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Export Performance and Export Competitiveness of the Indonesian CPO (Crude Palm Oil) Industry with RSPO (Roundtable Sustainable Palm Oil) in the India and EU Markets**Helmi Ali ^{1*}, Syafruddin Karimi², Rudi Febriamansyah², Jon Kenedi³**¹Institut Teknologi dan Bisnis Haji Agus Salim Bukittinggi
Jalan Ahmad Yani No 79, Kampung Cina, Bukittinggi, Indonesia²Universitas Andalas Padang³Fakultas Ekonomi Ekonomi dan Bisnis Islam UIN Sjech M. Djamil Djambek Bukittinggi-Indonesia***Email :** helmi_akbary@yahoo.com**ABSTRACT**

The research objective is to describe and analyze the differences between the two main export markets for Indonesian CPO after the implementation of the RSPO (roundtable sustainable palm oil) policy. The difference in the European Union market (EU-25) since 2012 has implemented the RSPO, and the Indian market continues to accept CPO imports without the RSPO. Descriptive analysis of export performance used the trade flow indicator (trade value and quantity) and export competitiveness used the RCA indicator (revealed comparative advantage) for CPO exports for the 1996-2017 period. To test the differences between the two markets, statistical analysis was carried out using a compare means independent sample t test and paired samples test. The results show that the export performance of Indonesian CPO to the Indian market and the European Union for the period 1996-2017 was a total of 70,855.52 thousand USD and 11,068,006 thousand USD, with an average of India 4773,237 thousand USD and the EU-25 503,091.2 thousand USD per year. There is no difference in the competitiveness of Indonesia's CPO exports to the Indian and EU-25 markets, the average RCA is 43.41% and 51.57%. The results of the analysis of the compare means independent sample t-test showed that there were differences in trade flow (value and quantity), but there was no significant difference in the competitiveness of Indonesian CPO RCA exports in the Indian and EU-25 markets (Sig.0.024>0.05). The results of the compare means paired samples test show a significant difference between the competitiveness of RCA CPO exports after the RSPO period 2012-2017 between the Indian market and the European Union-25. However, there were significant differences in export competitiveness (CPO RCA index) between the EU-25 market before and after the implementation of the RSPO policy.

Keywords : Crude palm oil (CPO), revealed comparative advantage (RCA), roundtable on sustainable palm oil (RSPO), international market.

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INTRODUCTION

The palm oil industry is a strategic export commodity, a foreign exchange earner and job creator in Indonesia. Palm oil is obtained from the fruit of the African palm oil tree (*Elaeis guineensis*) (Schuster et al., 2007). Palm oil is Indonesia's leading export commodity to Asian countries, such as India, China and Pakistan as well as the United States and European Union countries. Palm oil is a vital component of Indonesia's development strategy now and in the future. Indonesia is the world's largest producer and exporter of Crude Palm Oil (CPO) and CPO is an important component of food security in Indonesia and its consuming countries (Lee and Goh 2010; Fauzi et al. 2012). Indonesia's foreign exchange revenue per year from raw CPO commodities reaches 80% of the total export value of the mainstay agricultural commodities in Indonesia, namely CPO, tea, coffee, cocoa, tuna, and shrimp (Rifai, 2014).

The average growth rate of Indonesia's CPO exports for the period of 2001–2015 was 11.94% per year. It was far below those of Thailand, Malaysia, and Colombia with growth rates of 59.55%, 25.19%, and 20.35% per year respectively in the same period. That condition was worsened by higher tax enforcement on Indonesian CPO in EU countries in 2012 causing Indonesia shifted its CPO exports to India, China, and Pakistan (Prasetyo, et al, 2017). Palm oil is one of the world's most consumed vegetable oils other than soybean oil, canola oil and sunflower seed oil. Indonesia is one of the largest CPO producers in the world, while India is the biggest consumer in Indonesia as well as in the world (Nurchayani, et al, 2018). Palm oil has an important position in Indonesian economy. First, palm oil is the main export commodity that produces high foreign exchange for the country. According to the Ministry of Agriculture (2016), from the twelve primary export commodities, palm oil ranks first in export by 2015 at 81.36% with a value of 15.38 billion US dollar. Second, palm oil is used as the main source of cooking oil in domestic.

World CPO production in 2013 reached 55.7 million tons. Of the 55.7 million tons of CPO, Indonesia contributed 26.70 million tons (produced from six million hectares of plantation land) and followed by Malaysia by 21.7 million tons (generated from five million hectares of plantation land), so that Indonesia and Malaysia together control around 86% of the world's CPO production (Mukherjee and Sovacool 2014). At the end of 2015, Indonesia's CPO production increased to 32.5 million tons and Malaysia decreased to 17.7 million tons (USDA 2017).

The role of Indonesia as a major producer country, is also the largest CPO exporter in the world in terms of volume and quantity followed by Malaysia, Thailand, Colombia and Nigeria. Indonesia can become the largest CPO exporting country in the world because of the small amount of CPO derivative products that can be processed domestically in Indonesia even though CPO product derivatives are very diverse (Hoffmann et al. 2014). Indonesia is only able to process CPO into derivative products by 59.66% and export 40.34% CPO in raw form. The ability to process Indonesian CPO is still far below Malaysia. Malaysia exports only crude CPO of 17.5% and exports 82.5% of CPO which has been processed into various products (Rifai 2014). Indonesia's inability to process overall CPO-derived products has led to domestic producers to export CPO to CPO-processing countries such as China, India, Pakistan, the Netherlands, and several European Union countries (Peñarandaa et al. 2015).

The RSPO (Roundtable on Sustainable Palm Oil) policy has been implemented since 2012 at the European Union Market, while the Indian market has not ratified the RSPO. The most important aspects of the RSPO is ensuring rainforests are not cleared for the

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establishment of new plantations (Fitzherbert et al. 2008). Environmentally Sound Factory Waste Management (Sargeant 2001). A Zero-Burning Policy (Fitzherbert et al. 2008). RSPO Members Account for Approximately 35% of the Palm Oil Produced Worldwide (RSPO, 2007).

The RSPO (roundtable on sustainable palm oil) policy has been implemented since 2012 in the USA market, while the Indian market has not ratified the RSPO. The most important aspect of the SPPO is ensuring rainforests are not cleared for the establishment of new plantations (Fitzherbert et al. 2008). Environmentally sound factory waste management (Sargeant 2001). A zero-burning policy (Fitzherbert et al. 2008). RSPO members account for approximately 35% of the palm oil produced worldwide (RSPO, 2007).

Research Objectives

This research focuses on the comparison analysis of the two main markets of Indonesian CPO trade to be different in the implementation of RSPO policy, this study aims:

1. To find out the description of the development of Export Performance and Export Competitiveness of CPO Indonesia Trading in India and UE Market.
2. To find out whether there are differences due to RSPO policy on the development of export performance and export competitiveness of CPO trading.
3. To find out whether there are differences due to RSPO policy in the Indian market and the EU market before RSPO (2006-2011) and after RSPO (after RSPO).

METHOD

This research use quantitative and descriptive approaches. The data observation for the purpose of regression estimation are used quarterly data within the period of 22 years from 1996 to 2017. The data are modified from annually data time series with interpolation method.

Export performance is measured by Trade Flow, namely the magnitude of the export trading volume (trade value) in USD and the amount of the volume of export trading quantity (trade quantity) of the Indonesian CPO commodity in tons in the international market. Export performance measurements were carried out to see the description of the development of Indonesian CPO exports in the Indian market and the European Union for the 1996-2017 period. Trade Value and Trade Quantity are seen developing by measuring the rate of export growth. This descriptive comparison is predicted how the tendency of Indonesia's CPO exports in both countries.

Competitiveness and CPO Indonesia's export market share is analyzed using Revealed Comparative Advantage (RCA) and Market Share Index. In this study the Revealed Comparative Advantage (RCA) is used to measure the competitiveness of comparative advantages. The RCA value formula is as follows:

$$RCA_i = \frac{X_{ij}}{X_{iw}} / \frac{X_{wj}}{X_w}$$

X_{ij} = export value of commodity i country j

X_{iw} = Total Export Value of Commodity I State j

X_{wj} = export value of commodity I from the world

X_w = total world export value

With he already known descriptively cumulative comparisons and average of Indonesian CPO commodities, a statistical comparison analysis was carried out quantitatively. Analysis of export performance comparatives and export competitiveness is carried out with two analyzes, namely the analysis of compare means independent samples

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and compare means paired samples test analysis. This statistical analysis is associated with the RSPO (Roundtable on Sustainable Palm Oil) policy which has been imposed consistently by the United States market, in this study called the RSPO market, while the Indian market that does not ratify RSPO policy as CPO consumers, in this study called the non-market RSPO. The full data analysis method used in this study can be seen in table 1 below.

Table 1. Research data analysis method

Description	Data analysis	Measurement
Export Performance		
▪ Descriptive analysis	<ul style="list-style-type: none"> Trade flow → export quantity (ton) Trade value → export value (USD) Export rate — export trend 	Ton/year → 1996-2017 Ton/year → 1996-2017 %/year → 2006-2017
	<ul style="list-style-type: none"> RCA (revealed comparative advantage) 	
Export Competitiveness		
▪ Quantitative analysis	<ul style="list-style-type: none"> Analysis compare means independent samples t-test Analysis compare means pair samples test 	India-UE-25 → 2006-2017 India → 2006-2011 >< 2012-2017 UE-25 → 2006-2011 >< 2012-2017

Source : (Ali, Helmi, et al, 2019; Ali, H, et al 2020; Ali, H, et al, 2021)

Note : summary of data analysis methods (2023)

Analysis of compare means independent sample t-test is carried out to see whether there are significant differences in the two markets in implementing RSPO policies. Data used during the 22 years of the 1996-2017 period. Meanwhile, to answer the question whether there is an impact of RSPO policy on the two markets, data used before the RSPO for the 2006-2011 period and after the 2012-2017 RSPO period. The analysis used to see the difference in the impact of RSPO policies on Indonesian CPO trade in the Indian and United States markets is the analysis of compare means paired samples tests. Data Processing Using the SPSS Series 21.00 Program

RESULT AND DISCUSSION

Export Performance CPO Indonesia in the Indian market

CPO Indonesia's export performance is seen from the development of Trade Flow (Value and Quantity) for the period 1996-20017 against the Indian market. Indonesia's CPO exports in 1996 amounted to USD 139,0823 and quantity of 269,5158 thousand tons continued to increase in 2011 amounting to 6,946,172 tons worth 6,633,228 thousand tons. The development of trade value and trade quantity in 1996-2012 and after that experienced a decline until 2017, as seen in Figure 1 below.

The growth rate of Indonesia's CPO trade in the Indian market, seen in Figure 2 began high growth in 1997, with a trade value of 94.35% and trade quantity of 80.09%. After that it continued to decline fluctuate and increased 47.35 % in 2002 and the highest in 2007 39.15 %. After that, experiencing slowing and negative growth, it could be caused by the monetary crisis and slowing global growth (global crisis) in 2008 and only in 2011 the growth was quite high at 27.06%. During the period 1996-2017 the average growth of trade value and trade quantity was 6.95% and 8.13%. Trade Quantity is higher than the trade value can be caused by the price of CPO Indonesia in the Indian market.

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Figure 1. Trend of trade value and quantity of Indonesia’s CPO export in the Indian market

Description of Trade Value and Trade Quantity and the growth rate can be seen in Figure 2 below.

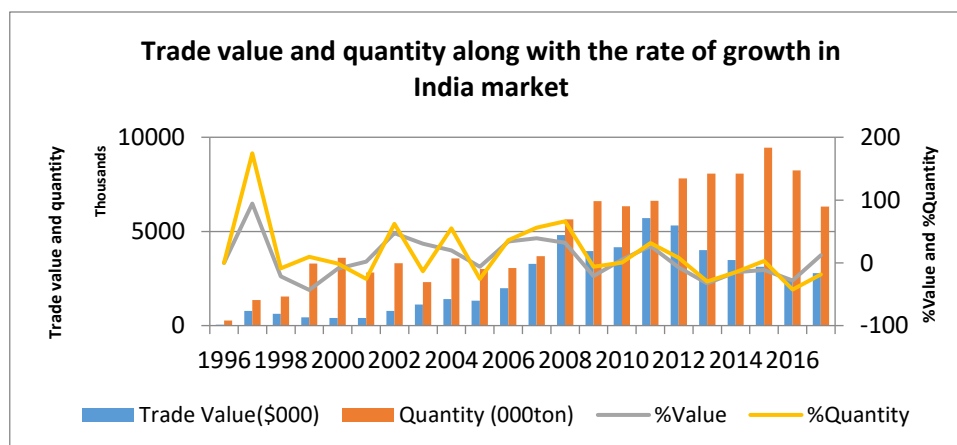


Figure 2. Trend of trade value and quantity along with the rate of growth of Indonesia’s CPO export in the Indian market

Export Performance CPO Indonesia at the European Union Market

CPO Indonesia's export performance is seen from the development of trade flow (value and quantity) for the period 1996-2017 against the European Union market. Indonesia's CPO exports in 1996 amounted to USD 774,326.4 and the quantity of only 1,337,340.9 tons continued to slop until 1999. The increase began in 2008 amounting to USD 5,815,264 worth 6,327,250.8 tons. The highest development of trade value in 2014 was USD 860,366.1 and the 2015 Trade Quantity was 8530120.3 tons. The average growth rate of 1996-2017 trade value and trade quantity is 5.92% and 2.51% per year, as shown in Figure 3 below.

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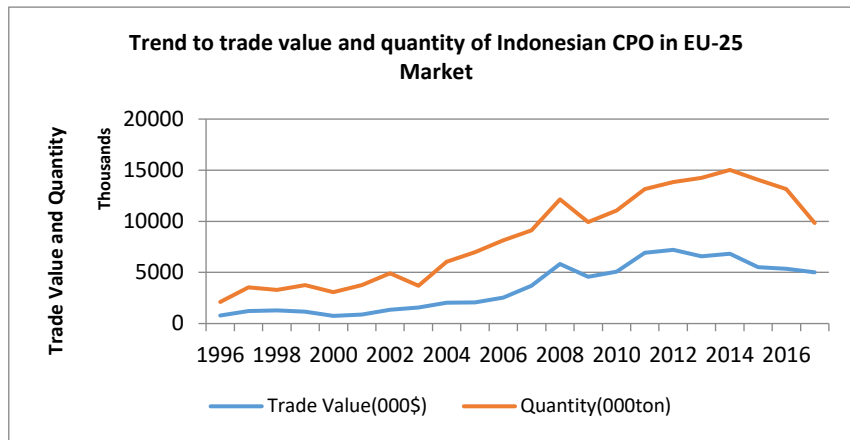


Figure 3. Trend of trade value and quantity of Indonesia’s CPO export in the EU market

Description of the development of Trade Value and Trade Quantity and the growth rate is seen in Figure 4 below. The average trade value growth in the 1996 period increased in 1997 and declined sharply in 2000 of -53.83%. However, Trade Quantity has decreased in 1998 of -14.05% and 2000 of -12.78%. The tendency of trade values and quantity to fluctuate. The growth rate of Trade Value and Trade Quantity in the European Union market is seen fluctuating with an average growth rate of 5.93% and 2.51% per year 1996-2017. This condition can illustrate that the rate of growth in the negative quantity, could be due to the standardization policy of the quality of CPO Indonesia's exports must include RSPO certification. This is interesting to study more deeply, whether the quantity is increasingly plummeted, but trade value is still positive. More details can be seen in Figure 4 below.

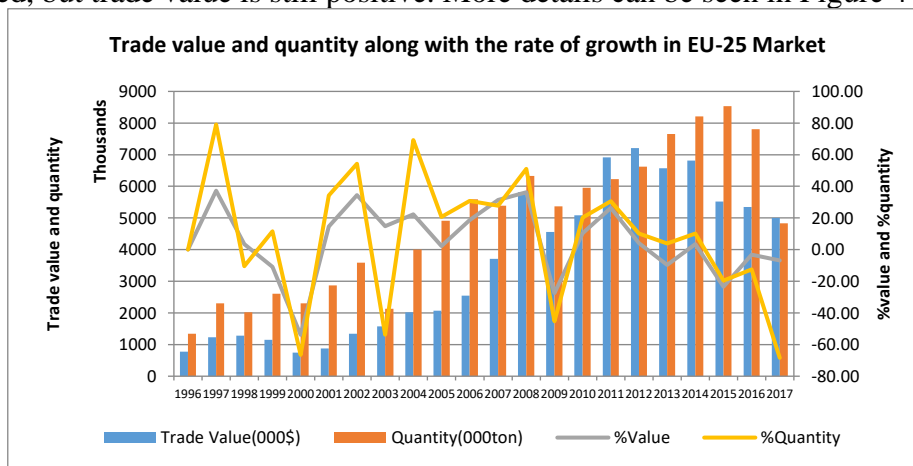


Figure 4. Trend of trade value and quantity along with the rate of growth of Indonesia’s CPO export in the UE-25 market.

Description of Comparison of Export Performance and Export Competitiveness

Description Comparison of Trade Value, Trade Quantity and RCA Index of the Indonesian CPO Trading in the Indian Market Seen in Figure 5. Trade Value and Trade Quantity are seen fluctuating from 1996-2007, export competitiveness is quite good in 1996 of 43.42% and after it decreased sharply to in 1998 with a RCA index of 6.58%. After that raising the competitiveness of Indonesia's CPO exports began to increase until 2007 with the RCA index of 30.51%. But since 2008 it has continued to decline until the RCA index of 11.48%, as shown in Figure 5 and Table 2 below.

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Figure 5. Trend of trade value, quantity and RCA-index of Indonesia’s CPO export in the Indian market

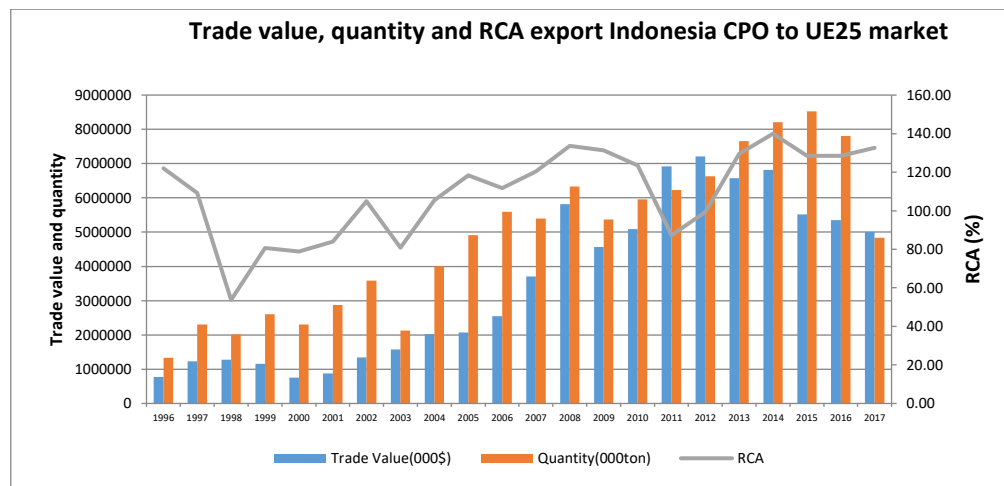


Figure 6. Trend of trade value, quantity and RCA-index of Indonesia’s CPO export in the UE-25 market

Descriptions of Comparison of Export Performance and Competitiveness of Indonesia's CPO Exports in the European Union Market are shown in Figure 6 and Table 1 below. The export performance that has not been encouraging can be seen from 1996-2004 and export competitiveness in 1997 also with an RCA index of 122.05% continued to fluctuate until 2003 RCA index of 80.90%. Whereas in 2004-2010 increased with the RCA index ranging from 105.39% to 123.43% in 2010. In 2011-2012 it was a period of RSPO RSPO policy that the RCA index fell only 87.28 and 99.21%. The 2012-2017 period returned the raising RCA index ranging from 129.56% continued to raise in 2017 132.65%. The fact seemed to show that the RSPO policy was increasingly improving the competitiveness of Indonesia's CPO exports in the European Union market, which increasingly needed CPO for its industry. Complete export performance and export competitiveness of CPO Indonesia can be seen in table 2 below.

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Table 2. Descriptive Comparison of Trade Flow (Value and Quantity) and RCA CPO Indonesia in the Indian Market and the European Union for the period 1996-2017.

Year	India			Uni Eropa-25		
	Trade Value (000\$)	Quantity (000ton)	RCA (%)	Trade Value (000\$)	Quantity (ton)	RCA (%)
1996	139.0823	269.5158	43.41	774326.4	1337340.9	122.05
1997	709.6371	1353.455	13.16	1233573	2300581.4	109.19
1998	977.2037	1551.323	6.58	1279113	2017177.6	53.73
1999	1378.035	3294.455	10.23	1153442	2601568.0	80.69
2000	1028.957	3593.085	14.67	749828.9	2306853.4	78.81
2001	802.8331	2823.267	14.15	877667.5	2873245.8	83.97
2002	1144.923	3318.787	16.35	1339415	3583266.6	104.89
2003	1512.934	2309.938	17.39	1571687	2126562.4	80.90
2004	1461.059	3567.275	23.56	2024309	4006296.4	105.39
2005	1072.247	2997.352	26.35	2071087	4907590.9	118.43
2006	1179.208	3063.585	29.83	2547318	5589336.4	111.80
2007	2446.727	3688.288	30.51	3708218	5392979.2	120.33
2008	4774.454	5639.786	25.54	5815264	6327250.8	133.55
2009	4061.383	6615.498	21.14	4562310	5366863.0	131.23
2010	5187.982	6333.056	21.26	5089624	5959179.2	123.43
2011	6946.172	6633.228	17.49	6917305	6224279.6	87.28
2012	7226.065	7814.903	17.61	7207945	6624990.3	99.21
2013	6136.69	8074.437	16.25	6575815	7656317.8	129.56
2014	6014.97	8070.584	15.20	6817312	8205715.7	139.97
2015	5289.019	9440.16	14.03	5521166	8530120.3	128.46
2016	5168.501	8239.25	17.08	5347386	7802526.8	128.50
2017	6197.442	6319.996	11.48	5002036	4831791	132.65
Total	70855.52	105011.2		78186148	106571834	
Mean	3220.706	4773.237	19.23921	3553916	4844174.3	109.2732

Source: Processed Data, UN Comtrade (2019)

Analysis of Differences in Export Performance and Export Competitiveness in the Indian Market and the European Union

Analysis of the difference in export performance and competitiveness of Indonesia's CPO exports with RSPO policies in the non -RSPO Indian market with the European Union Market RSPO, an analysis of compare means independent samples tes, as seen in tables 2, 3 and 4 below.

The average Indian trade value and the European Union in the 1996-2017 period were 3220.71 USD and 388,000.06 USD with Indian quantity trade 4,773.24 tons and UE-25 503,091.20 tons. While the RCA India 19.24% lower than the EU-25 is 26.50% per year. Dextively Trade Flow and RCA UE-25 is better than India. This difference can be caused by the RSPO policy, where the UE-25 consistently since 2012 has implemented the RSPO

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consistently, while the Indian market still has not paid attention to the RSPO certificate as a condition for receiving the Indonesian CPO import

Table 3. Output compare means Group Statistics RCA and Trade Flow CPO India and Europe-25 Market.
Group Statistics

	India_UE25	N	Mean	Std. Deviation	Std. Error Mean
TradeFlow_V	India	22	3220.7056	2437.22648	519.61843
CPO	UE25	22	388000.0597	344473.15172	73441.92271
TradeFlowQ_	India	22	4773.2374	2617.50469	558.05387
CPO	UE25	22	503091.1976	390403.86623	83234.38395
RCA_CPO	India	22	19.2395	8.16480	1.74074
	UE25	22	26.5041	26.06058	5.55613

Source: Processed Data, UN Comtrade (2019)

Analysis of compare means independent samples t-tests seen from the three variables, namely trade value, trade quantity and RCA Index.

The value of the Levene's Test test results on the three trade value variables, trade quantity and RCA t count is sig. 0.000 < 0.005 means there is no difference in meaning. The assessment is carried out by looking at "Equal Variance Nor Assumed", Trade Flow (Value and Quantity) There are significant differences between the Indian market and the European Union. While the competitiveness of the Indian market RCA with the European Union is not as significant (Sig. 0.224 > 0.005). It can be concluded that although the significant differences in the Indonesian CPO trade flow to the Indian market and the European Union, the competitiveness with the Indonesian RCA index to the Indian market and the European Union is not significantly different (Sig. 0.224 > 0.005).

Based on the discussion above, it can be taken on average that significant (2-tailed) in the t-test column for export performance (trade value and trade quantity) with an average sig. 0.000 < 0.050, meaning that there is a significant difference in export performance in Indonesian CPO trade in the Indian market with the European Union. However, there is no significant difference in export competitiveness in the Indonesian CPO trading in the Indian market and the European Union, which is indicated by the RCA index with a sig value of 0.224 > 0.050.

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Table 4. Output Compare Means Independent Sample Test RCA and Trade Flow CPO India and Uni Europe 25 Market
Independent Samples Test

	Levene's Test for Equality of Variances	t-test for Equality of Means								
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
TradeFlowV_CPO	Equal variances assumed	159.549	.000	-5.239	42	.000	-384779.35412	73443.76090	-532994.86418	-236563.84406
	Equal variances not assumed			-5.239	21.002	.000	-384779.35412	73443.76090	-537513.08510	-232045.62314
TradeFlowQ_CPO	Equal variances assumed	120.359	.000	-5.987	42	.000	-498317.96018	83236.25469	-666295.52279	-330340.39758
	Equal variances not assumed			-5.987	21.002	.000	-498317.96018	83236.25469	-671416.28033	-325219.64003
RCA_CPO	Equal variances assumed	20.777	.000	-1.248	42	.219	-7.26455	5.82244	-19.01471	4.48561
	Equal variances not assumed			-1.248	25.083	.224	-7.26455	5.82244	-19.25407	4.72498

Source: Processed Data, UN Comtrade (2019)

Based on the "independent sample test" output table in the "equal variances assumed" section, it is known that the sig value is known. (2-tailed) of $0.224 > 0.05$, then as the basis of decision making in the independent sample t test can be concluded that H_0 is accepted and H_a is rejected. Thus it can be concluded that there is no significant (real) difference between the average RCA CPO to the Indian market and the European Union. The difference in the average RCA to the Indian market and the European Union is 7,26455 and the difference in the average difference is -19.01471 to 4,48561 (95% confidences interval of the difference lower upper).

Analysis of compare means paired samples test with RSPO

Analysis of the differences in export performance and export competitiveness CPO Indonesia with before and after the RSPO in the Indian market and the European Union, the compare Means Paired Samples test was conducted. The test was carried out with three variables, namely the Trade Value Variables, Trade Quantity and RCA Index on the Indian Market and the European Union before RSPO 2006-2011 and after the 2012-2017 RSPO.

The results of the analysis of the Compare Means Paired Samples Test are used to see whether the trade flow value variables, trade quantity and RCA are different before and after the RSPO policy is implemented, namely before the 2006-2011 RSPO and after the 2012-2017 RSPO in each Indian market and Uni Europe.

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Analysis of the compare means paired sample test was carried out by looking at the differences in Indian markets as non-RSPOs and the European Union market as the RSPO market. Both markets are seen the difference before RSPO for the 2006-2011 period and after the 2012-2017 RSPO, with indicators of trade flow value, trade flow quantity and RCA. The results of paired analysis are shown with N-6, so that it becomes 6 pairs. Mean trade flow value and quantity shows higher differences after RSPO compared to before RSPO for the Indian market. However, RCA CPO Indonesia in the Indonesian market before RSPO was 24.30% and after RSPO was lower at 15.28. The competitiveness of RCA CPO Indonesia has decreased by the application of RSPO. Unlike the trade flow value, trade flow quantity and RCA CPO Indonesia to the European Union market increases, the main competitiveness of RCA Indonesia has increased by almost 500 %. This shows that there is a positive impact of Indonesian CPO competitiveness by being implemented by RSPO in the European Union market.

Comparison of trade flow (value and quantity) and RCA Indonesian CPO trade in the Indian market compared to three groups, namely 1) Trade value before and after RSPO 2) trade quantity before and after RSPO and 3) RCA before and after RSPO, with before RSPO Period 2006-2011 and after RSPO for the 2012-2017 period. Likewise, the European Union market, which is grouped into three groups, namely 1) Trade value before and after RSPO, 2) Trade quantity before and after RSPO, and 3) RCA before and after RSPO, with before the RSPO period 2006-2011 and after RSPO 2012-2017 period.

Table 5. Output compare means paired samples test of statistics for trade flow and RCA Indonesia CPO in India and Europe 25 Market

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	TrV_beforeRSPO_India	3983755.8333	6	1276006.14570	520927.32761
	TrV_afterRSPO_India	3526868.0000	6	1032502.69776	421517.46126
Pair 2	TrQ_beforeRSPO_India	5328906.8333	6	1567472.17557	639917.83603
	TrQ_afterRSPO_India	7993221.6667	6	999822.28628	408175.73914
Pair 3	RCA_beforeRSPO_India	24.2950	6	5.22084	2.13140
	RCA_afterRSPO_India	15.2750	6	2.26356	.92410
Pair 4	TrV_beforeRSPO_India	4773339.9548	6	1543788.68681	630249.09223
	TrV_afterRSPO_UE25	6078609.9832	6	902522.41085	368453.23133
Pair 5	TrQ_afterRSPO_UE25	5809981.3687	6	419618.77808	171308.64880
	TrQ_afterRSPO_UE25	7275243.6633	6	1360663.71095	555488.63389
Pair 6	RCA_beforeRSPO_UE25	117.9367	6	16.93448	6.91347
	RCA_afterRSPO_UE25	126.3917	6	14.00816	5.71881

Source: Processed Data, UN Comtrade (2019)

Paired samples correlation test shows RCA CPO Indonesia in the Indian market before RSPO and after RSPO there is a negative correlation (sig. 0.044 <0.050), but trade quantity

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has no correlation (Sig. 0.958 > 0.05). Likewise, the RCA index before RSPO and after RSPO in the Indian market there is no correlation (sig. 0.099 > 0.050). While the trade value in the UE-25 market before and after RSPO has no correlation (Sig. 0.142 > 0.050), as well as Trade Quantity (sig. 0.485 > 0.050) and RCA Index (sig. 0.708 > 0.050). More complete can be seen in the following table.

Table 6. Output Compare Means Paired Samples Correlation for Trade Flow and RCA Indonesia CPO in India and Europe 25 Market
Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	TrV_beforeRSPO_India & TrV_afterRSPO_India	6	-.823	.044
Pair 2	TrQ_beforeRSPO_India & TrQ_afterRSPO_India	6	.028	.958
Pair 3	RCA_beforeRSPO_India & RCA_afterRSPO_India	6	.731	.099
Pair 4	TrV_beforeRSPO_UE25 & TrV_afterRSPO_UE25	6	-.674	.142
Pair 5	TrQ_afterRSPO_UE25 & TrQ_afterRSPO_UE25	6	-.359	.485
Pair 6	RCA_beforeRSPO_UE25 & RCA_afterRSPO_UE25	6	.197	.708

Source: Processed Data, UN Comtrade (2019)

The paired samples test results show that there is no significant difference (Sig. 0.633 > 0.050) Trade Value before and after the RSPO Lubrication in the Indian market, but there is a significant difference in the Trade Quantity (sig. 0.016 < 0.050) After implementing the RSPO. Likewise, export competitiveness with the RCA index shows that there are significant differences (sig. 0.002 < 0.050) Indonesian CPO exports before and after RSPO in the Indian market.

Whereas the UE-25 market coincides with the Indian market that with the implementation of RSPO policy it can be concluded that there are no significant differences in export performance with trade value indicators (sig. 0.215 > 0.050), as well as Trade Quantity (sig. 0.070 > 0.050). At the same time export competitiveness with the RCA index indicator also has no significant difference (sig. 0.342 > 0.050) Indonesian CPO exports in the UE-25 market with the implementation of RSPO before and after, as seen in the following table.

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Table 7. Output Compare Means Paired Samples Test
for Trade Flow and RCA Indonesia CPO in India and Europe 25 Market
Paired Samples Test

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pair 1 TrV_beforeRSPO_India - TrV_afterRSPO_India	456887.833	2204944.50969	900164.82665	1857059.51911	-2770835.18578	.508	5	.633
Pair 2 TrQ_beforeRSPO_India - TrQ_afterRSPO_India	2664314.8333	1835269.39620	749245.59354	4590311.94650	738317.72017	3.55	5	.016
Pair 3 RCA_beforeRSPO_India - RCA_afterRSPO_India	9.02000	3.88777	1.58718	4.94004	13.09996	5.68	5	.002
Pair 4 TrV_beforeRSPO_India - TrV_afterRSPO_UE25	1305270.02833	2253014.46145	919789.30228	3669663.70136	-1059123.64469	1.41	5	.215
Pair 5 TrQ_afterRSPO_UE25 - TrQ_afterRSPO_UE25	1465262.29467	1561095.82464	637314.70166	3103531.89033	-173007.30099	2.29	5	.070
Pair 6 RCA_beforeRSPO_UE25 - RCA_afterRSPO_UE25	-8.45500	19.73732	8.05773	-29.16805	12.25805	1.04	5	.342

Source: Processed Data, UN Comtrade (2019)

CONCLUSION AND RECOMMENDATION

This research descriptively reflects that there is a positive tendency to increase the export of CPO Indonesia to the Indian market and the European Union, where the Indonesian CPO trading volume in the Indian market during the 1996-2017 period amounted to USD 70,885.52 thousand equivalent to an average of USD 3,220,706 thousand per year and trade quantity of 105,011.2 thousand tons with an average of 4,773,237 thousand tons per year. The average growth of Indonesia's CPO exports in the Indian market with a value of 6.95% and trade quantity 8.13%. Indonesian CPO trading in the European Union market during the 1996-2017 period amounted to USD 78,186,148 or equivalent to USD 3,553,916 every year with a quantity of 106,571,834 tons or equivalent to 503,091,198 tonnes every year. The average trade value of trade value is 5.92% while the growth rate and trade quantity are 2.51% of Indonesia's CPO exports in the European Union market.

The results of the compare means independent samples t-test on the difference between export performance and export competitiveness CPO Indonesia show that there are significant differences in the export performance of Indonesia's CPO trading in the Indian

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market and the European Union. Nevertheless, there is no significant difference between CPO Indonesia's export competitiveness in the Indian market and the European Union.

The results of the compare means paired samples t-test show that in the Indian market there are significant differences in trade quantity and RCA before the 2006-2011 RSPO and after the 2012-2017 RSPO, while the trade value has no significant difference before and after the RSPO in the market India. Likewise in the European Union market there are significant differences in trade quantity, while trade value and RCA index before RSPO (2006-2011) with after RSPO (2012-2017 period) there are no significant differences. This situation is thought to have a price variable and other variables which results in the absence of differences in the CPO Indonesia's trade value and trade quantity in the Indian market and the European Union.

Recommendation

Indonesia as the largest producer country and competes with other producers, such as Malaysia, Thailand and Columbia, must really prepare RSPO certification to make CPO an export commodity. As a large consumer of CPO, Indonesia's domestic market also needs input CPO derivative industry, such as the cooking oil industry, fatty acid, oleochemical, biofuel and others who have a high added value, so the policy to reduce CPO exports by switching to CPO exports, due to trade due to trade Value has not shown significant differences in the Indian and United Eropa markets due to RSPO policy.

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