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Comparative Trade Analysis Between Indonesia and Organization Islamic Country

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Abstract

Globalization that took place in the last few decades has caused various changes in the world economic order. This effort was also carried out by Muslim countries with the aim of improving economic relations and coordination at the regional level so that the Organization of Islamic Cooperation (OIC) was formed. This study analyzes the comparative advantage and trade patterns between Indonesia and the OIC countries which are limited by 10 OIC member countries which have the largest average export value from Indonesia over the last ten years. These countries include Bangladesh, Iran, Malaysia, Nigeria, Egypt, Pakistan, Jordan, Saudi Arabia, Turkey and the United Arab Emirates. Data analysis in this study uses a quantitative approach. In this study, statistical software tools will be used, namely Microsoft Excel to calculate RCA, RSCA and also trading patterns of the 10 OIC countries with the largest trade volume, Indonesia tends to have a comparative advantage in products of Animal or vegetable fats and oils and their cleavage (HS 15) and Man-made staple fibers (HS 55) where these products are products that have a comparative advantage in the ten countries. Indonesia managed to maintain the same comparative advantage in 2005 and 2020 against the United Arab Emirates (UAE) where the superior product group in those 2 years was exactly the same and only changed its ranking position.

Keywords: *International Trade, Comparative Advantage, Organization Islamic Countries, Indonesia*

Abstrak

Globalisasi yang terjadi dalam beberapa dekade terakhir telah menyebabkan berbagai perubahan tatanan ekonomi dunia. Upaya ini juga dilakukan oleh negara-negara muslim dengan tujuan untuk meningkatkan hubungan ekonomi dan koordinasi di tingkat regional sehingga terbentuklah Organisasi Kerja Sama Islam (OKI). Kajian ini menganalisis keunggulan komparatif dan pola perdagangan Indonesia dengan negara-negara OKI yang dibatasi oleh 10 negara anggota OKI yang memiliki rata-rata nilai ekspor terbesar terhadap Indonesia selama sepuluh tahun terakhir. Negara-negara ini termasuk Bangladesh, Iran, Malaysia, Nigeria, Mesir, Pakistan, Yordania, Arab Saudi, Turki, dan Uni Emirat Arab. Analisis data dalam penelitian ini menggunakan pendekatan kuantitatif. Microsoft Excel digunakan untuk menghitung RCA, RSCA dan juga pola perdagangan. Dari 10 negara OKI dengan volume perdagangan terbesar, Indonesia cenderung memiliki keunggulan komparatif pada produk lemak hewani atau nabati dan minyak(HS 15) dan serat stapel buatan (HS 55) dimana produk tersebut merupakan produk yang memiliki keunggulan komparatif di sepuluh negara mitra dagang. Indonesia berhasil mempertahankan keunggulan komparatif yang sama pada tahun 2005 dan 2020 terhadap Uni Emirat Arab (UEA) dimana kelompok produk unggulan dalam 2 tahun tersebut sama persis dan hanya berubah posisi peringkatnya.

Kata kunci*: Perdagangan Internasional, Keunggulan Komparatif, OKI, Indonesia*

Introduction

Globalization is marked by the increasingly widespread international trade transactions. International trade functions not only as part of economic activity but also develops as a partial concept of diplomatic relations between countries which are expected to provide benefits to the parties who cooperate, in the context of state trade, people will demand cheaper goods and services with variant types of patterns; Meanwhile, households that act as input owners will get an increase in income through an increase in production demand. This condition of increased supply and demand will result in lower prices because the level of competition for bargaining goods and services between producers will increase (Yanto, 2019). [1]

Globalization that took place in the last few decades has caused various changes in the world economic order. Changes in the trade sector have caused countries in the world to make various adjustments related to international trade policies and practices. In 1947 the General Agreement on Tariffs and Trade (GATT) was formed which was an attempt to liberalize world trade relations conceptually and formally. The agreement became the forerunner of the World Trade Organization (WTO). This effort was also carried out by Muslim countries with the aim of improving economic relations and coordination at the regional level so that the Organization of Islamic Cooperation (OIC) was formed (Ningsih, 2020).[2]

In relation to economic activity, the OIC has a commission called The Standing Committee for Economic and Trade Cooperation (COMCEC). This commission plays a role in assisting economic activities and relations as well as international trade among OIC participants, in addition this organization also conducts research in order to improve relations and cooperation in these fields and establish proposed programs to improve the capabilities of member participants in the economic and trade fields. In the 13th Session of the Islamic Summit Conference which formulated the OIC targets contained in the OIC-2025: Program of Action, it was stated that member countries agreed to target intra OIC trade growth of up to 25% in 2025.

In order to increase trade cooperation among OIC member countries, it has been agreed to exchange trade preferences based on the Framework Agreement on Trade Preferential System among the Puska KPI, BPPP, Ministry of Trade 2 Member States of the Organization of the Islamic Conference (TPSOIC). The initial idea for the establishment of TPS-OIC among member countries occurred in the late 1980s. In 1981, The Standing Committee for Economic and Commercial Cooperation of the Organization of the Islamic Cooperation (COMCEC) was established which has TPS-OIC as the most important project in the trade sector. COMCEC is one of four standing committees from OIC in addition to the Al Quds Committee, the Standing Committee for Information and Cultural Affairs (COMIAC), and the Standing Committee for Scientific and Technological Cooperation (COMSTECH). This TPS-OIC has a trade liberalization basis under

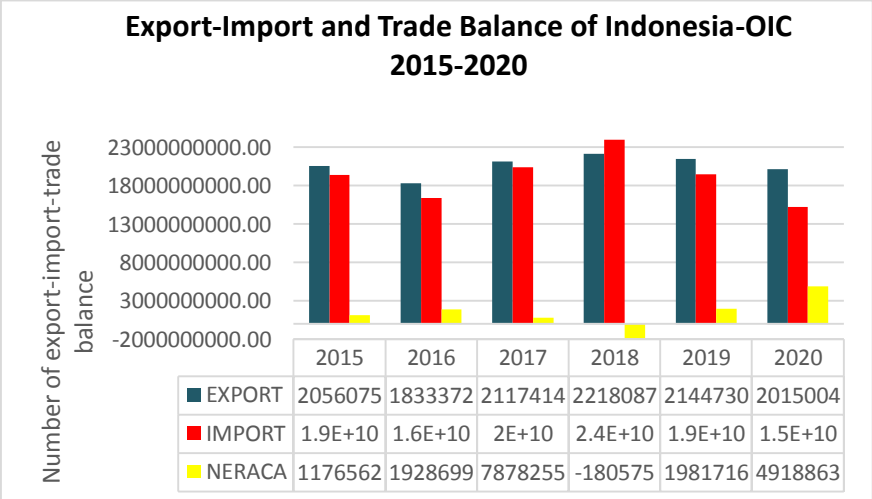
[1] Yanto. 2019. Analisis Model Perdagangan Indonesia di Kawasan Asia Tenggara Menggunakan Data Panel Spasial. Prosiding SATIESP 2019

[2] Ningsih, Rachmi Ramdia. 2020. Optimalisasi Perdagangan Antar negara Anggota Organisasi Kerja Sama Islam (Oki): Pendekatan Gravity Model. Skripsi Institut Pertanian Bogor

COMCEC. There are three agreements in TPS OIC, namely: (1) Cooperation Framework / Framework Agreement, (2) Protocol on Preferential Tariff Scheme (PRETAS), and (3) Rules of Origin (RoO). The three instruments above are part of the tariff reduction program. Indonesia itself has signed the TPS-OIC Framework Agreement in 1992 and ratified it through the Presidential Regulation of the Republic of Indonesia No. 31/2011 dated 20 May 2011. Meanwhile, the PRETAS and RoO programs were signed in 2011 but have not yet been ratified. As a result of the absence of ratification by Indonesia, Indonesia does not have a voice or opportunity to participate in negotiations and the formulation of PRETAS and RoO because it means that Indonesia's status is still as an observer and accession to the agreement (Ministry of Trade, 2018). [3]

Exports will affect the pace of the economy in a country. Indonesia's export market is still focused on major trading partner countries including China, Japan, the United States, India and Singapore. Whereas in theory, if a country is too dependent on certain market areas, it will have a bad impact, especially in the event of a crisis, thus it is necessary to divide and differentiate the export destination markets and develop commodities so that they can compete and remain stable in global economic conditions. The Organization of Islamic Cooperation (OIC) is a number of countries that can become the target market for export destinations because they have considerable potential when analyzed from the volume of their trade with Indonesia.

Graph 1. Export-Import Volume and Trade Balance of Indonesia-OIC 2015-2020

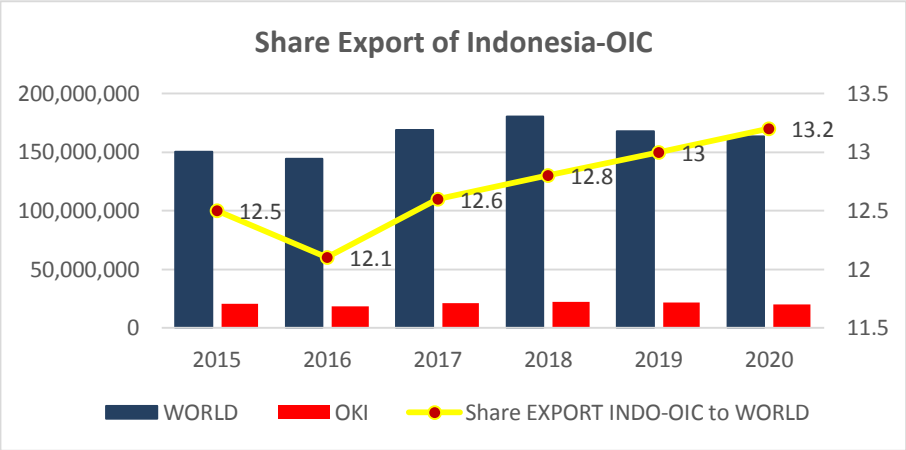


(Source: Ministry of Trade, 2021 data processed)

[3] Ministry of Trade Republic of Indonesia. Organization of the Islamic Cooperation (OIC). 2018. Accessed 12 November 2021

Graph 1 above illustrates that the potential for trade between Indonesia and the OIC countries is quite large. Since 2015-2020 the volume of Indonesia's export-import with the OIC countries has fluctuated with the majority of the trade balance being in surplus. From 2015-2020 only in 2018 Indonesia experienced a trade deficit with the OIC countries. Even in 2020, amid the COVID-19 pandemic and declining global economic conditions, Indonesia's export-import performance with the OIC countries still grew positively and experienced an increase in the surplus value from 2019 by 14.8 percent.The trade share between Indonesia and the OIC countries is also quite large compared to Indonesia's total trade share with the rest of the world.

Graph 2. Share Total Export Indonesia-OIC



(Source: ITC, 2021 data processed)

Graph 2 above shows that the export share between Indonesia and the OIC is compared to the share of Indonesia's exports to the world where the value tends to have a positive trend and continues to rise from 2016 to 2020. This shows that the value of Indonesia's exports to the OIC has a high potential to continue to grow. developed into trading partners in the future.

Trade liberalization, which is increasingly unstoppable at this time, certainly presents new challenges that must be faced, but on the other hand, it also provides opportunities that can be utilized to increase the trade surplus. In terms of market demand, the wider market and the increasing number of agreements that remove various trade barriers between countries have increasingly caused international trade activities to expand without boundaries. The benefits obtained from this condition will improve the economy of a country on the condition that the commodities or products produced by the local market can compete in the world market. The Hecksher-Ohlin theory (H-0) states that a country will export commodities whose production requires more inputs that are relatively abundant and cheap, and at the same time will import products whose production requires more inputs that are relatively scarce and expensive in that country so that a country must export commodities that have a comparative advantage. Therefore,

studying the pattern of comparative advantage among OIC member countries is very necessary.

Widodo (2009)[4] conducted an analysis related to the theory, calculations and case studies of comparative advantage showing that the higher the comparative advantage for a particular product, the greater the opportunity for the country to become a net exporter.

Shohibul (2013) [5]which analyzes the comparative advantage and trade patterns between ASEAN countries and China where the results conclude that China has a more established trade pattern, while ASEAN's trade pattern is very dynamic.

Ramadhan (2011)[6] examined the competitiveness of Indonesian fishery products in several countries that are major importers and the world by using the Revealed Comparative Advantages (RCA) method and estimating the condition of competitiveness using the Export Product Dynamics 12 (EPD) method on each product against the main importing countries and world in 2001, 2005 and 2009. The results of the Revealed Comparative Advantages (RCA) analysis show that each exported Indonesian fishery product has the highest average comparative advantage in each different major importing country.

Hagi (2012)[7] conducted an analysis of the competitiveness of Indonesian and Malaysian palm oil exports in the international market. The purpose of this study is to analyze the export competitiveness of Indonesian and Malaysian palm oil in the international market, as well as to analyze the export performance of Indonesian and Malaysian palm oil in the international market. The results show that the competitiveness of Indonesian palm oil exports has increased the world's palm oil export markets, especially in Asia and Europe, except in the case of palm oil in several countries.

Ustriaji (2016)[8] examined the Competitiveness of Leading Export Commodities in Indonesia in International Markets, using the RCA, Contribution

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[4] Widodo, T. 2009. Dynamics and Convergence of Trade Specialization in East Asia". Asia Pacific Journal of Economics & Business. Vol. 13 (June), No.1: 31-75

[5] Shohibul, A. 2013. Revealed comparative advantage measure : ASEAN-China trade flows. Journal of Economics and Sustainable Development, 4 (7), 136-145

[6] Ramadhan, Adinda Kharisma. 2011. Daya Saing Produk Perikanan Indonesia Di Beberapa Negara Importir Utama Dan Dunia. Skripsi Institut Pertanian Bogor.

[7] Hagi, Saiful Hadi dan Tety Ermi. 2012. Analisis Daya Saing Ekspor Minyak Sawit Indonesia dan Malaysia di Pasar Internasional. Pekbis Jurnal, Vol.4 No.3 November 2012:180-191

[8] Ustriaji, Farid. 2016. Analisis Daya Saing Komoditi Ekspor Unggulan Indonesia Di Pasar Internasional Jurnal Ekonomi Pembangunan Vol.14, No.02 Desember

and Growth analysis tool. The results showed that Indonesia's leading commodities in some of these commodities experienced a significant increase in growth, the largest contributor of the 10 leading commodities was Palm Oil which reached 28% with a total export value in 2010-2014 of US $ 81,636,136. The RCA calculation shows that the palm oil industry, footwear forest products, cocoa, coffee, rubber, and textiles in 2010-2014 (RCA>1) means that these exports have competitiveness above the world average competitiveness.

Bintang (2020)[9] analyzes the competitiveness and trade patterns of RCEP member countries where the results of the study show that the comparative advantage between several RCEP member countries plus India is relatively the same. Several countries show the relevance of trade theory that countries will export products that use abundant factors in their production. This condition is also in accordance with the theory of comparative advantage which states that countries will export products that have a comparative advantage and specialize in these products.

Mzumara, et all (2012) analyzes comparative advantage of Canada, Mexico and the United States in the context of the North American Free Trade Agreement (NAFTA). The result found that there is empirical evidence as expected that the United States of America has a large number of products in which it has a comparative advantage in, followed by Canada. Mexico is the least competitive with fewer products compared to the United States of America and Canada. The concluded also that having comparative advantage is not synonymous with trade performance in intra-regional trade as Mexico tends to benefit much more in spite of having a very few products in which it has comparative advantage as demonstrated by huge trade surpluses over Canada and the United States

Pham (2013) uses product-level data to analyze how comparative advantage evolves as per capita income rises in a sample of twenty relatively rapidly growing countries. Evidence that output and exports become more diversified—not more specialized—as per capita income rises has been interpreted to suggest that comparative advantage does not evolve as theory predicts and has been taken as a basis for a revival of industrial policy in developing countries.

Metodhology

This study analyzes the comparative advantage and trade patterns between Indonesia and the OIC countries which are limited by 10 OIC member

[9] Bintang, Ignatia. 2020. Trade Analysis Of 10 Rcep Member Countries Plus India: Have They Been Competing? Jurnal Ilmu Ekonomi Welfare. Volume 2 Nomor 2 (November 2021). Universitas Siliwangi

countries which have the largest average export value from Indonesia over the last ten years. These countries include Bangladesh, Iran, Malaysia, Nigeria, Egypt, Pakistan, Jordan, Saudi Arabia, Turkey and the United Arab Emirates. This study refers to research conducted by Widodo (2010)[10] with different timescales and countries using a 2-digit Harmonized System (HS) code and 99 product classifications to describe groups of export and import commodities. Data and observations were taken from the International Trade Center using UNCOMTRADE data with a database in 2005-2020 (15 years).

This study will answer questions about: (i) What products have a comparative advantage between Indonesia and the 10 OIC countries with the largest trade volume, (ii) What are the trade patterns between Indonesia and the 10 OIC countries.Data analysis in this study uses a quantitative approach. In this study, statistical software tools will be used, namely Microsoft Excel to calculate RCA, RSCA and also trading patterns.

Revealed Comparative Advantage (RCA) is a way to find out the comparative advantage of a country. The analytical tool was first developed by Balassa in 1965 and is defined as the ratio between certain export products from a country's total exports to total world exports (Volrath, 1991)[11] and , with the following formula:

$$B_{ij} = \frac{X_{ij} / X_{wj}}{X_i / X_w}$$

(Source: Sanidas and Shin (2010)[12])

B_{ij} = Balassa index (RCA) Country i for commodity j

X_{ij} = Export country i for commodity j

X_i = Total export commodity from country j

X_{wj} = Export from world for commodity j

X_w = Total export commodity from world

The justification for the RCA value is as follows:

- RCAij > 1 = Country i has a comparative advantage for commodity j over other countries in the world or the reference country
- RCAij = 1 = Country i approaches the condition of having a comparative advantage over other countries
- RCAij < 1 = Country i has no comparative advantage for commodity j over other countries

[10] Widodo, T. 2010. "Comparative Advantage: Theory, Empirical Measures and Case Studies". Review on Economic and Business Studies

[11] Vollrath, T. (1991) A Theoretical Evaluation of Alternative Trade Intensity Measures of Revealed Comparative Advantage. Review of World Economics, 127, 265-280

[12] Sanidas, E. & Shin, Y. (2010). Comparison of revealed comparative advantage indices with application to trade tendencies of East Asian Countries. Department of Economics, Seoul National University

Laursen (1998) then made modifications to the Balassa RCA index. The result of the modification is the Revealed Symmetric Comparatie Advantage (RSCA) index, which has a different range of values from the RCA and the value becomes more symmetrical, ie values between -1 and +1. If the RSCA is greater than zero then country j has a comparative advantage in product i, whereas if the RSCA value is less than zero then country j has no comparative advantage in product i.

Descriptive statistics (mean, median, standard deviation, and skewness) are used to summarize RSCA across comodities. The distribution of RSCA can be used to analyze the dynamics of comparative advantage (Widodo, 2009). Arithmetic mean is the sum of all RSCA values divided by the total number of values and formulated by

$$\bar{x}_{RSCA_{jt}} = \frac{\sum_{1}^{n} RSCA_{ijt}}{n}$$

With $\bar{x}_{RSCA_{jt}}$ is the arithmetic mean of RSCA for country j at time t, $RSCA_{ijt}$ is the RSCA index for country j at time t for product i, $i = 1, 2, ..., n$, and n is number of productThe mean is calculated for trade between Indonesia and 10 member OIC country. RSCA mean value is expected to increase overtime, indicating that the comparative advantage is increasing overtime. When the RSCA distribution are not symmetric, median could be better measurement than mean. When each countries have an increase in comparative advantage, the mean of the RSCA distribution will increase.

Standard deviation is the measure of statistical dispersion. Standard deviation show the values how much data spreading from the mean. If all data close to its mean, the value of standard deviation is zero. Standard deviation is formulated by:

$$stdev_{RSCA_{jt}} = \sqrt{\frac{\sum_{1}^{n} \left(RSCA_{ijt} - \bar{x}_{RSCA_{jt}} \right)^2}{n}}$$

With $stdev_{RSCA_{jt}}$ is standard deviation of RSCA country j at time t, $\bar{x}_{RSCA_{jt}}$ is the arithmetic mean of RSCA for country j at time t, $RSCA_{ijt}$ is the RSCA index for country j at time t for product i, $i = 1, 2, ..., n$, and n is number of observation.

A variable has symmetric distribution if the mean, median, and mode are equal. Symmetric distribution have the same area and same shape on both side of its axis. When the distribution is asymmetric or skewed, the relationship between mean, median, and mode is not equal. If negatively skewed, the mean is smaller

than median or mode. If positively skewed, the mean is larger than median and mode. Skewness can be described by

$$skew_{RSCA_{jt}} = \frac{3\left(\bar{x}_{RSCA_{jt}} - median_{RSCA_{jt}}\right)}{stdev_{RSCA_{jt}}}$$

With $skew_{RSCA_{jt}}$ is coefficient of RSCA skewness, $stdev_{RSCA_{jt}}$ is standard deviation of RSCA country j at time t, $\bar{x}_{RSCA_{jt}}$ is the arithmetic mean of RSCA for country j at time t, and $RSCA_{ijt}$ is the RSCA index for country j at time t for product i, $i = 1, 2, ..., n$

Positive value of skewness indicate that the country is more specialized on products with low comparative advantage and negative value of skewness indicate that the country is more specialized on products with high comparative advantage. Widodo (2009) show that the direction of specialization or shift in comparative advantages can be analyzed by looking at the skewness over time.

Result and Discussion

A. Indonesia's Comparative Advantage with the 10 OIC Countries

Comparative advantage is calculated using the RSCA calculation where the index of 99 product categories is calculated and ranked into 10 product values with the highest RSCA value which indicates that the product is a superior product of Indonesian trade with each OIC country.

Of the 10 oki countries with the largest trade volume, Indonesia tends to have a comparative advantage in products of Animal or vegetable fats and oils and their cleavage (HS 15) and Man-made staple fibers (HS 55) where these products are products that have a comparative advantage in the ten countries. the OKI.

1. Indonesia-Bangladesh

The volume of trade between Indonesia and Bangladesh shows that Indonesia exports more than imports to Bangladesh. The RSCA value from trade carried out by the two countries in 2005 and 2020 shows that Indonesia has the same comparative advantage in the first position, namely in animal or vegetable fats and oils and their cleavage (HS 15) products. In addition, Indonesia can maintain most of its comparative advantages against Bangladesh where most of the superior products in 2005 are also still superior products in 2020. There are 3 superior products that changed between 2005 and 2020, namely for Edible fruit and nuts, peel of citrus fruit or melons (HS 8), Paper and paperboard; articles of paper pulp, of paper (HS 48) and Soap products, organic surface-active agents, washing (HS 34) where in 2020 these three products were replaced with Mineral fuels, mineral oils and products (HS 27), Railway products or tramway locomotives, rolling stock and parts (HS 86) and Miscellaneous chemical products (HS 38).

Table 1. Indonesia-Bangladesh RSCA Rank

IDN-BANG	2005		
RANK	**HS Code**	**Comodities**	**RSCA**
1	15	Animal or vegetable fats and oils and their cleavage	0.998588
2	55	Man-made staple fibres	0.9972
3	52	Cotton	0.994697
4	25	Salt; sulphur; earths and stone; plastering materials,	0.994352
5	39	Plastics and articles thereof	0.986416
6	96	Miscellaneous manufactured articles	0.956056
7	8	Edible fruit and nuts; peel of citrus fruit or melons	0.949864
8	47	Pulp of wood or of other fibrous cellulosic material;	0.949666
9	48	Paper and paperboard; articles of paper pulp, of paper	0.94351
10	34	Soap, organic surface-active agents, washing	0.928503
		2020	
RANK	**HS Code**	**Comodities**	**RSCA**
1	15	Animal or vegetable fats and oils and their cleavage	0.999881
2	27	Mineral fuels, mineral oils and products of their	0.999745
3	55	Man-made staple fibres	0.998783
4	25	Salt; sulphur; earths and stone; plastering materials, lime	0.997856
5	47	Pulp of wood or of other fibrous cellulosic material;	0.997529
6	52	Cotton	0.993216
7	39	Plastics and articles thereof	0.991616
8	86	Railway or tramway locomotives, rolling stock and parts	0.990056
9	38	Miscellaneous chemical products	0.986307
10	96	Miscellaneous manufactured articles	0.980467

(Source: Author, 2021)

2. Indonesia-Iran

In 2005 Indonesia's trade relations with Iran were analyzed using the RSCA showing that Indonesia has the highest comparative advantage for the Furniture

product group; bedding, mattresses, mattress supports (HS 94) while in 2020 the product with comparative advantage and the highest RSCA value is Tin and articles thereof (HS 80). The results of the comparison of product groups with comparative advantages in two years show that most of the product groups that became comparative advantages in 2005 are also still products with comparative advantages in 2020. There are 3 products that have experienced changes, namely the Ores, slag and ash (HS) product group. 26), Nickel and articles thereof (HS 75), and Coffee, tea, maté and spices (HS 9) which in 2005 were superior products replaced with Pulp of wood or of other fibrous cellulosic material (HS 47), Manufactures of straw , of esparto or of other plaiting (HS 46), and Footwear, gaiters and the like; parts of such articles (HS 64). Meanwhile, the 3 products that were included in the list of the top 5 featured products in 2005 and 2020 were Tin and articles thereof (HS 80), Furniture; bedding, mattresses, mattress supports (HS 94), Animal or vegetable fats and oils and their cleavage (HS 15), and Vegetable plating materials; vegetable products (HS 14).

Table 2. Indonesia-Iran RSCA Rank

IDN-IRAN		**2005**	
RANK	**HS Code**	**Comodities**	**RSCA**
1	94	Furniture; bedding, mattresses, mattress supports,	0.940633
2	80	Tin and articles thereof	0.93924
3	15	Animal or vegetable fats and oils and their cleavage	0.879171
4	84	Machinery, mechanical appliances, nuclear reactors,	0.871024
5	14	Vegetable plaiting materials; vegetable products not	0.779197
6	87	Vehicles other than railway or tramway rolling stock,	0.73754
7	26	Ores, slag and ash	0.710531
8	75	Nickel and articles thereof	0.704913
9	55	Man-made staple fibres	0.685897
10	9	Coffee, tea, maté and spices	0.664569
		2020	
RANK	**HS Code**	**Comodities**	**RSCA**
1	80	Tin and articles thereof	0.939944
2	14	Vegetable plaiting materials; vegetable products not	0.936611

3	15	Animal or vegetable fats and oils and their cleavage	0.921929
4	87	Vehicles other than railway or tramway rolling stock,	0.917457
5	94	Furniture; bedding, mattresses, mattress supports,	0.890806
6	84	Machinery, mechanical appliances, nuclear reactors,	0.808153
7	47	Pulp of wood or of other fibrous cellulosic material;	0.766243
8	55	Man-made staple fibres	0.73284
9	46	Manufactures of straw, of esparto or of other plaiting	0.641629
10	64	Footwear, gaiters and the like; parts of such articles	0.641034

(Source: Author, 2021)

3. Indonesia-Malaysia

For trade between Indonesia and Malaysia, in 2005 the highest comparative advantage was Tin and articles thereof (HS 80) while in 2020 the product group with the highest comparative advantage was Vehicles other than railway or tramway rolling stock, and (HS 87). Meanwhile, the three product groups that experienced changes in excellence were Furniture; bedding, mattresses, mattress supports (HS 94), Man-made filaments; strip and the like of man-made (HS 54) and Tin and articles thereof (HS 80) replaced by Prepared feathers and down and articles made of (HS 67), Preparations of cereals, flour, starch or milk; pastrycooks' (HS 19) and Coffee, tea, maté and spices (HS 9). For Indonesia-Malaysia trade conditions, there is a condition where the product that became the number 1 flagship in 2005 later became a product that was not even included in the list of the top 10 featured products. From the data on the volume of exports and imports of tin and its articles, although Indonesia is the largest tin supplier in the world, many countries have imported tin from Indonesia, however, since the existence of Myanmar as a new player, it has had an impact on Indonesia's exports since 2016. On the other hand, most of the tin exporters and a number of Indonesia's tin producers have also reduced their tin production and exports, thereby potentially causing the export rate of this commodity to continue to be corrected. This is done to anticipate the continued decline in global tin prices.

Table 3. Indonesia-Malaysia RSCA Rank

IDN-MLY		**2005**	
RANK	**HS Code**	**Comodities**	**RSCA**
1	80	Tin and articles thereof	0.959472

2	87	Vehicles other than railway or tramway rolling stock, and	0.933899
3	15	Animal or vegetable fats and oils and their cleavage	0.931383
4	18	Cocoa and cocoa preparations	0.929815
5	84	Machinery, mechanical appliances, nuclear reactors,	0.923567
6	94	Furniture; bedding, mattresses, mattress supports,	0.835808
7	74	Copper and articles thereof	0.813102
8	54	Man-made filaments; strip and the like of man-made	0.66226
9	14	Vegetable plaiting materials; vegetable products not	0.649043
10	24	Tobacco and manufactured tobacco substitutes	0.646266

2020

RANK	HS Code	Comodities	RSCA
1	87	Vehicles other than railway or tramway rolling stock, and	0.9437131
2	15	Animal or vegetable fats and oils and their cleavage	0.941889936
3	67	Prepared feathers and down and articles made of	0.931900748
4	84	Machinery, mechanical appliances, nuclear reactors,	0.830211517
5	18	Cocoa and cocoa preparations	0.785054087
6	24	Tobacco and manufactured tobacco substitutes	0.778185694
7	14	elsewhere specified or included	0.760276641
8	19	Preparations of cereals, flour, starch or milk; pastrycooks'	0.728151025
9	74	Copper and articles thereof	0.696506384
10	9	Coffee, tea, maté and spices	0.66399443

(Source: Author, 2021)

4. Indonesia-Nigeria

For superior products from trade between Indonesia and Nigeria, the results of the analysis show that there is a very significant change in superior products between 2005 and 2020. In 2005, the first rank of Indonesia's superior products against Nigeria was the Silk product group (HS 50) while in 2020 it ranked first a product group with a comparative advantage is Animal or vegetable

fats and oils and their cleavage (HS 15). Of the 10 product groups with comparative advantage in 2005, six of them did not enter the top 10 comparative advantage products in 2020, including Silk products which in 2005 even ranked first. This is possible because Indonesia's silk products are not very good where until now, even around 70 percent of the needs of Indonesian industries that use silk threads are still met by imports from abroad. This could be due to the fact that domestic silk producers have not been able to fulfill silk threads with character and quality that are in accordance with industrial needs (Kunaefi, 2003). Four products that still stand as comparative advantages are Soap, organic surface-active agents, washing (HS 34), Miscellaneous edible preparations (HS 21), Paper and paperboard; articles of paper pulp, of paper (HS 21) and Machinery, mechanical appliances, nuclear reactors (HS 84).

Table 4. Indonesia – Nigeria RSCA Rank

IDN-NIG		**2005**	
RANK	**HS Code**	**Commodities**	**RSCA**
1	50	Silk	0.983593834
2	34	Soap, organic surface-active agents, washing	0.937126978
3	21	Miscellaneous edible preparations	0.92763895
4	67	Prepared feathers and down and articles made of	0.898603946
5	14	Vegetable plaiting materials; vegetable products not	0.860997579
6	48	Paper and paperboard; articles of paper pulp, of paper or	0.85256003
7	84	Machinery, mechanical appliances, nuclear reactors,	0.829087189
8	58	Special woven fabrics; tufted textile fabrics; lace;	0.822782981
9	17	Sugars and sugar confectionery	0.764794592
10	61	Articles of apparel and clothing accessories, knitted or	0.761749453
		2020	
RANK	**HS Code**	**Commodities**	**RSCA**
1	15	Animal or vegetable fats and oils and their cleavage	0.968973226
2	36	Explosives; pyrotechnic products; matches; pyrophoric	0.949863926
3	21	Miscellaneous edible preparations	0.936173887

4	48	Paper and paperboard; articles of paper pulp, of paper or	0.874999982
5	34	Soap, organic surface-active agents, washing	0.818070327
6	84	Machinery, mechanical appliances, nuclear reactors,	0.81532619
7	33	Essential oils and resinoids; perfumery, cosmetic or toilet	0.804150737
8	22	Beverages, spirits and vinegar	0.736255215
9	87	Vehicles other than railway or tramway rolling stock, and	0.689542691
10	32	Tanning or dyeing extracts; tannins and their derivatives;	0.685785952

(Source: Author, 2021)

5. Indonesia-Mesir

Indonesia has a comparative advantage over Egypt in terms of Animal or vegetable fats and oils and their cleavage (HS 15) and Man-made staple fibers (HS 55) products, which ranked first and second in 2005 and 2020, respectively. For other product groups, most of the comparative advantage product groups in 2005 were still superior in 2020, only in different rankings. Meanwhile, four product groups that came out of the list of featured products in 2020 are cushions and similar stuffed furnishings (HS 94), Soap, organic surface-active agents, washing (HS 34), Preparations of meat, of fish or of crustaceans, mollusks. (HS 16) and Cotton (HS 52) where these four products were replaced by Vehicles other than railway or tramway rolling stock (HS 87), Cocoa and cocoa preparations (HS 18), Miscellaneous edible preparations (HS 21) and Wood and articles of woods; wood charcoal (HS 44). Egypt is one of the prospective trading partners for Indonesia. With a population of approximately 100 million, the country imports more than 80 percent of its food product needs from the world, including from Indonesia. Even in the midst of the pandemic, most of Indonesian products were still able to dominate Egypt's market share, which was 1.45 percent, of which several Indonesian food commodity products became the prima donna in the first rank (Ministry of Trade, 2021).

Table 5. Indonesia – Mesir RSCA Rank

IDN-EGY		**2005**	
RANK	**HS Code**	**Comodities**	**RSCA**
1	15	Animal or vegetable fats and oils and their cleavage	0.965128
2	55	Man-made staple fibres	0.962128
3	54	textile materials	0.923536
4	9	Coffee, tea, maté and spices	0.893254

5	94	cushions and similar stuffed furnishings	0.812266
6	40	Rubber and articles thereof	0.810362
7	48	Paper and paperboard; articles of paper pulp, of paper or	0.791328
8	34	Soap, organic surface-active agents, washing	0.783856
9	16	Preparations of meat, of fish or of crustaceans, molluscs	0.773118
10	52	Cotton	0.73368

		2020	
RANK	**HS Code**	**Comodities**	**RSCA**
1	15	Animal or vegetable fats and oils and their cleavage	0.991655
2	55	Man-made staple fibres	0.975411
3	9	Coffee, tea, maté and spices	0.951724
4	87	Vehicles other than railway or tramway rolling stock	0.883236
5	18	Cocoa and cocoa preparations	0.816826
6	40	Rubber and articles thereof	0.808227
7	21	Miscellaneous edible preparations	0.78836
8	54	textile materials	0.777665
9	44	Wood and articles of wood; wood charcoal	0.75418
10	84	boilers; parts thereof	0.701642

(Source: Author, 2021)

6. Indonesia-Pakistan

Products that were ranked in the top 5 in 2005 and 2020 were Animal or vegetable fats and oils and their cleavage (HS 15), Vegetable plating materials; vegetable products (HS 14) and Man-made staple fibers (HS 55). Most of the products of comparative advantage in 2005 are still included in the list of products with comparative advantages in 2020. The products that come out of the list of superior products are Man-made filaments; strip and the like of man-made (HS 54), Edible fruit and nuts; peel of citrus fruit or melons (HS 8), Soap, organic surface-active agents, washing (HS 34), and Fertilizers (HS 31). These four products were replaced by Rubber and articles thereof (HS 40), Cocoa and cocoa preparations (HS 18), Special woven fabrics; tufted textile fabrics; lace (HS 58) and Miscellaneous manufactured articles (HS 96).

Tabel 6. Indonesia – Pakistan RSCA Rank

IDN-PAK		**2005**	
RANK	**HS Code**	**Comodities**	**RSCA**

1	15	Animal or vegetable fats and oils and their cleavage	0.985558
2	14	Vegetable plaiting materials; vegetable products not	0.978629
3	55	Man-made staple fibres	0.889375
4	9	Coffee, tea, maté and spices	0.867046
5	54	Man-made filaments; strip and the like of man-made	0.798035
6	8	Edible fruit and nuts; peel of citrus fruit or melons	0.786312
7	87	Vehicles other than railway or tramway rolling stock, and	0.776609
8	48	Paper and paperboard; articles of paper pulp, of paper or	0.577175
9	34	Soap, organic surface-active agents, washing	0.555674
10	31	Fertilisers	0.505371

2020

RANK	HS Code	Comodities	RSCA
1	15	Animal or vegetable fats and oils and their cleavage	0.992594
2	55	Man-made staple fibres	0.976896
3	87	Vehicles other than railway or tramway rolling stock, and	0.898512
4	14	Vegetable plaiting materials; vegetable products not	0.750715
5	9	Coffee, tea, maté and spices	0.748265
6	48	Paper and paperboard; articles of paper pulp, of paper or	0.711912
7	40	Rubber and articles thereof	0.631348
8	18	Cocoa and cocoa preparations	0.46017
9	58	Special woven fabrics; tufted textile fabrics; lace;	0.447538
10	96	Miscellaneous manufactured articles	0.421102

Source: Author, 2021

7. Indonesia-Yordania

For Indonesian trade to Jordan, products with comparative advantages in 2005 and 2020 are Fish and crustaceans, molluscs and other aquatic (HS 3), Coffee, tea, maté and spices (HS 9), Lac; gums, resins and other vegetable saps (HS 13), Animal or vegetable fats and oils and their cleavage (HS 15) and Sugars and sugar confectionery (HS 17). The characteristics of this superior product indicate that most of Indonesia's export products to Jordan are dominated by the non-oil and gas sector.

Table 7. Indonesia – Yordania RSCA Rank

IDN-JORD		2005	
RANK	**HS Code**	**Comodities**	**RSCA**
1	3	Fish and crustaceans, molluscs and other aquatic	1
2	6	Live trees and other plants; bulbs, roots and the like; cut	1
3	8	Edible fruit and nuts; peel of citrus fruit or melons	1
4	9	Coffee, tea, maté and spices	1
5	12	Oil seeds and oleaginous fruits; miscellaneous grains,	1
6	13	Lac; gums, resins and other vegetable saps and extracts	1
7	14	Vegetable plaiting materials; vegetable products not	1
8	15	Animal or vegetable fats and oils and their cleavage	1
9	17	Sugars and sugar confectionery	1
10	19	Preparations of cereals, flour, starch or milk; pastry cooks'	1
		2020	
RANK	**HS Code**	**Comodities**	**RSCA**
1	1	Live animals	1
2	3	Fish and crustaceans, mollusks and other aquatic	1
3	5	Products of animal origin, not elsewhere specified or	1
4	7	Edible vegetables and certain roots and tubers	1
5	9	Coffee, tea, maté and spices	1
6	13	Lac; gums, resins and other vegetable saps and extracts	1
7	15	Animal or vegetable fats and oils and their cleavage	1
8	16	Preparations of meat, of fish or of crustaceans, molluscs	1
9	17	Sugars and sugar confectionery	1
10	18	Cocoa and cocoa preparations	1

(Source Author, 2021)

8. Indonesia-Saudi Arabia

Indonesia has almost the same comparative advantage over Saudi Arabia in 2005 and 2020. There are only three products that have changed in the list, namely Machinery, mechanical appliances, nuclear reactors (HS 84), Rubber and articles thereof (40) and Articles of apparel and clothing. Accessories, not knitted (HS 62) where these three products were replaced by Preparations of meat, of fish or of crustaceans, molluscs (HS 16), Animal or vegetable fats and oils and their cleavage (HS 15) and Residues and waste from the food industries (HS 23).

Table 8. Indonesia – Saudi Arabia RSCA Rank

IDN-SAUD		2005	
RANK	**HS Code**	**Commodities**	**RSCA**
1	54	Man-made filaments; strip and the like of man-made	0.936577
2	87	Vehicles other than railway or tramway rolling stock,	0.929591
3	94	Furniture; bedding, mattresses, mattress supports,	0.929322
4	44	Wood and articles of wood; wood charcoal	0.881253
5	48	Paper and paperboard; articles of paper pulp, of paper	0.817417
6	55	Man-made staple fibres	0.817162
7	84	Machinery, mechanical appliances, nuclear reactors,	0.790036
8	21	Miscellaneous edible preparations	0.741831
9	40	Rubber and articles thereof	0.733473
10	62	Articles of apparel and clothing accessories, not knitted or	0.71863
		2020	
RANK	**HS Code**	**Comodities**	**RSCA**
1	87	Vehicles other than railway or tramway rolling stock, and	0.992293
2	16	Preparations of meat, of fish or of crustaceans, molluscs	0.930552
3	44	Wood and articles of wood; wood charcoal	0.915224
4	15	Animal or vegetable fats and oils and their cleavage	0.913929
5	21	Miscellaneous edible preparations	0.889721
6	54	Man-made filaments; strip and the like of man-made	0.850783

7	48	Paper and paperboard; articles of paper pulp, of paper or	0.820253
8	55	Man-made staple fibres	0.805136
9	94	Furniture; bedding, mattresses, mattress supports,	0.802222
10	23	Residues and waste from the food industries; prepared	0.792914

(Source: Author, 2021)

9. Indonesia-Turkey

As is the case with Nigeria, the comparative advantage between Indonesia and Turkey has also undergone a significant change. Of the 10 flagship products in 2005, only 4 products are still the flagship products in 2020 while the rest are changing with other products.

Table 9. Indonesia – Turki RSCA Rank

IDN-TUR		**2005**	
RANK	**HS Code**	**Commodities**	**RSCA**
1	55	Man-made staple fibers	0.971061
2	15	Animal or vegetable fats and oils and their cleavage.	0.961841
3	54	Man-made filaments; strip and the like of man-made	0.940648
4	94	Furniture; bedding, mattresses, mattress supports,	0.917267
5	52	Cotton	0.857072
6	40	Rubber and articles thereof	0.785004
7	48	Paper and paperboard; articles of paper pulp, of paper or	0.545651
8	70	Glass and glassware	0.518183
9	38	Miscellaneous chemical products	0.380193
10	80	Tin and articles thereof	0.373669
		2020	
RANK	**HS Code**	**Commodities**	**RSCA**
1	55	Man-made staple fibres	0.981289
2	80	Tin and articles thereof	0.977684
3	15	Animal or vegetable fats and oils and their cleavage	0.95806
4	54	Man-made filaments; strip and the like of man-made	0.897773

5	87	Vehicles other than railway or tramway rolling stock, and	0.897354
6	40	Rubber and articles thereof	0.857374
7	47	Pulp of wood or of other fibrous cellulosic material;	0.77786
8	84	Machinery, mechanical appliances, nuclear reactors,	0.771993
9	72	Iron and steel	0.685241
10	18	Cocoa and cocoa preparations	0.658806

(Source: Author, 2021)

10. Indonesia-Uni Emirates Arab (UAE)

Of the ten OIC countries that are Indonesia's largest trading partners, Indonesia is the most able to maintain its superior products against the UAE. Indonesia's top 10 leading products against the UAE have not changed at all except for only changing their rankings. The ten products are Vehicles other than railway or tramway rolling stock (HS 87); Animal or vegetable fats and oils and their cleavage (HS 15); Man-made filaments; strip and the like of man-made (HS 54), Machinery, mechanical appliances, nuclear reactors (HS 84), Articles of apparel and clothing accessories, not knitted (HS 62), Furniture; bedding, mattresses, mattress supports (HS 94), Paper and paperboard; articles of paper pulp, of paper (HS 48), Man-made staple fibers (HS 55), Manufactures of straw, of esparto or of other plaiting)46), Coffee, tea, maté and spices (HS 9).

Table 10. Indonesia – UEA RSCA Rank

IDN-UEA		**2005**	
RANK	**HS Code**	**Commodities**	**RSCA**
1	94	Furniture; bedding, mattresses, mattress supports,	0.960937
2	54	Man-made filaments; strip and the like of man-made	0.941041
3	84	Machinery, mechanical appliances, nuclear reactors,	0.866731
4	55	Man-made staple fibres	0.863362
5	87	Vehicles other than railway or tramway rolling stock	0.757184
6	46	Manufactures of straw, of esparto or of other plaiting	0.707172
7	62	Articles of apparel and clothing accessories, not knitted or	0.69367
8	48	Paper and paperboard; articles of paper pulp, of paper or	0.68692
9	9	Coffee, tea, maté and spices;	0.684567

10	15	Vehicles other than railway or tramway rolling stock, and	0.681748

2020

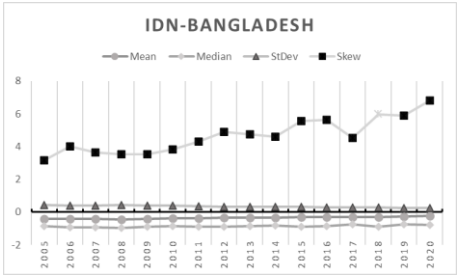
RANK	HS Code	Commodities	RSCA
1	87	Vehicles other than railway or tramway rolling stock, and	0.934701
2	15	Animal or vegetable fats and oils and their cleavage.	0.891969
3	54	Man-made filaments; strip and the like of man-made	0.889313
4	84	Machinery, mechanical appliances, nuclear reactors,	0.804875
5	62	Articles of apparel and clothing accessories, not knitted;	0.785331
6	94	Furniture; bedding, mattresses, mattress supports,	0.764907
7	48	Paper and paperboard; articles of paper pulp, of paper or	0.741778
8	55	Man-made staple fibres	0.660353
9	46	Manufactures of straw, of esparto or of other plaiting	0.65333
10	9	Coffee, tea, maté and spices	0.645554

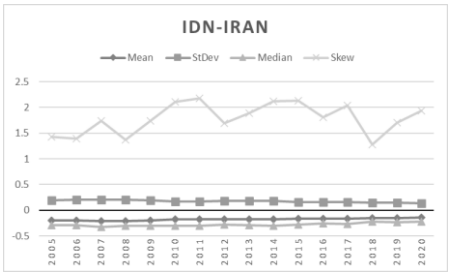
(Source: Author, 2021)

Indonesia's Trade Pattern with 10 OIC Countries

According to Widodo (2009), comparative advantage will be higher, so that other products have a smaller increase or decrease in comparative advantage so that there must be a greater dispersion of comparative advantage between products. The larger dispersion will be captured by the larger standard deviation of the RSCA index. Table 11 shows the trend of the RSCA mean, median, standard deviation, and skewness. The mean, median, standard deviation, and skewness values.

Table 11. Indonesia's Trade Pattern with 10 OIC Countries





Source: Author's Calculation, 2021

A positive skewness value indicates that the trade carried out has a concentration on products with low comparative advantage. It can be concluded from the figure above, that all countries have a low concentration of products with comparative advantage. This condition is slightly similar to the previous research

conducted by Widodo (2009).

The standard deviation seems to fluctuate over time. This shows that the difference in comparative advantage also fluctuates as evidenced by the changes in most of the leading products in 2006 and 2020 in ten countries except the UAE which tend to be constant. However, theoretically a larger standard deviation indicates a condition of specialization, and a smaller standard deviation m means despecialization in a particular commodity. However, this study is not strong enough due to its time span (only 15 years). This condition may be due to showing that the increase in the average may be due to a higher comparative advantage increase from products that have lower comparative advantage in the past (Widodo, 2009).

Conclusion

The 10 OIC countries with the largest trade volume, Indonesia tends to have a comparative advantage in products of Animal or vegetable fats and oils and their cleavage (HS 15) and Man-made staple fibers (HS 55) where these products are products that have a comparative advantage in the ten countries.

Indonesia managed to maintain the same comparative advantage in 2005 and 2020 against the United Arab Emirates (UAE) where the superior product group in those 2 years was exactly the same and only changed its ranking position. Meanwhile, for other countries, there are several changes which show that there are advantages that have changed in the 15-year period.

The results of descriptive statistical analysis show that Indonesia's trade pattern with the 10 OIC countries has a standard deviation that seems to fluctuate over time. This shows that the difference in comparative advantage also fluctuates as evidenced by the changes in most of the leading products in 2006 and 2020 in ten countries except the UAE which tend to be constant. However, in theory a larger standard deviation indicates a specialization condition.

This research has shown a small picture of international trade between Indonesia and the 10 OIC member countries. However, this study is not strong enough because it only compares the comparative advantage in two different years with a span of 15 years. Various methods such as the application of Spearman's Rank Correlation analysis and cointegration test need to be carried out with a longer time span for further research.

References

Bintang, Ignatia. 2020. Trade Analysis Of 10 Rcep Member Countries Plus India: Have They Been Competing? Jurnal Ilmu Ekonomi Welfare. Volume 2 Nomor 2 (November 2021). Universitas Siliwangi

Hagi, Saiful Hadi dan Tety Ermi. 2012. Analisis Daya Saing Ekspor Minyak Sawit Indonesia dan Malaysia di Pasar Internasional. Pekbis Jurnal, Vol.4 No.3 November 2012:180-191

Ningsih, Rachmi Ramdia. 2020. Optimalisasi Perdagangan Antar negara Anggota Organisasi Kerja Sama Islam (Oki): Pendekatan Gravity Model. Skripsi Institut Pertanian Bogor

Ministry of Trade Republic of Indonesia. Organization of the Islamic Cooperation (OIC). 2018. Diakses 12 November 2021

Mzumara, Macleans, Chingarande, Anna and Karambakuwa Roseline. (2012). An Analysis of Comparative Advantage and Intra-North American Free Trade Agreement (NAFTA) Trade Performance. Journal Of Sustainable Development Vol 5, No 11

Pham, Thi Thu Tra and Riedel, James. 2013. An Empirical Analysis Of Comparative Advantage Dynamics. Working Papers Forum Research International Trade

Ramadhan, Adinda Kharisma. 2011. Daya Saing Produk Perikanan Indonesia Di Beberapa Negara Importir Utama Dan Dunia. Skripsi Institut Pertanian Bogor.

Sanidas, E. & Shin, Y. 2010. Comparison of revealed comparative advantage indices with application to trade tendencies of East Asian Countries. Department of Economics, Seoul National University

Shohibul, A. 2013. Revealed comparative advantage measure: ASEAN-China trade flows. Journal of Economics and Sustainable Development, 4 (7), 136-145

Ustriaji, Farid. 2016. Analisis Daya Saing Komoditi Ekspor Unggulan Indonesia Di Pasar Internasional Jurnal Ekonomi Pembangunan Vol.14, No.02 Desember

Vollrath, T. (1991) A Theoretical Evaluation of Alternative Trade Intensity Measures of Revealed Comparative Advantage. Review of World Economics, 127, 265-280.

Widodo, T. 2009. Dynamics and Convergence of Trade Specialization in East Asia". Asia Pacific Journal of Economics & Business. Vol. 13 (June), No.1: 31-75.

Widodo, T. 2010. "Comparative Advantage: Theory, Empirical Measures and Case Studies". Review on Economic and Business Studies

Yanto. 2019. Analisis Model Perdagangan Indonesia di Kawasan Asia Tenggara Menggunakan Data Panel Spasial. Prosiding SATIESP 2019