can measure the export performance of a product from a country by calculating the share of a product in a country's total exports compared to the share of that product (Sa'idy, 2013 in Pakpahan et al., 2022). According to Balassa, (1965) the following is the formula for comparative advantage with the RCA method **(Equation 1)**.

$$RCA = \frac{Xij/Xj}{Xiw/Xw} \quad \ldots\ldots 1)$$

Notes:
RCA = Revealed Comparative Advantage Number (Index), Xij = Export value of commodity i of country j (in US$), Xj = Total export value of country j (in US$), Xiw = World export value of commodity i (in US$), Xw = Total world export value (in US$).
RCA's assessment is as follows:

1. If the *RCA value* > 1, then North Sumatra has a comparative advantage above the world average, so North Sumatra tea has strong competitiveness.
2. If the *RCA value* is <1, then North Sumatra has a comparative advantage below the world average, so North Sumatra tea has weak competitiveness.

The Balassa index has been widely used to determine a country's comparative advantage. According to Naing et al. (2021), the index or Revealed Comparative Advantages (RCA) index has been widely applied in the agriculture sector: rice, corn, vegetable products, broiler meat products, coconut oil (Yulhar & Darwanto, 2019), nutmeg (Samhina et al., 2023), palm oil (Arsyad et al., 2020), and agri-food. While the method used to determine the impact of government policy on a commodity can use the policy analysis method (PAM) (Santoso et al., 2020).

A lot of empirical studies and research have been conducted on international trade and the importance of comparative advantage in international trade (Anggrasari & Mulyo, 2019). Superiority competitive analysis uses the method *Export Products Dynamic (EPD)*. The EPD was measured to identify the competitiveness of a commodity and also to determine whether a commodity has a dynamic performance or not. This variable showed the market position of a country's commodity for a specific market purpose (Pratita & Budiarto, 2021). The determination of EPD's position is determined by comparing changes in market share over time and the dynamics of exported products. This change in market share indicates whether a country has a competitive advantage in these products or not (Estherhuizen, 2006 in (Yulhar & Darwanto, 2019). Matrix position Power competes on each quadrant with axis x as share market export And axis y as share market product served in **Figure 2.**

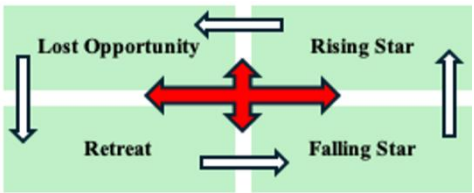

Figure 2. Export Product Dynamic competitiveness position matrix (Esterhuizen, 2006)

The position in the quadrant describes the business strength (X axis) and market

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attractiveness (Y axis) of the product formulated is presented in Equation 2 below (Esterhuizen, 2006 in Sulaiman et al., 2024).

X-axis: Export market share growth

$$\frac{\sum_{t}^{n}=1 \left(\frac{Xij}{Wij}\right) t \times 100\% - \sum_{t}^{n}=1 \left(\frac{Xij}{Wij}\right) t\text{-}1 \times 100\%}{T}$$

Y-axis: Product market share growth

$$\frac{\sum_{t}^{n}=1 \left(\frac{Xt}{Wt}\right) t \times 100\% - \sum_{t}^{n}=1 \left(\frac{Xt}{Wt}\right) t\text{-}1 \times 100\%}{T}$$

Description:

Xij = Export value of North Sumatra, Kenya, and Sri Lanka tea to the Malaysian market
Xt = Total export value of North Sumatra, Kenya, and Sri Lanka to the Malaysian market.
Wij = World export value of tea to the Malaysian market.
Wt = Total export value of the World to the Malaysian market.
T = Number of years studied
t-1 = Previous year
i = Tea commodity

There are 4 categories of competitiveness ranking indicators, namely (Wardani & Mulatsih in Haryati et al., (2024):

1. Rising Star position indicates high export growth and increasing global market share. The product has significantly increased demand in the international market, and exporters have successfully increased export volumes. Products in this category show great potential and can be considered as flagship products for further investment and development focus.
2. The Lost Opportunity position indicates products with low or stagnant export growth, but global demand for these products is actually increasing. Exporters may not be able to capitalize on market opportunities for various reasons, such as limited production capacity, lack of access to markets, or competitiveness issues. This category indicates the need for strategies to increase competitiveness or correct barriers that prevent increased exports.
3. The Falling Star position indicates products that have high export growth but declining global market share. Although exports of these products are increasing, they cannot keep up with the pace of global demand growth, so their market share is shrinking. Despite growth, this product may face intensifying competition or lose its position in the market, so it needs a strategy to strengthen its position and maintain market share.
4. Retreat position indicates a product with declining or stagnant export growth, and global demand for this product is also declining. These products are in a phase of decline, either due to changing consumer trends, the emergence of substitute products, or other factors. Products in this category may require a review of strategy, including possible product diversification or restructuring.

Factors affecting the competitiveness of North Sumatra Tea in the Malaysian Market using multiple linear regression with SPSS 25 **(Equation 3)**.

$$RCA\ Malaysia = \alpha 0 + \alpha 1\ LnX1it + \alpha 2\ LnX2it + \alpha 3\ LnX3it + \alpha 4\ LnX4it \quad (3)$$

Description:
RCA Malaysia = Competitiveness of North Sumatra tea to the Malaysian market
X1 = North Sumatra tea export volume (tons)
X2 = Domestic price of North Sumatra tea ($Rp.kg^{-1}$)
X3 = North Sumatra tea export price ($US\$.ton^{-1}$)
X4 = Kenya tea export price ($US\$.ton^{-1}$)
α1 - α4 = Regression coefficient
i = Number of observations
t = The amount of time studied (23 years (2000-2022))

There are requirements that must be met in multiple linear regression analysis so that the estimation results obtained are considered good or optimal, which is known as the "Best

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Linear Unbiased Estimator" (BLUE). In general, BLUE requirements include normal data distribution, the absence of multicollinearity, the absence of autocorrelation, and the absence of heteroscedasticity (Ghozali, 2018 in Izzatin et al. (2023). The Classical Assumption Test used is the heteroscedasticity test (significant greater than 0.05), multicollinearity test (VIF> 10, and tolerance value < 0.10), normality test with a significant Kolmogorov- Smirnov value (p> 0.05), autocorrelation test using the Run Test with an Asymp.Sig (2-tailed) value greater than the significance level of 0.05 (Ghozali, 2018 in Ginting, 2021).

Hypothesis testing using the F test (F count> F table) to see all independent variables simultaneously and significantly affect the dependent variable. Goodness of Fit relationship between the independent variable and the dependent variable. T-test (significant value <0.05) (Ghozali, 2018 in Ginting et al. (2021).

RESULTS AND DISCUSSION

Competitiveness of North Sumatran Tea in the Malaysian Market

Competitiveness can be seen from market share, if the market share of a commodity increases, it means that competitiveness increases, can be seen in **Figure 3** and **Figure 4**. In this study, the competitiveness of North Sumatra tea to the Malaysian market is analyzed, which is the main export destination for tea from North Sumatra, using the market share and market growth approach calculated based on export value/price. Competitiveness can be seen from comparative advantage and competitive advantage. The *Revealed Comparative Advantage (RCA) method is used to measure comparative advantage,* and *Export Product Dynamic* (*EPD*) is used to measure the competitive advantage of North Sumatra tea.

Comparative Advantages (*RCA*) of North Sumatra, Kenya and Sri Lanka Tea

The comparative advantage of North Sumatra tea is measured using *RCA*. If the *RCA value* > 1 indicates that tea has a comparative advantage above the average (world) or is strongly competitive. If the *RCA value* < 1 indicates that tea has a comparative advantage below the average (world) or is weakly competitive. The *RCA value* of North Sumatra tea with competing countries, namely Kenya and Sri Lanka to the Malaysian market can be seen in **Figure 3**.

Figure 3 shows that the average *RCA value* of North Sumatra, Kenya, and Sri Lanka to the Malaysian market is more than one, this shows that the *RCA value* is above the world average, which means that North Sumatra, Kenya, and Sri Lanka have strong competitiveness to export tea to the Malaysian market, so they must maintain the continuity of tea exports in the export destination market.

Figure 3 shows that the *RCA value* of North Sumatra tea to the Malaysian market fluctuates, but tends to decrease. The average *RCA value* is greater than one, which is 55.19, meaning that North Sumatra has a comparative advantage and North Sumatra Tea is still strongly competitive in the Malaysian market.

Kenya has a high average RCA value to the Malaysian market of 999.25; the RCA value of Kenyan tea is not only above 1 but is worth hundreds; this shows that the competitiveness of Kenyan tea is far above the world average, meaning that Kenyan tea is highly competitive in the Malaysian market.

Sri Lanka has an RCA value greater than one to the Malaysian market. The average RCA value of Sri Lanka to the Malaysian market is 262.57, although the RCA value of Kenya is higher than Sri Lanka, the RCA value of Sri Lanka is still above the world average, meaning that Sri Lankan tea is highly competitive in the Malaysian market.

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The RCA values of Kenya and Sri Lanka are very high compared to the RCA value of North Sumatra; this is because Kenyan and Sri Lankan tea has high quality, especially in terms of black tea; even Sri Lanka is famous for Ceylon tea, which is known to produce high-quality tea. Ceylon tea is famous for its distinctive taste and aroma, which is highly valued in the international market, including in Malaysia. This guaranteed quality gives Kenya and Sri Lanka an advantage in global competition. Then the volume of tea production in Kenya and Sri Lanka is so large that it is called the largest tea producer in the world. Large production allows Kenya and Sri Lanka to export tea in large quantities, which increases its competitiveness in the global market, including in Malaysia. In addition, the branding and reputation of Ceylon tea from Sri Lanka has long been known in the world market as a premium product. This strong branding provides additional appeal in markets such as Malaysia, where consumers often look for products with a high reputation.

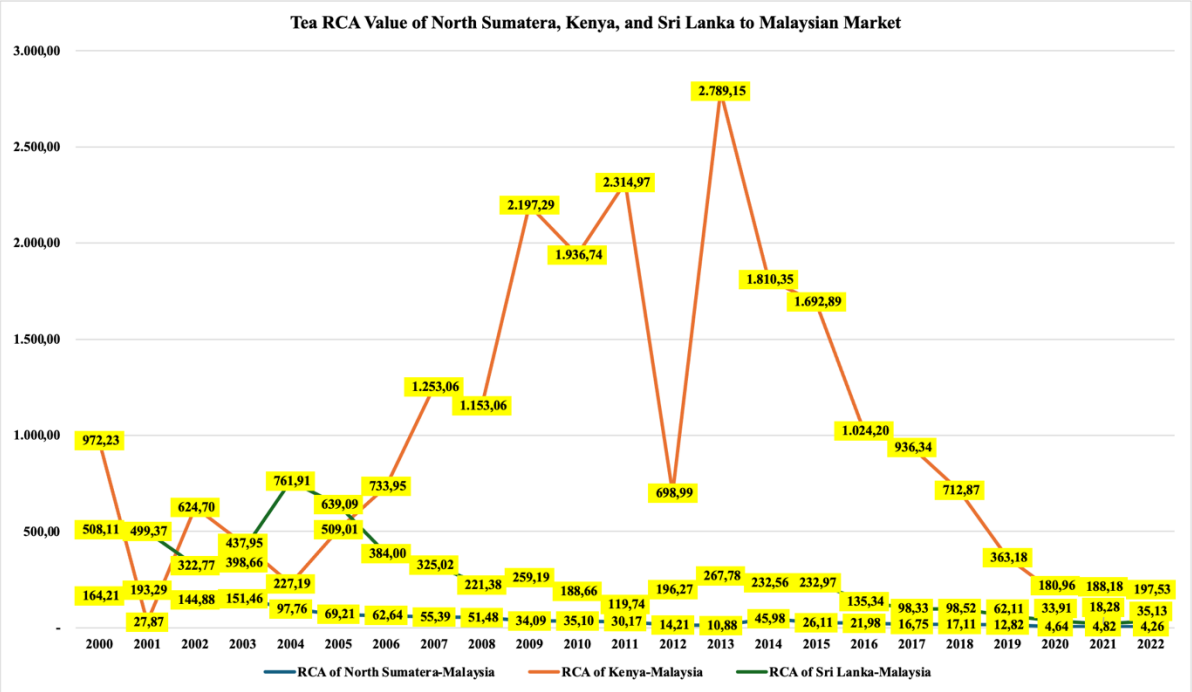

Figure 3. Development of competitiveness (RCA) of tea in the Malaysian market (processed data)

However, North Sumatra can still compete with Kenya and Sri Lanka by improving the quality of tea because the tea produced by North Sumatra has advantages including anthraquinone levels of 0.01 ppm, which means it is above the standard required by the European market, which is <0.02 ppm and the tea products produced have 14 types of variants that are grouped based on the level of fineness of the tea powder, aroma and taste of the tea. So, North Sumatra tea is still preferred by importing countries such as Malaysia.

Based on the calculation of comparative advantage using the RCA method, it was found that North Sumatra tea still has strong competitiveness (comparative) in the international market, meaning that North Sumatra tea in the international market has a larger export market share compared to the export market share of tea at the world level. The results of this study are in accordance

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with Jannati et al. (2020) which states that the RCA value shows Indonesia's strong competitiveness for tea commodities. The demand for global tea that continues to increase, especially for black tea as a superior product of PTPN IV, further strengthens the company's position in the world tea industry.

Competitive Advantage (EPD) of North Sumatra, Kenya, and Sri Lanka Tea

The competitive advantage of tea from North Sumatra, Kenya, and Sri Lanka to the Malaysian market uses the Export Product Dynamic (EPD) method. The Export Product Dynamics (EPD) method has four quadrants that represent the position of the tea market share. Quadrant I is called Rising Star, which occurs when tea trade experiences an increase in export market share. Quadrant II is called Lost Opportunity; there is a negative competitive market share, meaning that export demand has increased but cannot keep up with export volume due to increasing demand. Quadrant III is called Retreat, which is a condition where the product is no longer desired by the market. Quadrant IV is called Falling Star, which occurs when the export market share increases, but the growth of this market share experiences negative growth.

Table 1. EPD Value of North Sumatra, Kenya and Sri Lanka Tea to Malaysian Market

Tea Export Destination Market			Position Value (X, Y)		Position Category
			X	Y	
EPD to Malaysia Market	North Sumatra - Malaysia	-	0.00039	8.77152E-07	*Lost Opportunity*
	Kenya - Malaysia	-	0.00008	4.43775E-08	*Lost Opportunity*
	Sri Lanka - Malaysia	-	0.00008	2.86852E-07	*Lost Opportunity*

Source: data processed

Table 1 shows that the EPD value of North Sumatra tea to the Malaysian market, Kenya to the Malaysian market, and Sri Lanka to the Malaysian market is negative for position X and positive, so that for position Y, it is in the position of Lost Opportunity. The position of competitiveness (competitive advantage) of North Sumatra, Kenya, and Sri Lanka tea to the Malaysian market in 2000-2022 can be seen in Figure 4.

Figure 4 shows the competitiveness (competitive advantage) of North Sumatra tea to the Malaysian market, Kenya to the Malaysian market, and Sri Lanka to the Malaysian market are in quadrant II or lost opportunity where the growth of export market share is negative but the growth of product share is positive. North Sumatra, Kenya, and Sri Lanka are losing market share of tea in the Malaysian market (no competitive advantage), but their products have a growth in product market share that is growing faster than the average of all products (dynamic). This position is the least desirable, and this product also experienced a decline in export value from 2000-2018 as shown by its negative export market share growth. This is due to the fact that North Sumatra, Kenya, and Sri Lanka teas are in more demand by other countries such as the United States, United Kingdom, Pakistan, Egypt, Iraq, and Russia than Malaysia.

Based on the calculation of competitive advantage with the EPD method, it is found that North Sumatra tea has a decrease in competitiveness (competitive) in the Malaysian market, meaning that the commodity's market share is decreasing while the total market share of the country has experienced growth in world trade. This situation is the least desirable because it means losing opportunities for export share in

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the world market. The results of this study are in accordance with Safitri (2018) which states that Indonesian tea has a competitive advantage in the Lost Opportunity quadrant for black tea. PT Perkebunan Nusantara IV tea has low competitiveness in the global market due to smoky odor contamination, lack of diversification of premium products, weak branding, tight competition with other producing countries, world price fluctuations, and lack of adaptation to the trend of green, herbal and organic tea consumption. PT Perkebunan Nusantara IV as a tea producer in North Sumatra in order to improve the quality of tea products by standardizing the quality of tea in accordance with the needs of international markets, including the aroma, taste, and level of oxidation and international certified such as organic certification to increase global market trust.

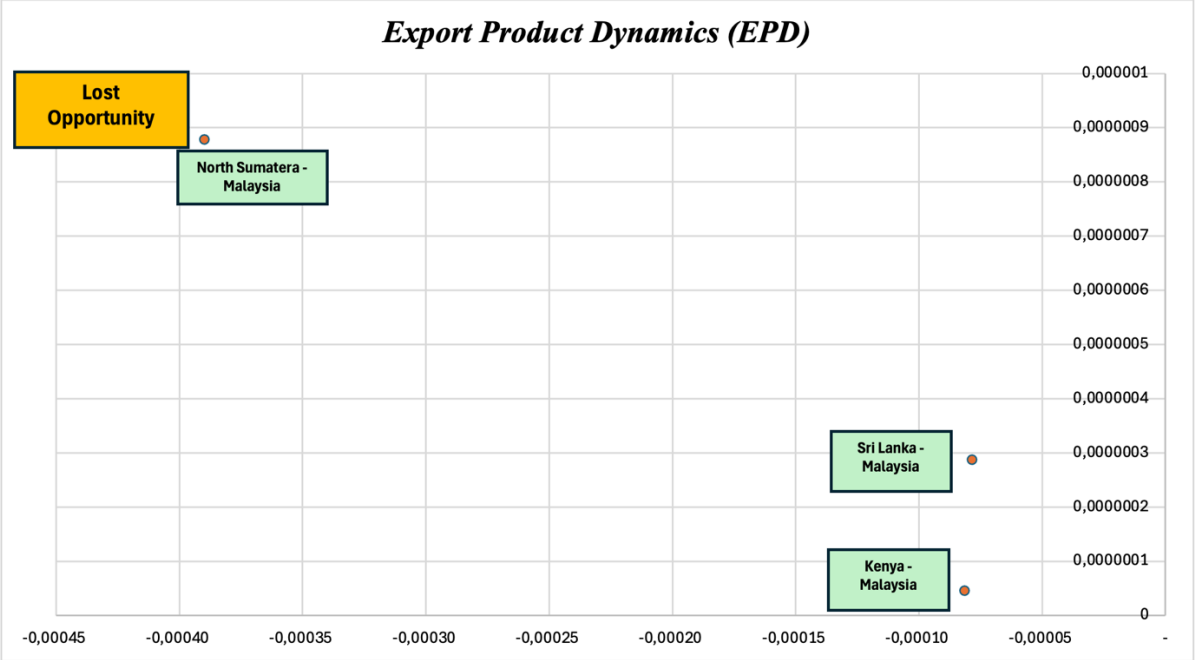

Figure 4. Competitiveness position of North Sumatra, Kenya and Sri Lanka tea in the Malaysian market (data processed)

Factors Affecting the Competitiveness (RCA) of North Sumatra Tea to the Malaysian Market

The results of multiple linear regression tests to analyze the factors that influence the competitiveness (RCA) of North Sumatra tea in the Malaysian Market. **Table 2** shows the results of multiple linear regression tests to analyze the factors that influence North Sumatra tea's competitiveness (RCA) in the Malaysian market. The multiple linear regression equation is as follows:

***RCA* Malaysia = (42.137) + (0.436 LX1) + (-4.748LX2) + (-1.396LX3) + (-0.220 LX4)**

Description:
RCA Malaysia = Competitiveness of North Sumatra tea to the Malaysian market
X1 = Export volume of North Sumatra tea (tons)
X2 = Domestic price of North Sumatra tea (Rp.kg^{-1})
X3 = North Sumatra tea export price (US$.ton^{-1})
X4 = Kenya tea export price (US$.ton^{-1})

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Table 2. Regression test results of North Sumatra tea competitiveness in the Malaysian market

Independent Variable	Regression Coefficient	T-Count	Sig.	Note
Constant	42.137	3.914	0.011	
Export volume of North Sumatra tea to Malaysia (X1)	0.436	0.548	0.591	Insignificant
Domestic price of North Sumatra tea (X2)	-4.748	-6.899	<0.001	Significant
North Sumatra tea export price to Malaysia (X3)	-1.396	-0.703	0.491	Insignificant
Kenya tea export price to Malaysia (X4)	-0.220	-0.596	0.559	Insignificant
R^2 = 0.762				
F-Count = 14.415				
Sig. = 0.001				

Source: data processed

The constant value of the regression model is 42.137, stating that when all variables in the research model are equal to zero (have no value) then the level of competitiveness of North Sumatra tea to the Malaysian market is 42.137 which is an influence from outside this regression model. The level of competitiveness of North Sumatra tea to the Malaysian market is 42.137, which means that North Sumatra tea is highly competitive in the Malaysian market.

The results of the analysis show that the coefficient of determination or R^2 is 0.762, meaning that 76.2% of the variation in the competitiveness variable (RCA) of North Sumatra tea in the Malaysian market can be explained by the variation in the variable export volume of North Sumatra tea (X1), the domestic price of North Sumatra tea (X2), the export price of North Sumatra tea (X3), the export price of Kenyan tea (X4) and the remaining 23.8% is explained by other variables not included in the model.

Table 2 shows that the F-count of 14.415 is greater than the F-table of 2.93 with a significance of 0.001 at the $\alpha = 0.05$ level. This shows that the significance value of F is smaller than the probability value (0.001 <0.05), so there is an influence of the independent variables of North Sumatra tea export volume (X1), North Sumatra tea domestic price (X2), North Sumatra tea export price (X3), and Kenya tea export price (X4) simultaneously have a significant effect on the dependent variable, namely the competitiveness (RCA) of North Sumatra tea to the Malaysian Market.

The effect of North Sumatra tea export volume on the competitiveness of North Sumatra tea to the Malaysian market.

The North Sumatra tea export volume variable (X1) has a positive sign with a regression coefficient value of 0.436. This shows that partially the export volume of North Sumatra tea has a positive but insignificant effect on the competitiveness of North Sumatra tea to the Malaysian market. The positive regression coefficient shows that if the export volume of North Sumatra tea increases by 1 ton ceteris paribus, it will increase the competitiveness of North Sumatra tea to the Malaysian market by 0.436 percent, meaning that the increase in the export volume of North Sumatra tea is equal to the amount of export demand from export destination countries increases, thus the

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competitiveness of North Sumatra tea will also increase. The results of this study are in accordance with research conducted by Kurniawan, (2017) which states that the volume of tea exports has a positive effect on tea competitiveness. This shows that with the increasing competitiveness of Indonesian tea exports to the main export destination countries, Indonesian tea will be more attractive to consumers which will increase the demand for tea by export destination countries.

The effect of the domestic price of North Sumatra tea on the competitiveness of North Sumatra tea to the Malaysian market.

The regression coefficient value of the domestic price variable of North Sumatra tea (X2) has a negative sign with a regression coefficient value of -4.748. This shows that partially, the domestic price of North Sumatra tea has a significant negative effect on the competitiveness of North Sumatra tea in the Malaysian market. The negative regression coefficient shows that if the domestic price of North Sumatra tea increases by Rp 1.ton^{-1} ceteris paribus, it will reduce the competitiveness of North Sumatra tea to the Malaysian market by -4.748 percent, meaning that if domestic prices increase, it will be low competitiveness because it will reduce exports to export destination countries so that competitiveness is low both at home and abroad. The increase in domestic prices reduces local consumers, so there is a decrease in the amount of production. The government needs to strengthen its policy of stabilizing prices at both consumer and producer levels (Nurjati & Susanti Wiryawan, 2024).

The effect of North Sumatra tea export prices on the competitiveness of North Sumatra tea to the Malaysian market.

The regression coefficient value of the North Sumatra tea export price variable (X3) has a negative sign with a regression coefficient value of -1.396. This shows that partially the export price of North Sumatra tea has a negative and insignificant effect on the competitiveness of North Sumatra tea to the Malaysian market. The negative regression coefficient indicates that if the export price of North Sumatra tea increases by 1 US$.ton^{-1} ceteris paribus, it will reduce the competitiveness of North Sumatra tea to the Malaysian market by -1.396 percent. The average price of North Sumatra tea to Malaysia is US$ 1,514.ton^{-1}, while the average price of competing countries, namely Kenya, is US$ 2,503/ton. This means that the export price of North Sumatra tea is lower than Kenya; thus, although the export price of North Sumatra tea has increased, the price increase is not higher than competing countries, so the competitiveness of North Sumatra continues to decline. The results of this study are in accordance with Surya & Hasmarini (2023) which states that the international price of tea has no significant effect on the competitiveness of Indonesian tea. This is in accordance with the theory of the law of demand which states that if the price of an item increases, the amount of demand for that item will decrease, and if the price of an item decreases, the amount of demand for that item will increase. So it can be said that the increase in the international price of tea will cause Indonesian tea exports to Malaysia to decrease and the competitiveness of Indonesian tea will decrease.

The effect of Kenya tea export prices on the competitiveness of North Sumatra tea to the Malaysian market.

The regression coefficient value of the Kenyan tea export price variable (X4) has a negative sign with a regression coefficient value of -0.220. This shows that partially the export price of Kenyan tea has a negative and insignificant effect on the competitiveness of North Sumatra tea to the Malaysian market. The negative regression coefficient shows that if the export price of Kenyan tea

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increases by 1 US$.ton^{-1} ceteris paribus, it will reduce the competitiveness of North Sumatra tea to the Malaysian market by -0.014 percent, meaning that if the price of Kenya's competitor countries increases, and the price of North Sumatra tea is below the price of competing countries, Malaysia as an importing country will choose Kenya over North Sumatra which exports at a lower price. Differentiated consumption theory explains that consumers choose products that have certain characteristics or advantages to differentiate themselves from other products. In this case, higher prices are often associated with higher quality products, products that are more natural, organic or ethically produced, all of which are considered healthier. Consumers are willing to pay more for these products because they want to get more health benefits and often differentiate their choice from more common or mass-produced products.

Kenyan tea has several advantages over Indonesian tea in the export market, which makes it more competitive in the global market. Kenya is known as a producer of high-quality black tea with a strong flavor and dark color. Kenyan tea is often used in blends for tea bags due to its strong and consistent characteristics. Tea plants in Kenya grow in the highlands with ideal climatic conditions, which contributes to the quality of the tea produced. North Sumatra also produces good quality tea, especially black tea. However, Indonesian black tea tends to have a milder flavour and is not as strong as Kenyan tea, which makes it less desirable in the Malaysian tea market, which seeks stronger flavours.

Kenya has one of the largest tea auction markets in the world, the Mombasa Tea Auction. This auction system is globally renowned and recognized for its transparency, which helps determine competitive tea prices. Through this auction, buyers from all over the world can bid for Kenyan tea, which increases the exposure of their products in the global market.

CONCLUSION

Based on the analysis of the results above, it can be concluded that the competitiveness of North Sumatra Province tea in the Malaysian market still has strong comparative competitiveness, but its competitive competitiveness tends to decline. The volume of North Sumatra tea exports has a positive but insignificant effect on the competitiveness of North Sumatra tea to Malaysia. The domestic price of North Sumatra tea has a significant negative impact on the competitiveness of North Sumatra tea to Malaysia, and the export price of North Sumatra and Kenyan tea has a negative but insignificant effect on the competitiveness of North Sumatra tea to Malaysia. Further research needs to analyze other factors that influence the competitiveness of tea, such as government support and policy support from the management of PT Perkebunan Nusantara IV.

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