

## Competitiveness and Export Similarity of Indonesia's Coconut Oil

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### ABSTRACT

*Coconut oil is one of the vegetable oils that became potential export product in Indonesia. Philippines, Indonesia, and Malaysia are three of the biggest exporters of coconut oil in ASEAN, by knowing their position in the International trade of Coconut Oil it become an evaluation for the sustainability of the Indonesia's coconut oil trade. The aims of this research are knowing the position of Coconut Oil (Crude Coconut Oil with HS Code 151311 and Its derivative with HS code 151319) compared to the competitors during 2001 to 2017 by using Revealed Comparative Advantage (RCA), Acceleration Ratio (AR), Trade Specialization Index (ISP) and Export Similarity Index (ESI) for adding information about the similarity of the export structure of coconut oil from Indonesia, Philippines, and Malaysia to the world market. The results of the research show that Indonesia has high competitiveness, and has the highest acceleration in the growth of Crude Coconut Oil's exports (HS Code 151311) compared to the Philippines and Malaysia. Meanwhile, Indonesia and Philipines have a higher similarity market of coconut oil than Indonesia and Malaysia. Indonesia should increase the capacity industries for derivative of crude coconut oil (HS code 151319) so it could increase volume and value export because it has a higher benefit than crude coconut oil.*

*Keywords: coconut oil, competitiveness, export, similarity index*

### INTRODUCTION

The prospect of the development of Indonesian coconuts for international trade is still promising because Indonesia is one of the coconut producer countries in the world. Based on data from FAOSTAT (2019) in 2008-2019, Indonesia ranks first in the world as a coconut producing country. In addition, Indonesia is also ranked first as a coconut exporting country in the world with an average export contribution over the past five years (2007-2017) of 141,341 tons. Coconut production centers in the world based on FAO data for 2008-2012 are in five countries, namely Indonesia, the Philippines, India, Brazil, and Sri Lanka. Indonesia ranks first as a coconut producing country in the world with an average production of 18.09 million tons of coconut grains or contributes 30.12% (Figure 2) to world coconut production. The second place is occupied by the Philippines with 25.85% contribution followed by India (17.54%), Brazil (4.95%), and Sri Lanka (3.47%). Other countries contributed 18.07% to total coconut production in the world. The needs of various industries in several countries in the world for copra and coconut oil raw materials should be used as potential export destinations for Indonesia. If looking at the

development of international trade, trade in the form of crude coconut oil (crude coconut oil) is more dominant in terms of both volume and export value. For example in Europe, the demand for crude palm oil (CCO) is increasing, because back-to-nature trends in the food and cosmetics industry sector play a major role in increasing imports of coconut oil in Europe (Ministry of Trade, 2013).

Coconut oil needed tends to increase every year and the potential of coconut oil agro-industry in Indonesia which is still produced by CCO makes the writer interested in examining the competitiveness position of Indonesian coconut oil, CCO or its derived coconut oil products in world trade and Southeast Asia. Several previous studies on the competitiveness of coconut oil have been carried out. Muslim (2006) conducted a study entitled "Analysis of Competitiveness of Coconut-Based Commodity Export Products in Indonesia" which the aims of research to determine the competitiveness of coconut-based export products by measuring the level of comparative advantage of products on the world market, as a start to identify coconut-based export products used by coconut industry trees. The analytical method used is Revealed Comparative Advantage (RCA),

Acceleration Ratio (AR), and Trade Specialization Index (TSI). Based on the RCA analysis that Indonesia has an RCA value in every export destination market, with an RCA value > 1 which means that Indonesia is specialized in coconut agro-industry products. While the value of Indonesian AR has the competitiveness and can seize the coconut market (AR > 1), while the results of the Indonesian TSI analysis provide a positive value which means there is an export specialization.

The position of Coconut Oil based on research shows positive results for CCO exports, but it has not been further investigated for CCO derivative products. Coconut oil (CCO and its derivatives), which is one of the superior products from coconut agribusiness and also potential export products as described in the background, is very important to know the potential competitiveness of Indonesian coconut oil products in the world market. Therefore for adding the information about potential of regional market in the future, the competitiveness needs to be complemented by export structure similarity analysis (Nasrudin, Sinaga, Firdaus and Walujadi, 2014). Competitiveness and Similarity Export will become an indicators for determining Indonesia's position to maintain its existence in the world trade. Based on these conditions, this study aims to determine the competitiveness position of Indonesian coconut oil with explanation about the specialization product and the acceleration export product, so the information about comparative advantage among exporting countries will be revealed deeply. Then the information about the similarity export is also needed to complete the competitiveness, the similarity export can be used to know the potential trade integration among countries. So by knowing the competitiveness and similarity export, the corrective steps can be taken to make the strategies for Indonesian coconut to still survive and compete in the global market.

## METHODOLOGY

The basic method in this research is a descriptive-analytic method, which focuses on solving problems related to the actual period at the time the research is conducted,

the data collected, then compiled and analyzed. This study aims to describe carefully the characteristics of a symptom or problem that is the object of research. In addition, research with this method also focuses on obtaining and conveying facts clearly, completely, and thoroughly. (Silalahi, 2015).

The type of data in this study is that the data used are secondary data with a time series of 17 years, from 2001 to 2017. This study uses secondary data with the research object Coconut (copra) Oil (Crude Oil) or crude coconut oil (Code HS 151311) and Other Coconut Oil and Its Fractions (derived from HS Code 151319). The data collected is in the form of export and import-export value and volume obtained from the International Trade Center (ITC) and the United Nations Statistics Commodities Trade (UN COMTRADE).

In this study the comparison of coconut oil competitiveness can be measured through three indicators, Revealed Comparative Advantage, Trade Specialization Index and Acceleration Ratio.

### The Competitiveness of Coconut Oil

#### *Revealed Comparative Advantage (RCA)*

RCA is used to find out Indonesia's comparative position among producing and exporting coconut oil countries in the international market. according to Wang (2015) the method of calculating the Revealed Comparative Advantage (RCA) is as follows

$$RCA = [X_{ai}/(\text{total } X_i)]/[X_{aw}/(\text{total } X_w)]$$

RCA = indicator of state competitiveness (comparative advantage)

a = coconut oil product code HS 151311 or HS 151319

W = world

X<sub>ai</sub> = export value of product a from country i (US \$)

X<sub>i</sub> = total export value of all products from country i (US \$)

X<sub>aw</sub> = total export value of a world product

X<sub>w</sub> = total export value of all products in the world (US \$)

i = Country 1, 2, 3,

1 = Indonesia

2 = Philippines 3 = Country of Malaysia

The RCA index is in the range of values from 0 to infinity ( $0 \leq RCA \leq \infty$ ).

Based on its RCA value, comparative advantage can be classified into four categories of comparative advantage: very strong ( $RCA > 2.5$ ), strong ( $1.25 \leq RCA \leq 2.5$ ), moderate ( $0.8 \leq RCA \leq 1.25$ ), and weak ( $RCA < 0.8$ ).

#### *Trade Specialization Index (TSI)*

This index can be used to determine whether for certain types of products, Indonesia tends to be an exporter or importer country. This index value is between -1 and +1. If the value is positive (between 0 and 1), then coconut oil is said to have strong competitiveness or Indonesia tends to be an exporter of the oil product (domestic supply > domestic demand). Conversely, competitiveness is low or tends to be as an importer (domestic supply < domestic demand) if the value is negative (below 0 to -1). Changes or shifts in comparative advantage for each product which is developing and which is starting or has declined. Mathematically as follows on Tambunan (2004).

$$TSI = ((X_{ai} - M_{ai})) / ((X_{ai} + M_{ai}))$$

Information:

ISP = Country Trade Specialization Index

a = coconut oil product code HS 151311 or HS 151319

X<sub>ai</sub> = export value of product a from country i (US \$)

M<sub>ai</sub> = value of importing product a from country i (US \$)

i = Country 1, 2, 3,

1 = Indonesia

2 = Philippines

3 = Malaysia

Criteria:

A positive ISP ( $0 < ISP < 1$ ) means that the country concerned tends to be an exporter of coconut oil.

b. ISP is negative ( $-1 < ISP < 0$ ), meaning the country concerned tends to be an importer of coconut oil.

The Ministry of Trade of Indonesia (2013) explains that the ISP index can be used to identify the growth rate of a

commodity in trade which is divided into 5 stages as follows:

#### a. Introduction Stage

When an industry in Country A exports new products (forerunner) and a later comer industry (latecomer) in Country B imports those products. In this stage, the ISP index value from this is -1.00 to -0.50.

#### b. Import Substitution Phase

The ISP index value rises between -0.51 to 0.00. At this stage, the industry in Country B shows very low competitiveness, because the level of production is not high enough to reach its economies of scale. The industry exports products of poor quality and domestic production are still smaller than domestic demand. In other words, for these commodities, at this stage Country B imports more than exports.

#### c. Growth Stage

The ISP index value rises between 0.01 to 0.80, and industries in Country B produce large-scale production and begin to increase exports. In the domestic market, supply for these commodities is greater than demand.

#### d. Maturity Stage

The index value is in the range of 0.81 to 1.00. At this stage the product concerned is already at the standardization stage concerning the technology it contains. At this stage Country B is a net exporter.

#### e. Re-import phase

The ISP index value has declined again between 1.00 and 0.00. At this stage, industries in Country B are unable to compete in their domestic markets with industries from Country A, and domestic production is less than domestic demand.

#### *Acceleration Ratio (AR)*

The use of the acceleration ratio index or the ratio of increasing AR speed is to show whether a country can seize the export market (in the sense that it can beat its competitors), or its position is getting weaker in the export market or in the domestic market. according to Alatas (2015) mathematically the AR index can be calculated as follows:

$$AR = trend X_{ai} + 100 trend M_{ai} + 100$$

Information:

AR = export performance index

a = coconut oil product code HS 151311 or HS 151319

X<sub>ai</sub> = export product a from country i (%)

Mai = product import a from country i (%)

i = Country 1, 2, 3,

1 = Indonesia

2 = Philippines

3 = Malaysia

Criteria:

a.  $AR > 1$  means that a country can seize the export market for coconut oil

b.  $0 < AR < 1$  means a weak country position in the coconut oil trade

c.  $-1 < AR < 0$ , means that there are other countries that seize the export market of coconut oil.

**Export Similarity Index (ESI)**

The differences in the structure of products exported from all countries cause the results of the comparison of market share and growth rates cannot fully reflect the level of state competition. Therefore, Export Similarity Index (ESI) is used to evaluate product competitiveness (Yao and Wan, 2014). The calculation formula is written as follows (Finger and Kreinin, 1979):

$$ESI = \left[ \sum_{min} \left( \frac{X_{iw}^k}{X_{iw}}, \frac{X_{jw}^k}{X_{jw}} \right) \right] \left[ \sum_{min} \left( \frac{X_{iw}^k}{X_{iw}}, \frac{X_{jw}^k}{X_{jw}} \right) \right]$$

Information:

$X_{iw}^k$  = Value of commodity exports k from country i to World

$X_{jw}^k$  = Supply of commodity exports from country j to World

$X_{iw}$  = Total value of coconut oil exports from country i to World

$X_{jw}$  = Total value of coconut oil exports from country j to World

min= The smallest total value of the share of commodity exports in k countries i and j

i = Indonesia

j = Philippines, Malaysia

Table 1. RCA Value of Crude Coconut Oil (151311)

Years	RCA of Crude Coconut Oil (151311)		
	Indonesia	Philipina	Malaysia
2001	21,44	134,76	1,34
2002	30,19	112,15	1,43
2003	21,06	142,64	2,05
2004	36,66	124,69	2,49
2005	42,78	123,94	2,35
2006	32,29	140,20	3,40
2007	50,07	123,30	2,16
2008	42,81	140,58	2,63
2009	34,84	160,77	1,77
2010	22,71	190,61	0,86
2011	26,78	205,66	1,91
2012	43,37	159,56	2,06
2013	33,21	193,27	0,89

k = coconut oil commodity group HS code 151311 and 151319

ESI index variations are in the range of 0-100. The zero value indicates that the structure of commodity exports from countries i and j is totally different (totally different). Meanwhile, the value of 100 on the ESI measurement shows that the structure of commodity exports from countries i and j is similar (Peters, 2008). Thus, the index which is getting closer to 100 shows the structure of commodity exports from the two countries will increasingly show the similarity and trade competition in the world market will be more intensive (Fundira, 2013).

**RESULT AND DISCUSSION**

**The Comparasion of Indonesian Competitiveness with Philipines and Malaysia**

*Revealed Comparative Advantages (RCA)*

Revealed Comparative Advantages (RCA) analysis is shown in Table 1, the Philippines has the highest RCA value each year with an average RCA of 149,86. While Indonesia is lower than the Philippines with an average RCA of 33,26. Malaysia has the lowest RCA value of 1,87. All three countries have an RCA value of more than 1, which means that Philippines, Indonesia, and Malaysia have competitiveness at the world's level, it means the RCA values of the three countries indicate that the export market position of Crude Coconut Oil (CCO) is greater than the world's average of CCO's market share.

2014	38,79	158,15	1,95
2015	35,20	137,61	1,62
2016	30,08	150,57	1,28
2017	23,18	149,22	1,59
<b>Average</b>	<b>33,26</b>	<b>149,86</b>	<b>1,87</b>

Source: Secondary Data Analysis, 2019

The value of RCA Crude Coconut Oil of Indonesia is still very far from the Philippines, this is because the value of Philippine exports is higher than the export value of the Philippines. As for the volume of exports, the Philippines is also higher than in Indonesia. Based on data from the International Trade Center (2016) Indonesia is the second-largest exporter of Crude Coconut Oil with a contribution of world exports or a share of 37.822%, but within a period of 4 years, the volume of Indonesian exports is quite fluctuating. The highest export volume in 2012 and the lowest in 2011 with 324,244 tons.

The Philippines is able to be a top of the crude coconut oil's trade because it has a more advanced industry in the field of processing technology. As for the growth of export value, in 2001-2014 Indonesia has an average growth of around 28.63%, while the Philippines had an average growth in export value for 14 years,

13.434%, and Malaysia at 34.488%. Based on the data above, the value and volume of Indonesian exports increased, compared to the Philippines. However, Malaysia, which is not the main coconut's producing country, is able to produce crude coconut oil which also has a positive export growth rate, this is evidenced by the value of Malaysian RCA which is more than 1. However, compared to the two countries, Malaysia has an unstable RCA value.

Comparison of RCA of coconut oil products with HS code 151319 presented in table 2, Philippines has the highest RCA value, then followed Indonesia and Malaysia. The average value of Philippine RCA is 94,65, Indonesia is 19,45, and Malaysia is 10.,1. Based on the value of RCA, the three countries have a major role in the export of coconut oil because it has a large market share of the world market share or has an RCA value of more than 1.

Table 2. RCA Value of Coconut (Copra) oil or fractions simply refined (151319)

Years	RCA Value of Coconut (Copra) oil or fractions simply refined (151319)		
	Indonesia	Philipina	Malaysia
2001	9,07	73,14	3,59
2002	15,29	50,82	8,28
2003	18,36	60,14	12,20
2004	12,57	83,19	12,67
2005	16,65	88,94	13,00
2006	18,75	95,44	10,04
2007	21,55	105,86	12,62
2008	24,23	124,39	10,08
2009	20,79	98,48	11,95
2010	22,37	94,18	10,73
2011	23,45	113,03	11,29
2012	23,81	105,15	9,34
2013	18,88	124,83	8,53
2014	26,63	107,62	9,89
2015	26,84	82,72	8,43
2016	30,54	70,38	8,03
2017	24,91	77,03	6,50
<b>Average</b>	<b>19,4567</b>	<b>94,6582</b>	<b>10,301691</b>

Source: Secondary Data Analysis, 2019

The Philippines is still the dominant country in the trade of Coconut (Copra) oil or fractions simply refined (code 151319). This can be seen from the average value of RCA which reached 94.72. For exporters of pure

coconut oil, based on data from the ITC (2016) Indonesia is also ranked second in the exporter of pure coconut oil in the world with a share of 26, 896%. In the past 4 years, exports of pure coconut oil tended to increase

from 2013-2014, and also experienced an increase of 35.31% in exports of pure coconut oil. While the Philippines as the largest exporter actually declined by 25.13%.

The average growth of Indonesia's pure oil export volume for 14 years is 17.71%, the Philippines is 4.625% and Malaysia is 21.465%. Of the three Malaysian countries having the largest average export volume and also the relatively large growth in export value compared to the three countries, which is around 38.169%. The decline in export volume also occurred in Indonesia and Malaysia in 2013, this is in line with the conditions of crude coconut oil exports, where domestic copra supply has decreased so that this affects the value of RCA in both countries. From the Muslim (2006) that coconut product including coconut oil, Indonesia has the competitiveness because Indonesia has high RCA and on 2017 Indonesia still maintain its position in the world trade.

Based on Wang (2015) can be revealed that Philippines, Indonesia and Malaysia has a strong competitiveness of coconut oil in the world, because it has RCA value more than 1. It means all countries become a great competitor in the coconut oil world trade. The strong competitor will force the countries to compete and innovate to increase their competitiveness (Pudyastuti et al., 2018)

*Trade Specialization Index*

Table 3. Averages of TSI of Crude Coconut Oil (151311)

Year	Indonesia	Philippines	Malaysia
Average 2001-2017	0,99	0,99	-0,61

Source: Secondary Data, 2019

The value of the comparison of the Trade Specialization Index of the three largest exporters of coconut oil can be seen in table 3. Indonesia and the Philippines have an average of TSI value of 0,99 during 2001-2017. This value indicates that domestic supply is greater than domestic demand so that Indonesia and the Philippines tend to be exporters of Crude Coconut Oil. Whereas Malaysia has TSI value of -0,61 which means that Malaysian crude coconut oil is in the stage of introduction in world trade or has low competitiveness, or Malaysia is an importer of crude coconut oil.

The Trade Specialization Index (TSI) considers the value of exports and imports of a country from certain commodities. This index is used to see whether for a type of commodity. A country tends to be an exporter or importer country. This index complements the analysis of a country's comparative competitiveness in international trade. According to Tambunan (2001) if a country has higher competitiveness than other countries for the same type of commodity or product, then a country tends to be an exporter of the commodity or product concerned, but if a country tends to become an importer, its competitiveness will be low.

Trade specialization is analyzed by the ISP method (Trade Specialization Index). The Trade Specialization Index (ISP) considers the value of exports and imports of a country from certain commodities. This index is used to see whether for a type of commodity. A country tends to be an exporter or an importer country. This index complements the analysis of a country's comparative competitiveness in international trade. According to Tambunan (2001) if a country has higher competitiveness than other countries for the same type of commodity or product, then a country tends to be an exporter of the commodity or product concerned, but if a country tends to become an importer, competitiveness will be low.

On average results in the period 2001-2017, the value of Indonesian and Philippine is 0.999, which means that both countries are at the maturity stage. This stage means that domestic and export products will slowly begin to decline, and there have been many foreign businessmen who have also participated in the Crude Coconut Oil export sector and both countries are net exporters. While Malaysia has an average TSI value of -0,61 which means that for CCO products, Malaysia is still in the introduction stage (Introduce) so that for Malaysia CCO not only exports but also importing countries.

The results of TSI analysis for coconut oil products with code 151319 can be seen in table 4. Table 4 also shows that Indonesia and the Philippines also have strong competitiveness and are in the

maturity stage in world trade. this can be seen from the ISP value of the two countries, which is 0,99, which means that the export value is still greater than the import value in the period of 17 years.

Table 4. Averages of TSI of Coconut (Copra) oil or fractions simply refined (151319)

Year	Indonesia	Philippine	Malaysia
Averages 2001-2017	0,98	0,99	0,54

Source: Secondary Data,2019

Malaysia which has an TSI value of 0,54 has strong competitiveness or tends to be a pure oil exporter, but still lower than Indonesia and the Philippines. Malaysia is in a stage of growth in world trade, which means that Malaysia is producing on a large scale and is starting to increase its exports, and in the domestic market, offering for Malaysian virgin coconut oil is greater than demand.

#### Acceleration Ratio (AR)

In the calculation of the Acceleration Ratio which sees whether a country can capture the share of world exports or cannot

be seen through the value of AR. For coconut oil with HS code 151311, it can be found that Indonesia has the highest AR value,with the value 1,03, and development of its export trend 12,56%. This means that Indonesia has strong competitiveness because it has a comparative advantage. While the Philippines and Malaysia have the values of AR 0,98 and 0,96 with the trend of the value of Philippine exports of 7,1087% and Malaysia at 5,4238%. Both countries have an AR value of less than 1, which means that the acceleration of exports of crude coconut oil in both countries is slower than the growth of world exports.

Countries	Expor Value (%)		World Tren (%)			AR
	151311	151319	151311	151319	151311	151319
<b>Indonesia</b>	2,53	2,15	8,7	14,97	1,03	0,88
<b>Philippines</b>	7,10	14,91	8,7	14,97	0,98	0,99
<b>Malaysia</b>	4,42	15,68	8,7	14,97	0,96	1,00

The analysis results for pure coconut oil with HS code 151319 or pure coconut oil, found that Malaysia has the highest AR value compared to the three countries, which is worth 1,00 with an export value trend of 15,68%. The value of Malaysian exports is greater than the trend in the world export value of only 14,97%. This indicates that Malaysia is able to dominate the export market of Coconut Oil with HS code 151319. As for the countries of Indonesia and the Philippines, it has an AR value below 1, meaning the two countries have export trend values below the world export trend, the value of Indonesian exports is only 2,1556 % and Philippines 14,91%.

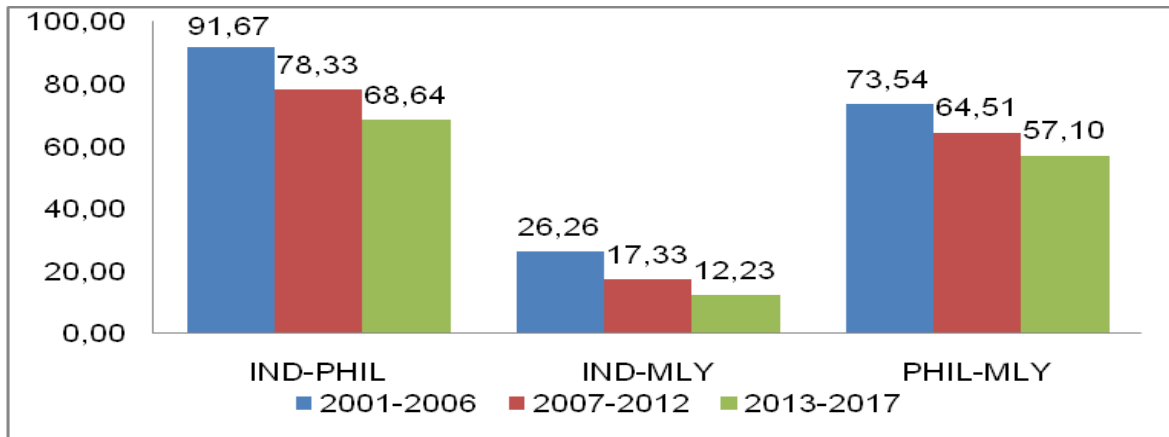
the Philippines, and Malaysia also have strong competitiveness in pure coconut oil products (HS code 151319). But the acceleration of the competitiveness of pure coconut oil products (HS code 151319). Indonesia is still inferior to Malaysia and the Philippines, while Indonesia's CCO has the highest acceleration in competitiveness. This means that until 2014 Indonesian agroindustry was still dominated by raw or primary forms, there was no trade development for its processed products so that to increase the value-added of coconut oil products, the derivative products of coconut oil products HS code 151319 should be concerned.

The competitiveness of Indonesia, the Philippines, and Malaysia have strong competitiveness in the export of Crude Coconut Oil (HS code 151311). Indonesia,

#### The Similarity of Indonesia Coconut Oil Export Structure

The degree of similarity has an implications that showing the potential for competition with each of the othe countries and showing a very different sequence compared to Philipines and Malaysia. At the ASEAN level, Indonesia is implied to have

the tightest competition with Philipnes at the end of the period, shown from the highest ESI compared to other countries (91,67). The export similiarity between Indonesia and Philippines is near to 100% but tend to be decline on the 2001-2017.

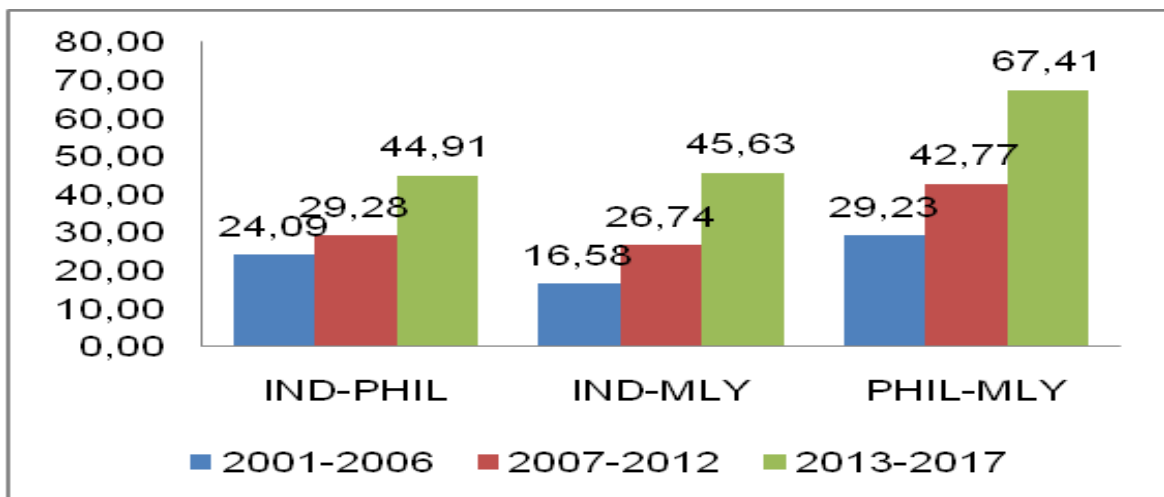


Source: Secondary Data, (2019)

Picture 1. ESI of Coconut Oil HS Code 151311

Coconut oil HS 151311 the average of ESI is declining, it indicates increasing spelialization between two countries in a third market (Xu and Song, 2000). Declining of the value if ESI is also occur to Indonesia and Malaysia, then Phillipines and Malaysia. For Coconut Oil HS 151319, ESI tends to be rising for 3 countries, simialirity Indonesia-Philippines, Indonesia-Malaysia, and

Philippines –Malaysia. The rising simialirity index between two countries indicates a convergence of two countries export structure and greater competition between them in export market (Xu and Song, 2000). It indicates the industry of coconut oil in each countries tend to develop, and makes the ESI of countries increasing



Source: Secondary Data, (2019)

Picture 2 . ESI of Coconut Oil HS Code 151319

Philipina and Malaysia has the highest ESI 67,41. Which the value of ESI is above 50. It means that the two countries in a good competition in ASEAN, and indicate that They become a strong competitor from

time to time. Meanwhile the competition between Indonesia and Philipines is still under 50, but we can expect that their competition will be raising from time to time. The simialirity two Biggest export countries



with Malaysia rising highly in the last 6 years, implying there is significant change in export pattern. All countries change its coconut oil export type, Crude Coconut Oil will be changed with Coconut Oil HS Code 151319.

## CONCLUSION

The competitiveness of coconut oil exports in the period 2001-2017 in Indonesia, Philippines and Malaysia had strong competitiveness in the export of Crude Coconut Oil (HS code 151311) and derived coconut oil products (HS code 151319). Philippines has the strongest competitiveness of coconut oil among three countries. Malaysia has become a country that has prepared to dominate the coconut oil industry, it can be seen the acceleration of Malaysian coconut oil export code 151319 has the highest value.

Export Similarity Index of CCO (HS Code 151311) in 3 countries decreased over time, but for derived coconut oil products (HS code 151319) was rising. It means the three countries tend to be competitor in coconut oil industry.

From that results, Indonesia has to develop the local coconut oil industry for maintaining its position on coconut oil world trade, by increasing the capacity industries for derivative of crude coconut oil (HS code 151319) so it could increase volume and value export because it has a higher benefit than crude coconut oil.

The production of crude coconut oil and its derivative must be balanced of supply and demand coconut oil production on local industry. For the supply aspects, related to the availability of raw materials and the provision of subsidies, can be shown by improving the human resource capacity, such as the coconut farmers and copra and coconut oil traders, and providing incentives for copra and coconut oil investment to help the increasing of domestic coconut oil's production.

Whereas from the demand aspect in the form of directing coconut oil exports to be more market-oriented, it means giving provision of facilities from the government and other external environments to develop the coconut oil industry in Indonesia.

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