



Comparative Analysis of Export Competitiveness of Indonesia Cocoa Beans to Malaysia Before and After The Export Duty Policy

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ABSTRACT

The purpose of this study is to determine the comparative analysis of the competitiveness of Indonesian cocoa bean exports to Malaysia before and after the export duty policy. The research method used is descriptive quantitative method. The period studied is 2001 - 2020 or for twenty years. The data used for analysis in this study were obtained from the official website of the Central Bureau of Statistics, the United Nation Commodity Trade Statistics, the Food and Agriculture Organization of the United Nations, the Directorate General of Horticulture, and the Ministry of Trade of the Republic of Indonesia. The data analysis method used is Revealed Comparative Advantage (RCA), and the least square dummy variable (LSDV). The results of the RCA analysis of Indonesian cocoa exports to Malaysia before and after the export duty policy in 2001-2020 had a comparative competitiveness of >1. It can be concluded that overall the RCA of Indonesia's cocoa exports to Malaysia before and after the implementation of the export duty policy had differences, which can be seen from the average value of the RCA exports.

Keywords: *Cacao, Competitiveness, RCA, LSDV.*

1. Introduction

Indonesia is an agricultural country where most of the people make a living in the agricultural sector. Indonesians work in the agricultural sector which is flexible, labor is free to enter because it does not require certain skills and education. Agriculture is an important sector in the Indonesian economy, as it is the main sector that accounts for almost half of the economy.

Agriculture has subsectors that play an important role in developing the Indonesian economy, such as crops, foodstuffs, plantation crops, forestry, animal husbandry and its products and fisheries. One of Indonesia's leading export commodities is cocoa and which has a role in Indonesia's development, especially in the plantation subsector. According to the Directorate General of Plantations (Ditjenbun, 2019), cocoa plantations occupy the fourth largest area for the plantation subsector after oil palm, coffee, and rubber plantations. Indonesia is the number one producer for several commodities, one of which is cocoa commodities where Indonesia ranks 3rd largest cocoa producing country in the world after Côte d'Ivoire and Ghana.

Cocoa has an important role in the national economy, especially as a provider of employment, a source of income and foreign exchange for the country. Moreover, Indonesian cocoa has the advantage that it does not melt easily so it is suitable when used for *blending*. These advantages provide great opportunities for the cocoa industry in Indonesia. As one of the main export commodities, the presence of cocoa also has an impact on regional development in several cocoa producing centers, such as South Sulawesi, Central Sulawesi, West Sulawesi, and Southeast Sulawesi (Ministry of Industry, 2019).

The quality of Indonesian cocoa is not inferior to the world's cocoa output. According to the Ministry of Industry (Kemenperin, 2021), with its potential, Indonesia has a great opportunity to increase the added value of cocoa commodities through downstream policies. However, the commodities exported from Indonesia are mostly *cocoa beans, whole or broken, raw or roasted* (Cocoa Beans with HS Code 1801). Cocoa beans are the main raw material of processed products such as chocolate and others. Of the total summation of the value of Indonesian cocoa exports to the four countries, the largest destination for Indonesian cocoa exports is to Malaysia. Malaysia is the main destination country for Indonesia's most potential cocoa exports compared to the United States and India. Because the chocolate industry in Malaysia is still very dependent on supplies from Indonesia even though the country is also a producer of the same commodity.

This dependence is indicated by the large demand for Malaysian cocoa to North Sumatra, which is one of the producing regions in Indonesia. It became Indonesia's opportunity to strengthen its share in the Malaysian market. Cocoa seeds include recalcitrant seeds, which are seeds that cannot withstand drying, are sensitive to low temperatures and humidity, have low shelf life and are sensitive to changes in the

storage environment (Lukito et al., 2016).

To be able to meet the needs of its people, a country cannot produce its own goods and services. Therefore a country will conduct international trade. International trade is not only carried out by developed countries, but also developing countries. This international trade is carried out through export-import activities (Ekananda, 2018).

Economic actors are directed to drive specialization in improving efficiency. From the theory it can be concluded that, a country is said to have an absolute advantage over other countries if, the state it produces goods or services that cannot be produced by other countries (Astuti, 2019).

2. Theoretical Basis

The comparative theory put forward by David Ricardo developed after the theory of absolute advantage. In principle David Ricardo and John Stuart Mill stated that international trade is difficult if its basis is absolute or absolute advantage. They found an idea that until now is still considered correct and relevant, namely that countries carry out international trade because each country has comparative advantages and costs (Amalia, 2017).

The concept of competitiveness in international trade is related to the advantages possessed by a commodity or the ability of a country to produce that commodity more efficiently than other countries. Competitiveness can also be said to be the ability of a commodity to enter foreign markets and the ability to survive in these markets, in the sense that if a product has competitiveness, the product is in great demand by many consumers (Ariesha, 2019). In general, the success of international trade activities can be seen from the level of competitiveness possessed.

Export activities are a trading system by removing goods from within the country abroad by fulfilling applicable regulations. Export is the total goods and services sold by a country to another country, including among goods, insurance, services in a certain year (Sutedi, 2016).

According to Ekananda (2018), many factors affect the development of a country's exports. Some of these factors come from within the country and abroad, including the following (1) government policies in the field of foreign trade. If the government provides facilities to exporters, exporters are encouraged to increase exports; (2) the state of markets abroad, the forces of demand and supply of different countries may affect prices on the world market; (3) Exporter agility to take advantage of market opportunities, exporters must be good at finding and seizing market opportunities.

Comparative advantage will be achieved if the country can produce more and cheaper goods or services compared to other countries. This means that a country will export goods that can be produced at low production costs and will import goods made by itself if production costs are greater (Salvatore, 2016).

Analysis of Indonesia-China Economic Integration of Indonesia's Economy (Before and After Actfta) (Wildani, 2018) That Indonesia's exports to China have a significant positive effect but imports have a significant negative effect on the Indonesian economy. Meanwhile, ACFTA investment and integration both before and after have a positive insignificant effect on the Indonesian economy.

Comparative Analysis of the Competitiveness of Indonesian Pepper Exports Against Vietnam and Malaysia in the ASEAN Market (Ariesha, 2019). That the RCA significant result (0.73), Based on the results of these calculations, it can be seen that there is no difference in comparative competitiveness, Indonesia and Vietnam. which means that the difference in Indonesia's competitiveness position is greater than Vietnam. The same thing also happens in the comparison of the competitiveness of Indonesian and Malaysian pepper exports, but the significant value is different from the comparison of Indonesia and Vietnam.

Impact of Export Duty Policy on Indonesian Cocoa Exports (Gautama, 2019) simultaneously the amount of cocoa production, world cocoa prices, rupiah exchange rates, and export duty policies have a significant effect on Indonesian cocoa exports. Partially, the amount of cocoa production and export duty policy have a significant positive effect on Indonesia's cocoa exports. Meanwhile, the variable world cocoa price and the rupiah exchange rate do not have a significant effect on Indonesian cocoa exports.

The cocoa bean export tax policy aims to inhibit cocoa bean exports and to increase the supply of cocoa beans in the domestic industry. Data shows that after the implementation of the export duty, cocoa bean exports decreased and the number of cocoa processing companies increased. However, the cocoa processing industry is not yet operating at full capacity. The low quality of cocoa beans produced in Indonesia is a major factor. For this reason, it is recommended that government revenue from cocoa bean export duties be reused for coaching farmers in improving the quality of cocoa beans (Syadullah, 2020).

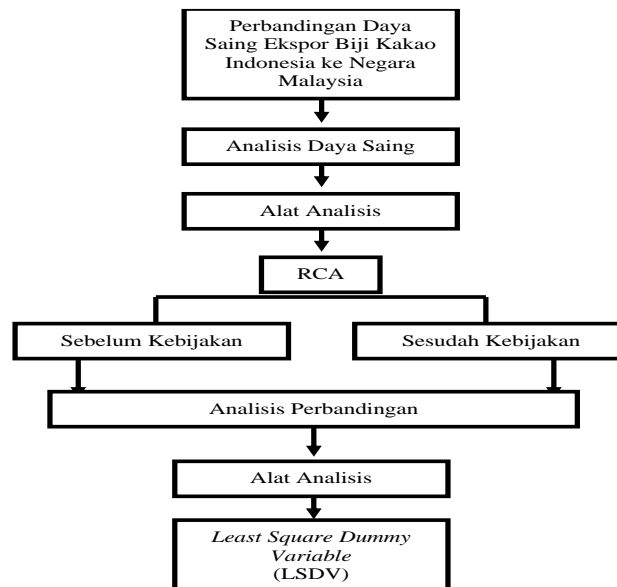
The framework in the research on the Comparative Analysis of the Competitiveness of Indonesian Cocoa Bean Exports to Malaysia Before and After the Export Duty Policyll explained that the comparison of the competitiveness of Indonesian cocoa exports to the Malaysian market before and after the export duty policy uses comparative analysis and also competitiveness analysis. The analysis tool used for competitiveness is RCA (*Revealed comparative advantage*), and for comparative analysis is the *Least Square Dummy Variable* (LSDV).

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3. Research Framework and Hypothesis Formulation



The framework in the research on "Comparative Analysis of the Competitiveness of Indonesian Cocoa Bean Exports to Malaysia Before and After the Export Duty Policy" explains that the comparison of the competitiveness of Indonesian cocoa exports to the Malaysian market before and after the export duty policy uses comparative analysis and also competitiveness analysis. The analysis tool used for competitiveness is RCA (*Revealed comparative advantage*), and for comparative analysis is *Least Square Dummy Variable (LSDV)*.

4. Research and Discussion

Table 1. Simple Linear Regression Analysis of Cocoa Bean Exports in 2001 - 2020

Dependent Variable: EKSPOR_BIJI				
Method: Least Squares				
Date: 10/18/22 Time: 15:00				
Sample: 2001 2020				
Included observations: 20				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
DUMMY	-129799.5	64739.37	-2.004955	0.0602
C	275583.7	45777.65	6.020049	0.0000
R-squared	0.182555	Mean dependent var		210684.0
Adjusted R-squared	0.137142	S.D. dependent var		155841.7
S.E. of regression	144761.6	Akaike info criterion		26.69820
Sum squared resid	3.77E+11	Schwarz criterion		26.79778
Log likelihood	-264.9820	Hannan-Quinn criter.		26.71764
F-statistic	4.019843	Durbin-Watson stat		0.356161
Prob(F-statistic)	0.060245			

Source : Trade Map, 2021 processed

The results of the regression analysis above show, the probability is partial (Individual) 0.0602, and simultaneous (Simultaneously) 0.060245 which means $\alpha = < 10\% / (0.10)$. with an R-squared of 18.25% or an Adjusted R-squared (after correction) of 13.71%. That the export duty policy set by the government succeeded in reducing the export value of Indonesian bean cocoa (1801) to Malaysia before and after the enactment of the policy, within a period of 20 years by - 129799.5 US\$.

Table 2. Simple Linear Regression Analysis of Pasta Cocoa Exports in 2001 – 2020

Dependent Variable: EKSPOR_PASTA

Method: Least Squares

Date: 10/18/22 Time:
15:10

Sample: 2001 2020

Included observations: 20

Variable	Coefficient	Std. Error	t-Statistic	Prob.
DUMMY	83708.90	14958.05	5.596243	0.0000
C	199.4000	10576.94	0.018852	0.9852
R-squared	0.635021	Mean dependent var		42053.85
Adjusted R-squared	0.614745	S.D. dependent var		53887.21
S.E. of regression	33447.22	Akaike info criterion		23.76796
Sum squared resid	2.01E+10	Schwarz criterion		23.86754
Log likelihood	-235.6796	Hannan-Quinn criter.		23.78740
F-statistic	31.31794	Durbin-Watson stat		0.758553
Prob(F-statistic)	0.000026			

Source: *Processed Data Eviews 12, 2022*

The results of the regression analysis above show, the probability is partial (individual) 0.0000, and simultaneous (concurrent) 0.000026 which means $\alpha = < 10\% / (0.10)$. with an R-squared of 63.50% or an Adjusted R-squared (after correction) of 61.47%. That the export duty policy set by the government succeeded in reducing the export value of bean-type cocoa (1801), (Table 5.2) and increasing Indonesian paste-type processed cocoa (1803) to Malaysia before and after the enactment of the policy, within 20 years amounting to 83708.90 US\$.

Table 3. Simple Linear Regression Analysis of Cocoa Butter Exports in 2001 – 2020

Dependent Variable: EKSPOR_BUTTER

Method: Least Squares

Date: 10/18/22 Time: 15:13

Sample: 2001 2020

Included observations: 20

Variable	Coefficient	Std. Error	t-Statistic	Prob.
DUMMY	17607.70	416.167	.250952	0.0044
C	663.5000	829.808	.173246	0.8644
R-squared	0.369940	Mean dependent var		9467.350
Adjusted R-squared	0.334936	S.D. dependent var		14850.65
S.E. of regression	12110.92	Akaike info criterion		21.73624
Sum squared resid	2.64E+09	Schwarz criterion		21.83581
Log-likelihood	-215.3624	Hannan-Quinn criter.		21.75568
F-statistic	10.56869	Durbin-Watson stat		0.960765
Prob(F-statistic)	0.004436			

Source: *Trade Map, 2021 processed*

The results of the regression analysis above show, the probability is partial (individual) 0.0044, and simultaneous (concurrent) 0.004436 which means $\alpha = < 10\% / (0.10)$. with an R-squared of 36.99% or an Adjusted R-squared (after correction) of 33.49%. That the export duty policy set by the government succeeded in reducing the export value of cocoa bean type (1801), (Table 5.2) and increasing processed cocoa butter type (1804) Indonesia to Malaysia before and after the enactment of the policy, within 20 years amounting to 17607.70 US\$.

Table 4. Simple Linear Regression Analysis of Cocoa Powder Exports in 2001 – 2020

Dependent Variable: EKSPOR_BUBUK

Method: Least Squares

Date: 10/18/22 Time: 15:15

Sample: 2001 2020

Included observations: 20

Variable	Coefficient	Std. Error	t-Statistic	Prob.
DUMMY	15070.80	2249.419	6.699864	0.0000
C	1344.100	1590.579	0.845038	0.4092
R-squared	0.713778	Mean dependent var		8879.500
Adjusted R-squared	0.697876	S.D. dependent var		9150.883
S.E. of regression	5029.853	Akaike info criterion		19.97881
Sum squared resid	4.55E+08	Schwarz criterion		20.07838
Log likelihood	-197.7881	Hannan-Quinn criter.		19.99825
F-statistic	44.88818	Durbin-Watson stat		1.491854
Prob(F-statistic)	0.000003			

Source: *Trade Map, 2021 processed*

The results of the regression analysis above show, the probability is partial (individual) 0.0000, and simultaneous (concurrent) 0.000003 which means $\alpha < 10\%$ / (0.10). with an R-squared of 71.37% or an Adjusted R-squared (after correction) of 69.78%. That the export duty policy set by the government succeeded in reducing the export value of cocoa bean type (1801), (Table 5.2) and increasing processed cocoa powder type (1805) Indonesia to Malaysia before and after the enactment of the policy, within 20 years amounting to 15070.80 US\$.

5. Conclusions and Suggestions

Based on the description of the problem and the analysis of the data described, the following conclusions can be drawn:

1. Competitiveness or *Revealed Comparative Advantage* (RCA) of Indonesian cocoa bean exports to Malaysia before and after the export duty policy within 20 years. Ten years before and ten years after that are worth >1 means having comparative competitiveness or strong competitiveness.
2. There is a difference between Indonesian cocoa bean exports to Malaysia before and after the export duty policy seen from the results of simple linear regression / LSDV Dummy partially or simultaneously had a significant effect on the export value of Indonesian cocoa beans and processed cocoa to Malaysia in 2001 – 2020 which means that the determination of export duty policies on cocoa beans issued by the government succeeded in restraining the pace of bean exports and increasing exports of processed cocoa.

Based on the results of the research above, suggestions and inputs that can be given from the results of the comparison of the competitiveness of Indonesian cocoa bean exports to Malaysia before and after the export duty policy are:

1. The government should provide socialization to farmers about the use of maximum limits in the use of pesticides in order to meet the standards set by the destination country in order to improve the quality of exporting cocoa beans.
2. Indonesia must pay more attention to domestic cocoa bean processing so as not to dominate bean exports too much, and provide great opportunities for the Indonesian processed cocoa industry to further increase the country's foreign exchange.
3. For further research on cocoa bean exports, it is recommended to use calculations regarding comparative analysis and other competitiveness of Indonesian cocoa bean exports to Malaysia. Furthermore, it is expected to be able to add other variables to see the effect of export duty policy on Indonesian cocoa bean exports so that the results obtained explain various other phenomena.

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