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Analysis Of Indonesian Rubber Export Competitiveness

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Abstract

Rubber is one of Indonesia's leading plantation commodities that is oriented to the international market with export destination countries to several countries. Rubber provides a positive contribution to the economy because it generates foreign exchange for the country. This study aims to analyze (1) the position of Indonesia's rubber competitiveness in internasional comparative advantages and (2) the position of Indonesia's rubber competitiveness in international competitive advantages. This study uses time-series data is from 2000 to 2022. The data were analyzed using a revealed comparative advantage (RCA), and Trade Specialization Index approach (TSI) to know the position competitiveness of Indonesian natural rubber. The results of this study show (1) Based on competitiveness analysis, through Revealed Comparative Advantage (RCA) indicate that the competitiveness of Indonesia's natural rubber exports on the international market has a comparative advantage seen from 2000-2022 with an average value of RCA> 1 which is equal to 1.01. While the competitive advantage for the competitiveness of Indonesian rubber exports is at the maturation stage. This condition occurs because the value of the Trade Specialization Index (TSI) approaches 1, which is 0.98.

Keywords: Competitiveness, export prices, Indonesian natural rubber, RCA, TSI.

INTRODUCTION

Indonesia as a developing country, adheres to an open economic system where international economic traffic is very important in the economy and national development.

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Economic development requires that the welfare of the population must increase, and one measure of the increase in welfare is economic growth (Arifin, 2005).

The growth of industries that use rubber raw materials, the natural rubber market in the world will be increasingly open. This situation provides an opportunity for Indonesia as a country producing natural rubber to increase exports of natural rubber on the world market. Therefore, efforts to increase production along with competitiveness should be done. This effort is not easy because Indonesian natural rubber producers are dominated by farmers with limited socio-economic conditions.

Indonesia is a country with abundant natural resource not only in the oil and gas sector but also in the agricultural sector. Agricultural takes an important role for Indonesia economic growth. The main agricultural products export which can increase national income are palm oil, rubber, coffee, cocoa, white pepper, and shrimp. One of these products is natural rubber that the most important commercial crops after palm oil.

The role of rubber commodities on Indonesian exports cannot be said to be small, given the export of rubber commodities is one of the main export commodities after palm oil. Aside from being a source of state income, opening up employment opportunities, rubber is also believed to be a commodity that drives the growth of new centers in the plantation area. In addition, rubber.

The important and strategic role of natural rubber commodities is not only felt by countries producing natural rubber but also felt by consumer / importing countries. Consumer countries have a strong interest in the continuity of the supply of natural rubber as raw material for strategic industries such as the tire industry, automotive, military equipment industry, medical equipment industry, and others. On the one hand, producer countries want high prices, but consumercountries want low prices. Therefore, the balance between natural rubber production and consumption greatly determines the creation of prices that are mutually beneficial for both parties. The price of Indonesia natural rubber is also inseparable from the development of international rubber prices. Therefore Indonesia is very interested in the price changes that occur (Directorate General of Plantation, 2017).

Natural rubber farmers as in other farms are very responsive to the selling price. A decent price makes farmers more passionate about increasing their productivity in order to increase their income. Conversely, if the price is low, farmers tend to care less for their crops because they take into account the costs incurred. The issue of prices at the farmer level is closely related to the issue of price transmission from marketing institutions above. The position of farmers who are weak and as price recipients often do not get a decent

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price because of the problem of price transmission. Based on this fact, this study tries to study the transimistic price problems associated with farmer share farmers.

Indonesian rubber is expected to be able to compete with rubber from other countries going forward. If Indonesian rubber has competitiveness in the international market, it is expected that more countries will buy rubber from Indonesia and entrepreneurs will be even more enthusiastic to produce better quality rubber with lower production costs in order to earn profits and be able to sustain their production. Based on demand and supply factors, rubber prices should remain high because demand tends to increase sharply while supply tends to remain stable. However, in reality, rubber export prices tend to fluctuate. It is necessary to know how the competitive position of Indonesian rubber exports is in the International market.

Objectives

This article intends

1. To analyze the position of Indonesia's rubber competitiveness in the International Market when viewed from its comparative advantages.
2. To analyze the position of Indonesia's rubber competitiveness in the International Market when viewed from its competitive advantages.

METHOD

Competitiveness Analysis

The competitiveness of a country in a product or commodity can be estimated through comparatif profit and competitif profit. RCA analysis is a method for analyzing the comparative advantage. Whereas to identify a product or commodity that has a competitive and dynamic advantage (rapid growth) in a country, an analysis of the Trade Specialization Index (TSI) is used.

RCA Analysis

Measure comparative advantage is to use the RCA Index, which compares the export market share of a particular sector in a region through a specific sector market share. The formula according to Tambunan (2003) to measure the comparative advantage of a region by using Revealed Comparative Advantage (RCA), namely:

$$C = (X_{ij} / X_j) / (X_{ii} / X_i)$$

Where :

C: Revealed Comparative Advantage rubber

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X_{ij}: The value of rubber exports from Indonesia
X_j: Total value of Indonesian rubber exports
X_{ii}: World rubber export value
X_i: Total value of world rubber exports

If the RCA index value <1 shows that Indonesia for rubber commodities is low comparative advantage. If the RCA index value> 1 shows that Indonesia for rubber commodities is said to have a comparative advantage (Anggit, 2012).

Competitive advantage

According to Tambunan (2003), the competitive advantage of a product can be measured using the analysis of the TSI. The TSI is a comparison between the difference in export and impor value of a region compared to total export and import value of the region, or in other words, TSI is a comparison between the net trade value difference with the total trade value of a region. The TSI index can also be used to analyze the process of the industrialization stage and the development of the trading pattern of these commodities. The rationale of this index is the same as the product cycle theory, in which a product survives in the market over several years.

TSI formula:

$$TSI = (X_{ia} – M_{ia}) / (X_{ia} + M_{ia})$$

Information :
TSI = Index of trade specialization
X_{ia} = Value of product I exports in a country
M_{ia} = Import value of product I in a country

Competitiveness position is divided into 5 stages, according to product cycle theory, namely as follows: if between -0.5 to 0 is the stage of import substitution, If between 0 and 0.8 is at the stage of export expansion, If the value is close to +1 it is at the maturation stage. If the return value decreases between +1.00 to 0.00 is at the stage of re-importing

DISCUSSION

The Competitiveness of Rubber in Indonesia

The analysis of the competitiveness of Indonesian rubber is carried out by two things which are the focus of research to determine the level of competitiveness, will use

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RCA approach and Specialist Trade Index (TSI). These methods are used on the basis of a concept that trade between regions actually shows the comparative and competitive advantages possessed by a region.

The RCA value obtained can illustrate the performance of Indonesian rubber exports which range from zero to infinite. If the value of RCA is more than one, it is considered to have a good export performance and vice versa. Commodities with more than one RCA value can be said to have competitiveness or have a comparatif profit.

RCA Analysis

Analysis from the competitiveness of Indonesia's natural rubber exports to the world market uses the Revealed Comparative Advantage (RCA) approach. The RCA index is an indicator that shows a change in comparative advantage or changes in the level of competitiveness of a country's industry in the global market. This index can also be used to compare Indonesia's competitiveness with other natural rubber producing countries. To obtain an RCA value, it must be known in advance the value of the export of natural rubber of each natural and world rubber exporting country and the total export of commodities of all commodities exported by natural and world rubber exporting countries. Then the value of the comparison between the export value and total from the exporting countrie are divided by level from export value from natural rubber and total value from world exports.

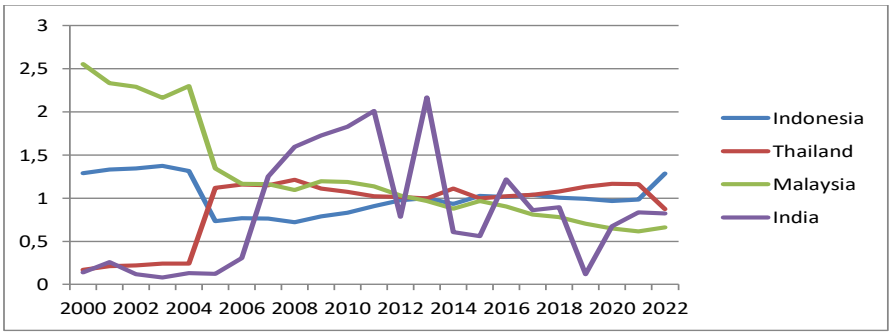


Figure 1. Revealed Comparative Advantage (RCA) of Indonesian Natural Rubber

Based on Figure 1 shows that the value of RCA Indonesia has an average of more than 1 export value rubber on International market. RCA values ranged from 0.7 to 1.3 during 2000-2022. The highest value was in 2003 and declined in 2008.

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Based on the results of calculations, it was found that the value of RCA Indonesia in 2000-2022, as one of the largest rubber producers in the world was equal to 1.01. This number is worth > 1: Indonesia had a comparatif profit over natural rubber. Indonesia must continue to maintain and enlarge the comparative advantage it possesses.

Table 1.RCA values of 4 largest exporting countries in 2000-2022

Year	RCA Indonesia	RCA Thailand	RCA Malaysia	RCA India
2000	1.290	0.170	2.549	0.138
2001	1.331	0.213	2.331	0.260
2002	1.343	0.220	2.287	0.118
2003	1.372	0.241	2.162	0.081
2004	1.314	0.242	2.297	0.132
2005	0.734	1.120	1.345	0.123
2006	0.765	1.157	1.164	0.306
2007	0.763	1.149	1.161	1.251
2008	0.719	1.210	1.093	1.595
2009	0.788	1.109	1.193	1.726
2010	0.832	1.070	1.186	1.825
2011	0.905	1.023	1.134	2.008
2012	0.974	1.014	1.029	0.785
2013	1.000	0.998	0.967	2.166
2014	0.931	1.112	0.876	0.605
2015	1.026	0.994	0.965	0.558
2016	1.014	1.021	0.901	1.216
2017	1.038	1.038	0.809	0.862
2018	1.005	1.077	0.781	0.895
2019	0.990	1.130	0.702	0.118
2020	0.964	1.166	0.649	0.675
2021	0.985	1.159	0.613	0.836
2022	1.284	0.871	0.662	0.821
Average	1.015	0.891	1.254	0.830

Source: processed from UNCOMTRADE, 2024.

Indonesia is ranked second for the value of rubber exports in the international market after Thailand. The average value of RCA Thailand and India in 2000-2022 did not reach one, so the two countries did not have comparative advantages. While Indonesia and Malaysia have an average value of RCA more than one, namely 1.01 and 1.25, which means that both countries have comparative competitiveness.

Trade Spesialisation Index (TSI) Analysis

The position analysis of Indonesian rubber trade can be analyzed using the Trade Specialization Index (TSI) method. This index is used to see whether a country tends to be an exporter or importer country for certain types of products. In this study, the country in question is the State of Indonesia. In this study the commodities studied were rubber.

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Figure 2. Trade Specialization Index (TSI) of Indonesian Natural Rubber

In figure 2 above, it can be seen that the TSI value of Indonesia's natural rubber exports from the smallest to the largest is 0.9600 and 0.9950.

Nominal of the TSI is -1 and +1. If nominal of TSI are positif (0 < TSI ≤ 1), then the relevant had strong commodity for competitiveness / the countrie tends become the exporter of tcommodity. Conversely, competitiveness has low or tends to be an importer, even nominal is negatif (-1≤ TSI <0). Value from calculation from TSI Analysis from Indonesia on the rubber during the period 2000-2022 you can see in Table 2.

Table 2. TSI value Indonesian natural rubber export in 2000-2022

Year	Trade Specialization Index (TSI)	Year	Trade Specialization Index (TSI)
2000	0.9886	2012	0.9945
2001	0.9927	2013	0.9920
2002	0.9880	2014	0.9884
2003	0.9833	2015	0.9897
2004	0.9750	2016	0.9900
2005	0.9600	2017	0.9824
2006	0.9834	2018	0.9850
2007	0.9859	2019	0.9798
2008	0.9793	2020	0.9780
2009	0.9937	2021	0.9808
2010	0.9950	2022	0.9839
2011	0.9940	**Average**	0.9854

Source: processed from UNCOMTRADE, 2024.

Based on the value of the Specialization Index of natural rubber presented in Table 2, it can be concluded that Indonesian natural rubber is a position of competitiveness

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seen from the product cycle which is at the maturation stage. This condition occurs because the nominal from TSI of natural rubber produced by Indonesia has an avevalue of TSI from 2000-2022 which is close to 1 which is equal to 0.98. The State of Indonesia from 2000 to 2022, calculated to have an TSI value of almost 1. Where the products produced are included in the category of products that have very strong competitiveness. Indonesia gets a TSI score of almost 1, this can happen because Indonesian rubber exports tend to increase. TSI values fluctuate but still close to 1..

CONCLUSION

The results of this model show if international rubber prices competitiveness analysis, through RCA will shows if Indonesian rubber in the international market has a comparative advantage or strong competitiveness with RCA value > 1 which is equal to 1.01. Whereas the competitive advantage is seen at the maturation stage. This condition occurs because the value of TSI of natural rubber produced by Indonesia has a Trade Specialization Index value close to 1 which is equal to 0.98.

The need for further research on rubber to produce a better model can be done by adding other independent variables. Increase domestic consumption by increasing and developing the downstream of natural rubber in Indonesia. In addition to creating added value in the rubber value chain, it can also help in long-term price stability. Control the volume of Indonesia's natural rubber exports to maintain price stability, such as increasing export volumes included with quality improvements, so that prices increase.Indonesia's rubber market share in the international market needs to be maintained because Indonesia has a huge opportunity to increase exports to has comparatif and competitif profit.

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