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Competitiveness of the Commodity Indonesian Coffee Beans in the International Market

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A R T I C L E I N F O

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A B S T R A C T

The Geographical Indication Program (IG) with the application of fairtrade standardization has been launched by the Indonesian government in 2001, to increase the competitiveness of local products in the international market. This study seeks to identify the strength of competitiveness and the position of Indonesian bean coffee commodities in the international market and each of the national markets of the importing country. Panel data used during the period 2010-2021 covered 11 exporter countries and 6 importer countries, analyzed with the RCA index. The results showed that Coffee not Roasted or Decaffeinated has strong competitiveness in the international market and some national markets of importing countries, and competitiveness is weak for Coffee Roasted, not Decaffeinated. The competitiveness position of the two coffee bean commodities is in the 6th position. The occurrence of a positive correlation between the contribution of exports and the competitiveness of coffee beans indicates the positive impact of the IG program and suggests that the position of competitiveness be improved through the provision of adequate and affordable organic production facilities, farmer counseling, and partnership and promotion cooperation.

1. INTRODUCTION

The coffee bean trade is multilateral, meaning that each country imports coffee beans from several coffee-producing countries, so coffee-producing countries compete with each other in the international market, both in a destination country and in several export destination countries. Given this competitive condition, since 2001 Indonesia has launched a Geographical Indication (IG) program, the results of which until 2022 have reached 36 types of Indonesian coffee registered as IG.

With the acquisition of the IG certificate, it is predicted that Indonesian coffee commodities will be more in demand by consumers in the international market, in line with that Indonesian coffee commodities are encouraged to follow the fairtrade standards set by the Fairtrade Labeling Organizations Certification (FLO-CERT), namely (1) coffee farmers are required to become members of cooperatives formed in coffee processing units (2) coffee plant cultivation is carried out organically, without the use of chemical elements in plants and areas of coffee plants (3) coffee farmers are required to sell coffee production to cooperatives or traders appointed by cooperatives. (4) cooperatives function as supervisors of coffee crop cultivation, domestic coffee marketing, and processing of coffee commodities, and at the same time as exporters (5) coffee farmers earn premiums from importer profits through cooperatives in the form of production facilities [1].

The dilemma for Indonesian bean coffee commodities in obtaining IG certificates with the recommendation of fairtrade standardization is because coffee farmers think that the implementation of fairtrade standardization will only satisfy consumers and benefit cooperatives and traders appointed by the cooperative. On the contrary, it will be detrimental to coffee farmers, because the decrease in coffee productivity is greater than the premiums earned by farmers. Such conditions will have an impact on the ability of Indonesian coffee beans to enter and survive in the international market. Furthermore, concerns arise about the competitiveness of Indonesian bean coffee in the international market. In connection with these concerns, this study seeks to identify the competitive position of Indonesian coffee bean commodities in the international market and each market of the importing country.

In 2014 Indonesia was one of the largest coffee producing and exporting countries in the world in addition to several countries on the African continent, Asia / Oceania, Mexico / Central America, and South America (ICO: International Coffee Organization, 2017), with export destinations mostly to developed countries, such as USA, United Kingdom, Germany, Australia, France, and Japan. The form of coffee imported by these countries is mostly in the form of coffee beans (coffee bean) without roasting and with caffeine (coffee not roasted, not decaffeinated). It turns out that not only Indonesia exports coffee beans to the above-developed countries, but also several other countries, such as Ethiopia, Uganda, India, Viet Nam, Guatemala, Honduras, Mexico, Brazil, Colombia, and Peru (ICO, 2017). This means that the trade-in coffee beans is multilateral, therefore since 2001 Indonesia has launched a

Geographical Indication (IG) program, the aim is to maintain regional peculiarities and increase the competitiveness of Indonesian local products in the international market [2], in addition to securing the downstream value of the long-lasting origin coffee brand and to strengthen the quality management system [3]. At the same time, fair trade standards (fairtrade) were established by the Fairtrade Labeling Organizations Certification (FLO-CERT), which is the governing body for harmonizing global standards and certifications for fairly traded products, focusing its attention on environmental sustainability, social, economic, ethical and business integrity (International Trade Centre). The agency's mission is to ensure fairness, help manufacturers, traders, and brands, and spread fair practices throughout the supply chain (FloCert, 2017). In this system, the characteristics of cooperation, management commitment, and product characteristics play an important role [4].

The pros and cons of the impact of such global standards and certifications are growing among researchers, who pro state fairtrade contributes positively to coffee farming practices, the environment, coffee income, productivity, family standards of living, and the depth of poverty[5]; [6]; [7]; [8]; [9]; [10]; [11]; [12]; [13]. Conversely, the contras doubt the positive impact, thus suggesting better organic certification checks to verify good practices and advance forest conservation in the coffee sector [14]; [15]; [16].

The problem in Indonesia is that coffee production has decreased in recent years, due to the impact of weather, old plants, felling trees and replacing them with other crops (AICE, 2016), while the demand for coffee commodities continues to increase, especially in several Eastern European countries, Korea, China, including in world coffee-producing countries, such as Indonesia and Vietnam (ICEA, 2016; and International Coffee Organization = ICO, 2016), because coffee is consumed by millions of people every day, and played a role in preventing some severe diseases, and generally justified the classification as a functional drink, adding value to the pharmaceutical, cosmetic and food industries, as well as the second-largest trading commodity after petroleum[17]; [7]; [18]; [19]. There is a concern in Indonesia and even the world, that coffee production is smaller than consumption, this concern will be exacerbated by the unstable price of coffee commodities in the international market, and the contribution is marginal ([20]; [21].

Efforts to obtain an IG certificate by applying the recommendations for fairtrade standardization are faced with the constraints of decreasing production, as a result of the lack of widespread adoption of the organic farming system by farmers due to the lack of production facilities in the local market in sufficient quantities. Some research findings state that the lack of widespread adoption of the organic farming system by farmers is due to a very significant decrease in yields, reaching 50 percent in the early phase of the transition from conventional agriculture to an organic system [22]. The decrease was due to the drastic reduction of chemical fertilizers and synthetic pesticides which triggered nutrient limitations,

especially nitrogen, pest attacks, and weed pressure. [23] Lack of availability of adequate organic inputs such as manure and organic herbicides [24].

Such conditions will cause the ability of Indonesian coffee bean commodities to enter the international market and be able to survive in these markets, it is feared [25], because there are still several competing countries that have succeeded in increasing quality coffee production, such as Brazil and Vietnam [26]. If Indonesia's coffee production falls, the ability to export also decreases so that competitiveness becomes weak, then it will hurt the development of Indonesia's coffee plantation sub-sector. If such conditions do not receive treatment and policies that lead to the development of the coffee farming sub-sector and the entire supply chain, it is predicted that it will hurt coffee competitiveness in the international market. The next impact is that the export of Indonesian coffee commodities cannot provide incentives for building a coffee industry in Indonesia. For this reason, the competitiveness of this coffee commodity needs attention to take real policies in the development of the coffee industry in Indonesia.

2. RESEARCH METHODS

The data used in this study were sourced from the International Coffee Organization (ICO), and the UN Comtrade Database. The type of data used is panel data, with a period of 2010-2021, covering 11 bean coffee exporter countries in the form of coffee not roasted or decaffeinated with the HS (harmonized system) code 090111 and coffee roasted not decaffeinated with the HS code 090121. The eleven exporting countries consist of 2 countries representing Africa: Ethiopia and Uganda; 3 countries representing Asia/Oceania: India, Indonesia, and Viet Nam; 3 countries represent Mexico/Central America: Guatemala, Honduras, and Mexico; 3 countries represent South America: Brazil, Colombia, and Peru (ICO, 2017). While the importing countries of coffee beans analyzed were: Germany, the United Kingdom, Australia, Japan, the USA, and France, namely the countries importing coffee beans in the form of coffee not roasted or decaffeinated and coffee roasted not decaffeinated the world's largest. The Revealed Comparative Advantage (RCA) model was used in the study, assuming that trade between countries shows the comparative advantage possessed by the country. Formulations used ([27]; [28]; [29]; [30]; [31]; [32], adalah sebagai berikut:

$$\boldsymbol{RCA} = \frac{\boldsymbol{X_{ij}}/\sum_i \boldsymbol{X_{ij}}}{\sum_j \boldsymbol{X_{ij}}/\sum_i \sum_j \boldsymbol{X_{ij}}} \text{……..……...……..(1)}$$

Where RCA = Index Revealed Comparative Advantage; X_{ij} = ekspor komoditi kopi biji (i) negara j; $\sum_i X_{ij}$ = total exports of coffee bean commodities (i) country j; $\sum_j X_{ij}$ = total exports of coffee bean commodities (i) the world; $\sum_i \sum_j X_{ij}$ = total exports of coffee bean commodities (i) world. If Index $RCA > 1$, then the commodity has a comparative advantage and has strong competitiveness. If RCA=1, then the commodity cannot be detected, and if Index $RCA < 1$, such commodities have no comparative advantage and no competitiveness. The RCA model has been widely used since the 1980s and is considered to contain weaknesses because the estimation results are often not comparable across countries for

certain commodities and especially the RCA rating does not match the export share rating [33]; [34]; [1]. To that end [35] concluded that, although the five indices that have been stretched since the 1980s (Lafaye index, Symmetrical RCA index, weighted RCA index, RCA index additive, Normalized RCA, overcome the shortcomings of the Balassa Index, none of those indices can be called a perfect one.

3. RESULTS AND DISCUSSION

Of the 11 exporting countries of coffee not roasted or decaffeinated and coffee roasted, decaffeinated during the period 2010-2021, as presented in Table 1 shows that more than 99% of total exports are coffee beans in the form of Coffee not Roasted or Decaffeinated, although each country will seek to export Coffee Roasted, not Decaffeinated but in smaller quantities, especially the countries of Colombia, Mexico, Viet Nam, and Brazil. Judging from the contribution, there are several countries whose contribution is above 10% every year, namely Brazil, Colombia, and Viet Nam. Meanwhile, those whose contribution is between 5% to 10% every year are the countries of Indonesia and Guatemala. Then the coffee bean exporting countries whose contribution is less than 5% consist of Peru, Ethiopia, Honduras, Mexico, India, and Uganda. Furthermore, changes in coffee bean exports in the international market decreased by an average of 1.61 / year during the 2010-20121 period. However, several exporter countries have experienced an increase, namely Brazil, India, Mexico, and Colombia.

Table 1. Export of Coffee Beans in the Form of Coffee not Roasted or Decaffeinated and Coffee Roasted not Decaffeinated from 11 Countries during the period 2010-2021

Exporter Country	Coffee not Roasted or Decaffeinated (kg)	Coffee Roasted, not Decaffeinated (kg)	Total (kg)	Contribution (%)	Change (%/Year)
Brazil	11.705.043.365	13.916.511	11.718.959.876	36,86	1,96
Indonesia	1.981.956.149	672.600	1.982.628.749	6,24	-3,13
Guatemala	1.638.486.648	213.121	1.638.699.769	5,15	-0,29
Viet Nam	5.529.183.061	16.971.001	5.546.154.062	17,44	-2,99
India	510.859.893	978.764	511.838.657	1,61	7,76
Uganda	559.857.284	51.032	559.908.316	1,76	-2,40
Honduras	1.503.740.747	92.660	1.503.833.407	4,73	-10,71
Mexico	829.179.816	26.361.852	855.541.668	2,69	2,38
Peru	1.483.144.479	473.496	1.483.617.975	4,67	-8,56
Colombia	4.848.910.852	50.903.184	4.899.814.036	15,41	4,30
Ethiopia	1.095.494.599	337.734	1.095.832.333	3,45	-0,63
International	31.685.856.893	110.971.955	31.796.828.848	100,00	-1,61

Source: UN Comtrade Database (2022)

The decline in exports of coffee bean commodities was mainly caused by the decline in coffee production in several producing countries, in addition to the Covid-19 outbreak in almost all exporter and importer countries, including Indonesia. This means that Indonesia is one of the fourth largest exporters of coffee beans after the countries: Brazil, Viet Nam, and Colombia in

terms of the amount of their contribution to the international market, but with changes in export volumes that decrease by 3.13% per year. This decline turned out to fluctuate from year to year during the period 2010-2021 as shown in Figure 1. This situation indicates that Indonesia's coffee bean commodity can enter the international market, but its ability to survive in this market is feared, because there are still several competing countries in addition to its large contribution also able to increase coffee bean exports every year, such as Brazil and Colombia. This situation indicates that Indonesia's coffee bean commodity can enter the international market, but its ability to survive in this market is feared, because there are still several competing countries in addition to its large contribution also able to increase coffee bean exports every year, such as Brazil and Colombia.

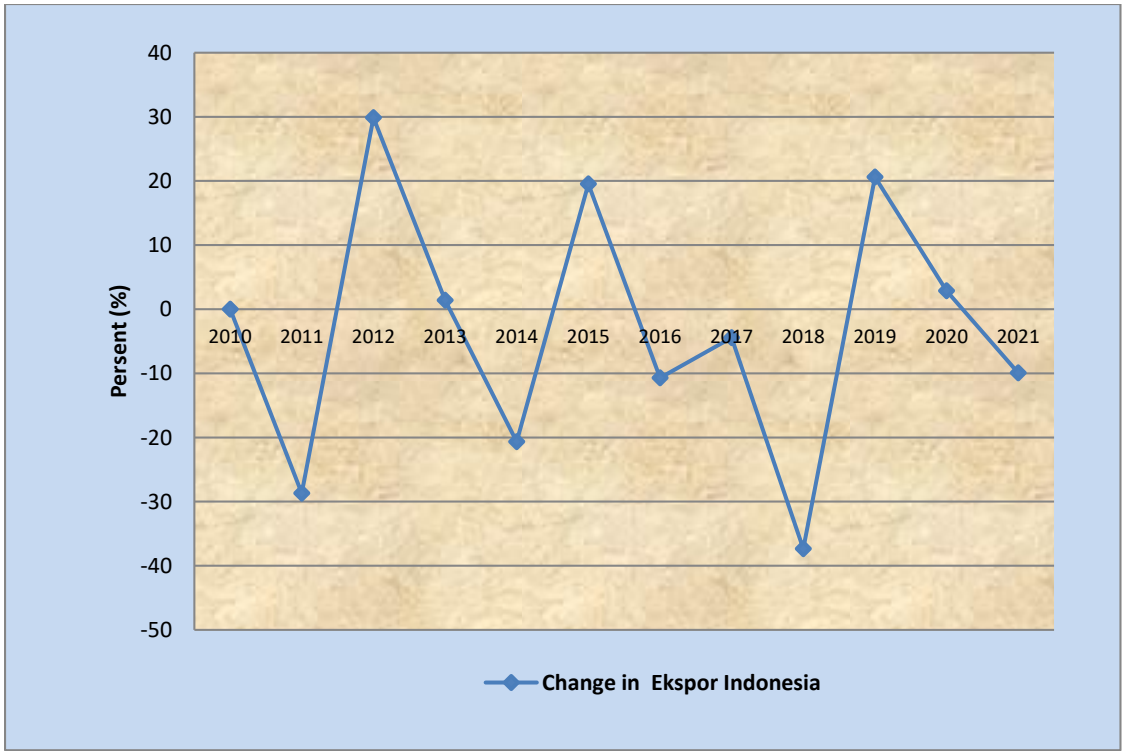

Figure 1. Changes in Indonesia's Coffee were not Roasted or Decaffeinated and Coffee Roasted not Decaffeinated Exports during the 2010-2021 Period.

Source: Data Processed, 2022

These findings are in line with the findings of Tatakomara, (2004) and [26]. One of the reasons for the decline and fluctuating export of Indonesian bean coffee commodities in the international market is the decline in domestic coffee production. [36] stated that in 2012 the value of coffee exports which reached 1.5 billion USD continued to decline until 2014, then strengthened again in 2015, and again experienced a decline in 2016 which only reached 1.4 billion USD. The decline in exports was caused by a decrease in domestic coffee production which only reached 639,305 tons in 2016 or a decrease of 0.02% from the previous year

which reached 639,412 tons. In addition, the Central Statistics Agency (2022) stated that during the 2017-2021 period Indonesia's coffee production increased from 716.1 thousand tons in 2017 to 774.6 thousand tons in 2021.

During the period 2010-2021 coffee beans in the form of Coffee not Roasted or Decaffeinated and Coffee Roasted, not Decaffeinated were exported by each exporting country to the main importing countries, where the largest market share of coffee beans was the USA reaching 41.8% of the international export volume, mainly coming from exporting countries Brazil, Guatemala, Viet Nam, and Colombia. Then followed by Germany reaching 33.1% of the international export volume, mainly from importing countries Brazil and Viet Nam. The remaining 25.1% is the market share of other importing countries. Indonesia controls the international market only 6.2% of the international export volume with the market share of coffee beans in the USA and Germany. This data shows that Indonesia must face fierce competition in the international market, especially in the USA and Germany from exporting countries Brazil, Guatemala, Vietnam, and Colombia. Competitive advantage is determined by the competitiveness of each coffee bean exporter country, both in the international market and in the national market of each importing country.

To find out the strength of competitiveness of each exporter country is carried out with the RCA index approach. Referring to this approach, several stages will be carried out, namely the first stage of detecting the export volume of coffee beans both in the form of Coffee not Roasted or Decaffeinated and Coffee Roasted not Decaffeinated by each exporter country (Brazil, Indonesia, Guatemala, Viet Nam, India, Uganda, Honduras, Mexico, Peru, Colombia, and Ethiopia) to each importing country (Germany, United Kingdon, Australia, Japan, USA, and France) during the period 2010-2021. The purpose of this stage is to obtain the proportion of Coffee not Roasted or Decaffeinated and Coffee Roasted not Decaffeinated commodities to the total exports of coffee commodities of each exporting country in a certain year during the period 2010-2021 or as a numerator $X_{ij}/\sum_i X_{ij}$ in the RCA approach. The second phase adds up export volumes in the form of Coffee not Roasted or Decaffeinated and Coffee Roasted not Decaffeinated from each exporting country to each importing country in a certain year during the period 2010-2021. The purpose of this second phase is to obtain the proportion of Coffee not Roasted or Decaffeinated and Coffee Roasted not Decaffeinated commodities to the total export of coffee bean commodities in the national market of each importing country and the international market in a certain year or as a denominator $\sum_j \boldsymbol{X_{ij}}/\sum_i \sum_j \boldsymbol{X_{ij}}$ in the RCA approach**.** A result of the first and second stages is presented in **Table 2.**

Table 2. Export Distribution of Coffee Beans in the Form of Coffee not Roasted or Decaffeinated and Coffee Roasted not Decaffeinated During the period 2010-2021(*in thousands of Kg*)

Exporter Country	Forms of Coffee Beans	National Market of Importer Country						International Market
		Germany	**United Kingdom**	**Australia**	**Japan**	**USA**	**France**	
Brazil	A *)	4.401.202	466.766	187.124	1.591.294	4.545.163	513.494	11.705.043
	B **)	270	241	54	2.073	10.868	411	13.917
	Total	4.401.471	467.008	187.178	1.593.367	4.556.032	513.904	11.718.960
Indonesian	A *)	439.625	212.424	68031	463.324	724.423	74.127	1.981.956
	B **)	94	337	47	27	157	10	673
	Total	439.720	212.761	68.079	463.352	724.581	74.137	1.982.629
Guatemala	A *)	154.811	71.517	19.361	365.206	1.005.142	22.451	1.638.487
	B **)	0	4	1	40	168	-	213
	Total	154.811	71.521	19.362	365.246	1.005.310	22.451	1.638.700
Viet Nam	A *)	2.173.753	384.063	144.308	834.224	1.665.100	327.735	5.529.183
	B **)	244	282	2.015	2.792	11.545	93	16.971
	Total	2.173.997	384.345	146.324	837.016	1.676.645	327.827	5.546.154
India	A *)	363.581	23.467	66.224,9	5.268	27.748	24.571	510.860
	B **)	15	16	39	2	905	1	979
	Total	363.596	23.483	66.264	5.270	28.653	24.572	511.839
Uganda	A *)	376.107	21.740	6.029	14.219	112.823	28.940	559.857
	B **)	-	41	-	0	10	-	51
	Total	376.107	21.781	6.029	14.219	112.833	28.940	559.908
Honduras	A *)	762.579	68.218	18.372	54.640	477.844	122.088	1.503.741
	B **)	0	-	-	-	92	-	93
	Total	762.580	68.218	18.372	54.640	477.936	122.088	1.503.833
Mexico	A *)	68.020	6.504	6.439	19.366	704.298	24.553	829.180
	B **)	0	0	-	0	26.351	10	26.362
	Total	68.020	6.504	6.439	19.366	730.650	24.563	855.542
Peru	A *)	708.279	63.475	14.123	33.291	596.137	67.839	1.483.144
	B **)	116	1	0	5	283	69	473
	Total	708.395	63.476	14.123	33.296	596.421	67.907	1.483.618
Colombia	A *)	570.358	220.898	91.255	752.832	3.116.985	96.581	4.848.911
	B **)	233	438	100	137	49.514	480	50.903
	Total	570.592	221.337	91.355	752.969	3.166.500	97.061	4.899.814
Ethiopia	A *)	519.137	47.130	38.337	165.830	220.139	104.920	1.095.495
	B **)	294	2	0	3	38	0	338
	Total	519.432	47.132	38.338	165.834	220.177	104.921	1.095.832
Total	A *)	10.537.453	1.586.203	659.604	4.299.495	13.195.804	1.407.298	31.685.857
	B **)	1.267	1.362	2.257	5.080	99.932	1.074	110.972
	Total	10.538.720	1.587.565	661.862	4.304.575	13.295.736	1.408.371	31.796.829

Source: *UN Comtrade Database (2022)*
A) Coffee not Roasted or Decaffeinated*
*B**) Coffee Roasted, not Decaffeinated*

Furthermore, in the third stage, the RCA index is calculated for both coffee beans in the form of Coffee not Roasted or Decaffeinated and Coffee Roasted not Decaffeinated, to measure the competitiveness strength of each exporter country in the national market of each importing country and the international market. The calculation results presented in Table 3, show that Indonesian bean coffee exports in the form of Coffee are not Roasted or Decaffeinated (A*) obtained the RCA index < 1 in the national markets of Germany and the United Kingdom, in contrast to the RCA index > 1 in the national markets of Australia, Japan, USA, and France, as well as in the international market. This means that the competitiveness of Indonesian coffee bean exports in the form of Coffee not Roasted or Decaffeinated is declared weak in the national market.

Germany and United Kingdon, on the contrary, are declared strong in the national markets of Australia, Japan, the USA, and France, and the international market. Then the export of Indonesian bean coffee in the form of Coffee Roasted, not Decaffeinated (B**) was declared to have strong competitiveness in the national markets of Germany and the United Kingdom because the RCA index > 1, on the contrary, it was declared weak in the national markets of Australia, Japan, USA, and France, as well as in the international market because the RCA index < 1 was obtained.

Furthermore, **Table 3**, it can be detected the position of Indonesia's competitiveness in the national market of each importing country and the international market, by ranking the highest RCA index to

Table 3. RCA Index Coffee not Roasted or Decaffeinated and Coffee Roasted not Decaffeinated Exporter Country in National Market of Importing Country and International Market

Exporter Country	**Forms of Coffee Beans**	**National Market of Importer Country**						International Market
		Germany	United Kingdom	Australia	Japan	USA	France	
Brazil	A *)	1,00006	1,00034	1,00313	0,99988	1,00517	0,99996	1,00231
Indonesia	A *)	0,99991	0,99927	1,00273	1,00112	1,00735	1,00063	1,00316
Guatemala	A *)	1,00012	1,00081	1,00336	1,00107	1,00740	1,00076	1,00337
Viet Nam	A *)	1,00001	1,00012	0,98960	0,99784	1,00064	1,00048	1,00043
India	A *)	1,00008	1,00017	1,00283	1,00079	0,97576	1,00071	1,00158
Uganda	A *)	1,00012	0,99897	1,00342	1,00117	1,00749	1,00076	1,00341
Honduras	A *)	1,00012	1,00086	1,00342	1,00118	1,00738	1,00076	1,00344
Mexico	A *)	1,00012	1,00080	1,00342	1,00118	0,97123	1,00035	0,97258
Peru	A *)	0,99996	1,00085	1,00341	1,00104	1,00709	0,99975	1,00318
Colombia	A *)	0,99971	0,99888	1,00233	1,00100	0,99182	0,99581	0,99308
Ethiopia	A *)	0,99955	1,00083	1,00341	1,00116	1,00740	1,00076	1,00319
Brazil	B **)	0,50921	0,60245	0,08446	1,10224	0,31739	1,04809	0,34026
Indonesia	B **)	1,78328	1,84486	0,20359	0,04952	0,02891	0,17219	0,09720
Guatemala	B **)	0,02423	0,05967	0,01848	0,09291	0,02220	-	0,03726
Viet Nam	B **)	0,93285	0,85551	4,03807	2,82703	0,91613	0,37058	0,87677
India	B **)	0,34875	0,80089	0,17438	0,33494	4,20090	0,06369	0,54792
Uganda	B **)	-	2,20131	-	0,01168	0,01143	-	0,02612
Honduras	B **)	0,00305	-	-	-	0,02572	-	0,01765
Mexico	B **)	0,02702	0,06845	-	0,00420	4,79843	0,53686	8,82887
Peru	B **)	1,36185	0,01408	0,00432	0,12033	0,06314	1,32739	0,09145
Colombia	B **)	3,39918	2,30751	0,32029	0,15435	2,08046	6,49354	2,97671
Ethiopia	B **)	4,70955	0,03805	0,00245	0,01752	0,02297	0,00323	0,08831

Source: *UN Comtrade Database (2022) (Processed)*
A) Coffee not Roasted or Decaffeinated*
*B**) Coffee Roasted, not Decaffeinated*

the lowest, where the highest RCA index describes the highest competitiveness position in coffee bean exports. The results are stated in Figure 2, where Indonesia's competitive position in the national market of importing countries is ranked 2-9 for coffee not roasted or decaffeinated exports, and ranked 3-7 for coffee roasted, not decaffeinated exports. Meanwhile, Indonesia's competitive position in the international market is ranked 6th for the export of the two forms of coffee beans. Judging from the contribution of coffee bean exports in the form of Coffee not Roasted or Decaffeinated, Indonesia is in the 4th position out of 11 export countries, named after Brazil, Viet Nam, and Colombia. Meanwhile, Indonesia's competitiveness strength based on the RCA index is in 6th position. Then the contribution of coffee bean exports in the form of Coffee Roasted, not Decaffeinated, Indonesia is in the 6th position equal to the strength of Indonesia's competitiveness based on the RCA index.

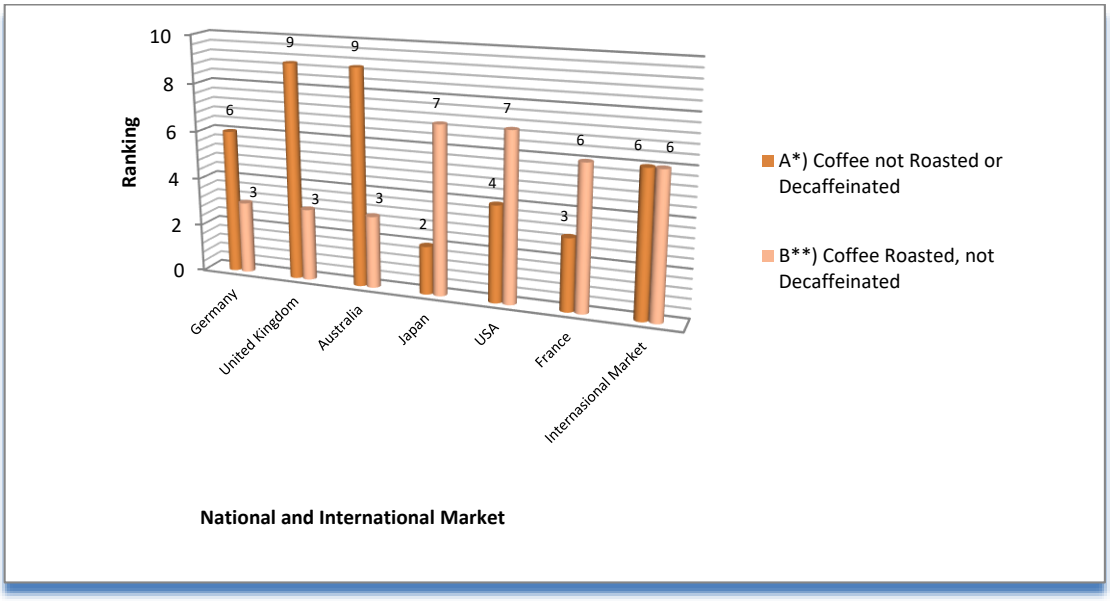

Figure 2. Average Competitiveness Position (Ranking) of Indonesian Coffee Bean Commodities in the National Market of Importing Countries and International Markets During the Period 2010-2021

Source: Data Processed, 2022

This finding shows that there is a discrepancy between the export market share and the RCA index, especially bean coffee in the form of Coffee not Roasted or Decaffeinated. The results of the correlation test between the contribution of coffee bean exports in the form of Coffee not Roasted or Decaffeinated with the RCA index of coffee beans were obtained Pearson Correlation (r) = 0.098 which is positive but not significant at $\alpha = 0.05$ because p-value = 0.775. On the contrary, the correlation test results between the contribution of coffee bean exports in the form of Coffee Roasted, not Decaffeinated with the RCA index obtained Pearson Correlation (r) = 0.611 which is positive and significant because the p-value = 0.046 is smaller than $\alpha = 0.05$.

From the findings of the above study, there is a positive correlation between the contribution of coffee bean exports and the strength of competitiveness, although not significant for Coffee not Roasted or Decaffeinated. For this form of coffee beans, Indonesia has strong competitiveness in the international market, while weak in the national markets of Germany and the United Kingdom. This means that the competitive position of Indonesian coffee bean commodities in the international market is not always the same as the competitive position in the market of each importing country. These findings are in line with the findings of Baroh (2014) in Indonesia, Boansi (2013) in Ethiopia, and [37] in the East African Community (EAC). Meanwhile, Indonesia's largest export market share, including other exporting countries, is Coffee not Roasted or Decaffeinated, with Indonesia's competitiveness position ranked 6th in the international market. While in the period 1995-2004 it was lower than Colombia, Honduras, Peru, Brazil, and Viet Nam (Drajat, et.al., 2007). The growing phenomenon in Indonesia is that efforts to increase the competitiveness of local products in the international market carry out the Geographical Indication (IG) program with the application of fairtrade standardization which has been launched in 2001. This program is considered to have had a positive impact on the competitiveness of Coffee not Roasted or Decaffeinated in the international market, and the findings of this study also suggest increasing the competitiveness of the bean coffee in the national markets of Germany and the United Kingdom, as well as improve the position of competitiveness in the international market. Real efforts that can be made by the Indonesian government, Fairtrade Labeling Organizations Certification (FLO-CERT), and Cooperatives appointed by FLO-CERT are to encourage coffee farmers to apply fairtrade standardization, especially by providing adequate and easily available organic coffee production facilities for coffee farmers, as well as providing training/counseling to farmers in the application of the organic coffee crop cultivation system. The goal is that this organic coffee farming system can be widely adopted by farmers so that domestic coffee production can increase, then it will increase the contribution of exports which in turn will increase the competitiveness of Indonesian bean coffee exports in the international market. In addition, it is necessary to increase partnership cooperation by both the Indonesian government and coffee exporters to importing countries by promoting Indonesian bean coffee commodities, especially to Germany and United Kingdon.

4. CONCLUSION

Indonesian coffee beans in the form of Coffee not Roasted or Decaffeinated in the international market and the national markets of Australia, Japan, the USA, and France have strong but weak competitiveness in the national markets of Germany and the United Kingdom. In contrast, Coffee Roasted, not Decaffeinated has weak competitiveness in the international market but strong in the national markets of Germany and the United Kingdom. Indonesia's competitive position in the international market for these two forms of coffee

beans is in the 6th position, while in the national market the importing country varies between ranks 2-9. There is a positive correlation between the contribution of coffee bean exports and the achievement of competitiveness as measured by the RCA index, indicating that there is a positive impact of the Geographical Indication (IG) program with the application of fairtrade standardization on increasing the competitiveness of Indonesian bean coffee in the international market, but it is not as significant as for Coffee not Roasted or Decaffeinated while this coffee bean is the mainstay of Indonesian bean coffee exports and other competing exporter countries, so that competition between exporting countries is predicted to be tighter in the future.

5. RECOMMENDATIONS

Given the positive correlation between the contribution of exports and the competitiveness of Indonesian coffee beans, but not significant for Coffee not Roasted or Decaffeinated, while this coffee is the mainstay of coffee bean exports in exporting countries which are predicted to be increasingly competitive competition in the international market, to increase the competitiveness of coffee beans, the government together with FLO-CERT, cooperatives, and coffee exporters need to take concrete actions through stages: (1) encourage coffee farmers to adopt organic coffee farming, by providing adequate and available/affordable organic production facilities in the nearest market to farmers, as well as providing training/counseling for farmers (2) Increasing cooperation in partnership with importing countries and promoting Indonesian bean coffee commodities, especially to importing countries with weak Competitiveness of Indonesian bean coffee.

REFERENCES

[1] N. D. Coniglio, D. Vurchio, N. Cantore, and M. Clara, "On the evolution of comparative advantage: path-dependent versus path-defying changes," *J. Int. Econ.*, vol. 133, p. 103522, 2021, DOI: https://doi.org/10.1016/j.jinteco.2021.103522.

[2] R. I. Kemenkumham, "Undang-Undang Republik Indonesia Nomor 7 Tahun 2016 Tentang Perlindungan Dan Pemberdayaan Nelayan, Pembudi Daya Ikan, Dan Petambak Garam." Jakarta, 2016, [Online]. Available: https://www.kemenkumham.go.id/publikasi/info-internal/permenkumham-nomor-15-tahun-2016.

[3] D. Barjolle, X. F. Quiñones-Ruiz, M. Bagal, and H. Comoé, "The role of the state for geographical indications of coffee: Case studies from Colombia and Kenya," *World Dev.*, vol. 98, pp. 105–119, 2017.

[4] T. K. Deresa, "Export Marketing Practices, Problems and Prospects of Oromia Coffee Farmers' Cooperative Union. In Ethiopia," *Int. J. Coop. Stud.*, vol. 4, no. 2, pp. 39–51, 2015, [Online]. Available: http://hdl.handle.net/11159/619.

[5] A. Blackman and M. A. Naranjo, "Does eco-certification have environmental benefits? Organic coffee in Costa Rica," *Ecol. Econ.*, vol. 83, pp. 58–66, 2012, DOI: https://doi.org/10.1016/j.ecolecon.2012.08.001.

[6] R. Ruben and R. Fort, "The impact of fair trade certification for coffee farmers in Peru," *World Dev.*, vol. 40, no. 3, pp. 570–582, 2012, DOI: https://doi.org/10.1016/j.worlddev.2011.07.030.

[7] P. S. Murthy and M. M. Naidu, "Sustainable management of coffee industry by-products and value addition—A review," *Resour. Conserv. Recycle.*, vol. 66, pp. 45–58, 2012, DOI: https://doi.org/10.1016/j.resconrec.2012.06.005.

[8] B. Arifin, "On the competitiveness and sustainability of the Indonesian agricultural export commodities," *Compet. Sustain. Indonesia. Agric. Export Command.*, pp. 81–100, 2013, DOI: http://repository.lppm.unila.ac.id/id/eprint/8432.

[9] M. Ibanez and A. Blackman, "Is eco-certification a win-win for developing country agriculture? Organic coffee certification in Colombia," *World Dev.*, vol. 82, pp. 14–27, 2016, DOI: https://doi.org/10.1016/j.worlddev.2016.01.004.

[10] R. Takahashi and Y. Todo, "The impact of a shade coffee certification program on forest conservation: A case study from a wild coffee forest in Ethiopia," *J. Environ. Manage.*, vol. 130, pp. 48–54, 2013, DOI: https://doi.org/10.1016/j.jenvman.2013.08.025.

[11] P. Parvathi and H. Waibel, "Organic agriculture and fair trade: A happy marriage? A case study of certified smallholder black pepper farmers in India," *World Dev.*, vol. 77, pp. 206–220, 2016, DOI: https://doi.org/10.1016/j.worlddev.2015.08.027.

[12] B. Van Rijsbergen, W. Elbers, R. Ruben, and S. N. Njuguna, "The ambivalent impact of coffee certification on farmers' welfare: a matched panel approach for cooperatives in Central Kenya," *World Dev.*, vol. 77, pp. 277–292, 2016, DOI: https://doi.org/10.1016/j.worlddev.2015.08.021.

[13] B. Chiputwa, D. J. Spielman, and M. Qaim, "Food standards, certification, and poverty among coffee farmers in Uganda," *World Dev.*, vol. 66, pp. 400–412, 2015.

[14] C. M. Bacon *et al.*, "Explaining the 'hungry farmer paradox': Smallholders and fair trade cooperatives navigate seasonality and change in Nicaragua's corn and coffee markets," *Glob. Environ. Chang.*, vol. 25, pp. 133–149, 2014, DOI: https://doi.org/10.1016/j.gloenvcha.2014.02.005.

[15] M. Jurjonas, K. Crossman, J. Solomon, and W. L. Baez, "Potential links between certified organic coffee and deforestation in a protected area in Chiapas, Mexico," *World Dev.*, vol. 78, pp. 13–21, 2016, DOI: https://doi.org/10.1016/j.worlddev.2015.10.030.

[16] J. Donovan and N. Poole, "Changing asset endowments and smallholder participation in higher value markets: Evidence from certified coffee producers in Nicaragua," *Food Policy*, vol. 44, pp. 1–13, 2014, DOI: https://doi.org/10.1016/j.foodpol.2013.09.010.

[17] P. Esquivel and V. M. Jimenez, "Functional properties of coffee and coffee by-products," *Food Res. Int.*, vol. 46, no. 2, pp. 488–495, 2012, DOI: https://doi.org/10.1016/j.foodres.2011.05.028.

[18] T. Niseteo, D. Komes, A. Belščak-Cvitanović, D. Horžić, and M. Budeč, "Bioactive composition and antioxidant potential of different commonly consumed coffee brews affected by their preparation technique and milk addition," *Food Chem.*, vol. 134, no. 4, pp. 1870–1877, 2012, DOI: https://doi.org/10.1016/j.foodchem.2012.03.095.

[19] A. Cano-Marquina, J. J. Tarín, and A. Cano, "The impact of coffee on health," *Maturitas*, vol. 75, no. 1, pp. 7–21, 2013, doi: https://doi.org/10.1016/j.maturitas.2013.02.002.

[20] A. Ecel, G. Ahimbisibwe, D. Nuwagaba, and R. Atukunda, "Symbolic information use, market selection and export performance; evidence from Uganda coffee exporters," *Eur. Sci. J.*, vol. 9, no. 10, 2013.

[21] A. D. Adnan and A. Teniro, "Daya Saing Komoditi Biji Kopi Indonesia di Pasar Internasional," *Biram Samtani Sains*, vol. 4, no. 1, pp. 1–8, 2020, [Online]. Available:

https://www.jurnal.ugp.ac.id/index.php/jbss/article/download/75/67.

[22] V. Seufert and N. Ramankutty, "Many shades of gray—The context-dependent performance of organic agriculture," *Sci. Adv.*, vol. 3, no. 3, p. e1602638, 2017, [Online]. Available: https://www.science.org/doi/full/10.1126/sciadv.1602638.

[23] R. Lal and M. K. Shukla, *Principles of soil physics*. CRC Press, 2004.

[24] P. R. Jena, R. Majhi, and B. Majhi, "Development and performance evaluation of a novel knowledge guided artificial neural network (KGANN) model for exchange rate prediction," *J. King Saud Univ. Inf. Sci.*, vol. 27, no. 4, pp. 450–457, 2015.

[25] E. Tatakomara, "Analisis Faktor-faktor Yang Mempengaruhi Ekspor Komoditi Teh Indonesia, Serta Daya Saing Komoditi Teh Di Pasar Internasional," *Bogor Fak. Pertanian, Inst. Pertan. Bogor*, vol. 132, 2004.

[26] R. C. Tarumingkeng and Z. Coto, "Effects of drought stress on growth and yield of soybean," *Kisman. Sci. Philosopy*, vol. 702, pp. 798–807, 2003.

[27] B. Ballasa, "Trade Liberalization and'Revealed'Comparative Advantage'–The Manchester School of Economic and Social Studies." Manchester, 1965.

[28] B. Drajat, A. Agustian, and A. Supriatna, "Export and Competitiveness of Indonesian Coffee Bean in International Market: Strategic Implication for the Development of Organic Coffee Bean," *Pelita Perkeb. (a Coffee Cocoa Res. Journal)*, vol. 23, no. 2, 2007, DOI: https://doi.org/10.22302.

[29] D. Boansi and C. Crentsil, "Competitiveness and determinants of coffee exports, producer price and production for Ethiopia," *J. Adv. Res. Econ. Int. Bus.*, vol. 1, no. 1, pp. 31–56, 2013, DOI: https://ssrn.com/abstract=2247774.

[30] E. Adiwilaga, "The Influence of International Trade, Market Distribution, Growth and Competitiveness of Export Value of Coffee Indonesia (Period 1990 to 2010)," *Mark. Distrib. Growth Compet. Export Value Coffee Indonesia. (Period 1990 to 2010)(April 10, 2013)*, 2013.

[31] I. Baroh, N. Hanani, B. Setiawan, and D. Koestiono, "Indonesian coffee competitiveness in the international market: Review from the demand side," *Int. J. Agric. Innov. Res.*, vol. 3, no. 2, pp. 605–609, 2014.

[32] I. Djuraidin, "The Analysis of Competitiveness and Export Demand of Acehnese Coffee in the International Market," *J. Econ. Sustain. Dev.*, vol. 8, no. 8, 2017.

[33] A. J. Yeats, "On the appropriate interpretation of the revealed comparative advantage index: implications of a methodology based on industry sector analysis," *Weltwirtsch. Arch.*, vol. 121, no. 1, pp. 61–73, 1985, DOI: https://doi.org/10.1007/BF02705840.

[34] R. H. Ballance, H. Forstner, and T. Murray, "Consistency tests of alternative measures of comparative advantage," *Rev. Econ. Stat.*, pp. 157–161, 1987, DOI: https://doi.org/10.2307/1937915.

[35] E. Sanidas and Y. Shin, "Comparison of revealed comparative advantage indices with application to trade tendencies of East Asian countries," 2010.

[36] K. Perdagangan, "Laporan Kinerja Tahun 2018," *Ditjen Perundingan Perdagang. Internasional- Kementeri. Perdagangan, Jakarta*, 2018, [Online]. Available: https://ditjenppi.kemendag.go.id/index.php/apec-oi/organisasi-komoditi-internasional/ico.

[37] W. M. Ndayitwayeko, M. O. Odhiambo, M. Korir, P. M. Nyangweso, and W. Chepng'Eno, "Comparative advantage of the eastern and central Africa in the coffee export sector: the case of Burundi," *African Crop Sci. J.*, vol. 22, pp. 987–995, 2014.