



## Regional Comprehensive Economic Partnership (RCEP) on agricultural products

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### ABSTRACT

Intra-industry trade plays an important role in the current international economics literature. In 2019, Indonesia's total exports to RCEP member countries reached 61.65% of Indonesia's total exports, and 44% of total exports to RCEP came from the agricultural sector. The purpose of this research is to examine the interdependence of Indonesia and its 14 trading partners in RCEP. This research uses secondary time series data from the trademap, namely the flow of Indonesian agricultural trade with RCEP countries from 2010-2019. The data analysis method in this study is the intra-industry trade index. The results of the study of trade patterns identified through the Indonesia-RCEP Trade Relations (IIT) show that the raw material with the highest average IIT value is processed flour (HS 19). This shows that Indonesia's RCEP trade in flour products (HS 19) is bilateral. In terms of country, Malaysia is a country with the strongest trade relations with Indonesia. The average score of 19.74 between IIT Indonesia and RCEP reflects that the relationship between Indonesian agricultural products and RCEP is still low and classified as inter-industry trade. The low IIT value may be due to the large one-way trade in RCEP, where Indonesia is still the dominant importer. Therefore, it is important for the government to further increase potential commodity exports by encouraging agricultural product processing industries with tax breaks within a certain period.

### INTRODUCTION

The Regional Comprehensive Economic Partnership (RCEP) emerged from negotiations at the ASEAN Summit in 2011 and was established in 2013, but the RCEP negotiation agreement has not yet been signed until November 2020. RCEP negotiations were followed by 15 countries namely ASEAN, China, Japan, South Korea, Australia, New Zealand. (Departemen Perdagangan, 2019). RCEP is the largest regional agreement in the world, with a market share of 48% of the world's

population, 32% of world GDP, 27% of global trade, and 22% of international investment flows. (FDI). Another reason to continue negotiations with only 15 countries (which were originally supposed to join RCEP) is that the RCEP negotiation had a positive impact amid the uncertainty of the trade system after the US-China trade war. Second, the RCEP region has sent positive signals of shared governance and commitment to an open trade and investment environment. (Indonesia.go.id, 2019). Indonesia will be more profitable by participating in RCEP negotiations. This is reflected by an increase

in Indonesia's exports to RCEP member countries by 1.23 percent in the last five years. Exports to RCEP countries accounted for 57.10% of total Indonesia exports (Trademap, 2020).

One sector that needs attention is the agricultural sector, as Indonesia's share of exports to RCEP countries in the last ten years is mostly the agriculture sector. The share of the agricultural sector in exports to RCEP countries averages 39%, and the largest share is 44% in 2019 (Trademap, 2020). Although exports from the agricultural sector make a significant contribution to Indonesia's total exports to the second-largest-populated RCEP countries after China, this could increase the potential Indonesian trade deficit especially in agriculture (Dwipayana and Kesumajaya, 2014). (Lipsey, 1995). If Indonesia does not study the strategic raw materials that Indonesia owns, RCEP could cause a storm of imports, especially agricultural products. Conversely, as Indonesia studies strategic products through economic scale studies and product differentiation, the spread of various similar agricultural products can be controlled. This is because the current business model has changed from "many types, cheap prices and small quantities" to "little types, higher prices and large quantities". Economic scale is a problem in many countries (Sun & Li, 2018), (Li, 2017) and (Yu & Qi, 2015).

By classifying strategic agricultural products, Indonesia can compete in the RCEP market (Nguyen et al, 2020); (Plummer, 2010); (Retnosari, 2018); (Sun & Li, 2018), which means increasing the country's foreign exchange acquisition and improving some macroeconomic indicators such as gross domestic product (GDP) and job opportunities. BPS (2020b) stated that the agricultural sector contributes 12.72% (Rp 2.013,6 trillion) of GDP. The value of the contribution of the agricultural sector has decreased in percentage, but in value, the growth of agricultural GDP has continued to increase in 2019 by 3.6% from 2018. From the point of view of labor creation, the base of the agricultural sector is listed in the Data Ministry of Agriculture (2020) which absorbs the largest labor force in Indonesia is 29%, and the total agricultural labor force is 38.046 million people out of 131.023 million Indonesian labor force.

The agricultural sector also contributed positive growth as the only sector to save GDP during the

1997-1998 crisis. Similarly, after Indonesia officially declared a recession in the third quarter of 2020, the agricultural sector grew by 2.15% of GDP. (2020a). As a strategic sector of the Indonesian economy, fluctuations in exports of agricultural products greatly affect employment opportunities, reduce the number of poor population, and the standard of living of the population is reflected in per capita income including the country's exchange rate. Indonesian Revenue, currently appointed as Chairman of RCEP and ASEAN Trade Negotiation Committee, should be eager to take advantage of this cooperation opportunity to further enhance its opportunities in increasing its market share. The RCEP negotiations will benefit, one of which can start from the agricultural sector that will continue to be built and developed to give a positive impact on the Indonesian economy.

More open area trade is an effort to boost economic growth through trade volume, production efficiency, increased domestic industrial competitiveness, accelerated production growth and increased mobility of production factors. The RCEP Cooperation Agreement opens up broader trade relations and Indonesia can minimize production costs, but RCEP cooperation can lead to increased imports and loss of investment and import opportunities, as all RCEP members compete for investment and export in RCEP negotiations.

Based on this background, it is important for Indonesia to analyze goods and priority countries so that Indonesia can take advantage of this RCEP opportunity. Indonesia should have a strategy to determine which sectors are relatively efficient. Efficient sectors are likely to have export potential. In relatively inefficient sectors, imports tend to rise. According to the classical theory, international trade countries should focus on the production of goods in which they have a comparative advantage. However, in theory, the goods traded must come from different industries, such as rice and textiles. In recent decades, as countries have integrated into the global economy, foreign trade between nations has become more complex and more difficult to explain through classical trade theories. The trend of importing and exporting products simultaneously occurs very quickly.

The term "inter-industrial trade" has become one of the most important terms in the new trade theory industry, which explains most of the latest trends in

international trade. (Nguyen et al., 2020). Intra-industrial trade is in the same industry (Ministry of Commerce, 2010) and (Retnosari, 2018). Inter-industry trade tries to determine how much trade between two economies takes place in the same industry. It is based on the assumption that economic scale supports trade, even if wealth factors and consumer preferences are equal among economic partners (CEI, 2009) Many studies have been conducted on intra-industrial trade in various countries (Retnosari, 2018); (Zhang and Clark, 2009); (Alhayat, 2012b); (Mikic dan Gilbert, 2009). In general, the study can be divided into two groups: the first group focused on the explanation of the reasons for intra-industrial trade (Krugman, 1979), while the second group concentrated on the measurement of IIT levels (Grubel and Lloyd, 1971) Although a large number of empirical studies have contributed to IIT, ranging from self-determined factors and IIT values of countries, most of them only pay attention to developed countries, where trade flows occur due to similar demand structures and production techniques. (Lapinska, 2016).

Research on intra-industrial trade between Indonesia and RCEP countries is important to analyze whether Indonesian products have trade links (intra-industry trade) with the RCEP nations to identify potential goods and countries Indonesia. In addition, it is expected that trade between Indonesia and its trading partners can grow faster with the introduction of free trade in this RCEP negotiation.

Some literature (Nguyen et al., 2020), (Hoang, 2018), (Bato, 2014), Retnosari (2018) show a relationship that can be used as a measure of a country's export income as well as similar import activities from other countries. If there are connections, it will increase the dependence of Indonesia's trade relations with the RCEP countries. In addition, with its high interdependence with Indonesia, RCEP member states can help Indonesia identify markets and diversify products.

## METHOD

The Intra-Industrial Trade Analysis (IIT) is conducted to describe the interdependence of trade between countries. With IIT, the level of integration of a particular region can be analyzed. High integration indicates the proximity of trade between countries in the Area. The advantage of a region in

certain goods, exports such goods and, on the contrary, a country imports goods that are not the advantage of its country. IIT operations are based on product differentiation and economic scale. The conditions of international competition force companies to concentrate on producing only a few types of products, whose quality and price are the best for other products. The latest trade theory can lower production costs, but on the other hand consumer needs for products can be met by importing them. IIT is often used as the Grubel-Lloyd Index. (GLI).

GLI has a ratio of 0-100. A value close to zero means that the trade is inter-industrial, meaning that only one party is involved in the transaction. (hanya ekspor atau impor). If the index is close to 100, it means that the trade is intra-industrial, meaning that the volume of exports is almost equal to the amount of imports of the product. Meanwhile, according to Austria (2004), the IIT classification is as follows:

Table 1. **Classification**

	<b>Classification</b>
0,00	No integration (one-way trade)
>0,00 –24,99	Weak integration
25,00 – 49,99	Weak integration
50,00 – 74,99	Strong integration
75,00 – 99,99	Integration is strong.

Inter-industrial trade often occurs between developed countries because they have the same level of development and size of the market. (Nguyen et al., 2020). Indonesia is growing despite industrialization, but has a comparative advantage only on hard labor products and low technology, so the non-migas sector is still a potential sector for Indonesian trade (Hotsawadi and Widyastutik, 2020), especially in the agricultural sector. (Parmadi et al., 2018).

Trading data reviewed using the Harmonized System (HS) Code. HS is an export-import commodity code system used as an internationally recognized method of classification of products. (Herjanto dan Purwanto, 2010). The use of the observed trade data is the total value of export-import trade of goods with HS code 4 digits of HS 01-24 in 2010-2019 in 14 RCEP member countries cooperating with Indonesia.

## RESULTS AND DISCUSSION

### *Intra-industry Trade between Indonesia and the RCEP Member States*

In recent decades, intra-industrial trade has become a widespread phenomenon, due to the rise in research on the theoretical foundations of this problem (Brühlhart, 2008). The concept of intra-industrial trade can be defined as both exports and imports simultaneously, i.e. products belonging to similar product categories (Bojnec and Ferto, 2016), so the similarity of factors of the ability of economic partners and consumer preferences should not be a problem.

Interindustrial trade becomes important when customs and non-commercial barriers to cross-country trade flows are removed, when trade agreements are made and there are benefits of intra-industry trade on an economic scale. In this regard, international competition forces any company to limit its model or type of product to focus on the use of its resources to suppress the unit cost of the product, so that only a few types of product can be produced, of course with the best quality and price competing for other products. On the other hand, consumer needs of other products or species are met by imports from other countries. Using this new trade theory, it illustrates how import activities do not necessarily have a negative impact on domestic companies, but when applied with intra-industrial trade strategies, export activities combined with imports of certain products can increase the scale of the economy and differentiated products for Indonesia.

The degree of integration of each agricultural product is measured by the intra-industrial trade index. (IIT). The small size of IIT indicates the size of intra-industrial trade, i.e. the same volume of exports and imports of commodities. Therefore, to see the level of integration of agricultural members RCEP was measured using the IIT index. Based on the calculation results, the average IIT of

agricultural products between Indonesia and the RCEP country in the 2010-2019 period was 19.74 and showed an increase in IIT in recent years. Although there is a trend of increased value of IIT, but the value of integration

Table 2

HS	BR N	KH M	LA O	ML S	MMR	PH L	SGP	THA	VN M	CHN	JPN	KOR	AU S	NZL
01	0.0 0	0.0 0	0.0 0	61. 40	0.00	12. 20	0.07	19.40	23.2 1	15.9 2	23.9 7	8.45	0.0 0	0.00
02	0.0 0	0.0 0	0.0 0	6.5 1	0.00	0.0 0	19.0 2	8.00	0.00	0.00	33.1 5	0.00	0.0 0	0.00
03	8.6 8	0.0 0	0.0 0	17. 78	8.40	34. 88	2.11	9.28	10.2 9	47.2 0	6.35	5.22	26. 96	64.4 6
04	0.0 0	0.0 0	0.0 0	50. 53	0.00	15. 78	19.8 0	63.61	12.3 2	20.6 2	57.4 2	9.95	0.8 3	0.15
05	0.0 0	0.0 0	0.0 0	25. 29	0.00	7.5 7	32.3 4	32.14	32.9 3	43.8 3	23.9 3	30.1 6	2.0 6	1.66
06	0.0 0	0.0 0	0.0 0	14. 53	1.25	0.5 6	4.52	30.08	28.3 7	56.3 4	3.99	0.56	4.4 1	19.7 9
07	0.0 0	0.0 0	0.0 0	67. 15	0.00	26. 38	9.26	46.57	30.3 7	8.57	0.97	44.2 1	2.8 0	3.07
08	0.0 0	0.0 0	0.0 0	11. 01	16.73	49. 10	1.43	42.76	41.9 5	17.5 0	43.1 0	68.8 9	20. 09	23.4 2
09	0.0 0	2.7 6	9.3 1	28. 76	23.98	0.0 7	6.34	25.19	63.1 8	50.8 4	2.54	2.59	3.9 2	0.01
10	0.0 0	0.0 0	0.0 0	31. 27	0.00	19. 31	53.9 9	0.64	2.41	0.01	38.4 2	17.2 2	0.0 0	0.00
11	0.0 0	0.0 0	0.0 0	45. 12	0.99	11. 76	38.9 7	2.34	25.8 4	15.8 2	94.2 7	73.6 1	7.0 9	9.63
12	0.0 0	0.0 0	0.0 0	37. 06	3.84	4.4 9	34.8 8	76.67	16.9 4	46.6 1	79.3 6	33.9 0	73. 30	0.19
13	0.0 0	0.0 0	0.0 0	28. 93	0.00	58. 06	73.9 3	27.60	0.32	41.2	39.5 6	64.9 4	13. 28	25.7 7
14	0.0 0	0.0 0	0.0 0	2.0 6	0.00	0.0 0	0.73	0.54	25.6 9	21.4 5	0.93	0.00	1.9 8	0.00
15	0.0 0	0.0 0	0.0 0	12. 21	0.00	1.6 9	8.71	20.94	2.38	0.60	10.0 5	3.11	32. 54	28.6 4
16	5.6 4	0.0 0	0.0 0	69. 36	0.00	35. 17	64.8 2	21.53	16.8 7	59.9 3	0.72	24.4 1	65. 03	26.4 5
17	0.0 0	0.0 0	0.0 0	81. 18	33.70	22. 24	68.8 9	4.02	9.47	6.50	60.0 1	50.1 3	3.1 6	54.8 8
18	0.0 0	0.0 0	0.0 0	48. 90	0.00	3.8 0	42.0 8	9.73	4.48	22.6 9	2.32	1.85	20. 53	6.10
19	0.0 1	0.0 5	0.0 0	87. 39	6.21	16. 66	51.8 5	75.88	11.9 5	41.4 2	47.8 1	62.7 2	56. 96	77.4 4
20	0.0 0	0.2 0	0.0 0	70. 99	0.00	77. 96	56.6 1	5.69	46.0 8	27.4 0	8.81	34.0 0	81. 10	65.9 8
21	0.0 0	0.0 0	0.0 0	89. 23	0.00	0.7 9	76.6 1	65.91	45.1 9	23.1 7	83.7 9	10.8 6	58. 04	44.9 9
22	0.0 0	0.0 0	0.0 0	14. 38	0.00	1.0 5	26.6 1	13.49	21.0 5	18.1 7	20.4 3	16.1 6	29. 14	32.6 8
23	0.0 0	0.0 0	0.0 0	48. 34	0.00	6.6 2	10.4 0	55.86	32.0 3	63.3 7	16.0 9	48.7 4	14. 00	59.0 7
24	0.0 0	1.5 4	21. 83	22. 75	8.73	71. 58	5.96	43.97	28.8 9	4.01	7.83	46.6 1	5.8 4	0.11

tend to fluctuate. New Zealand, Vietnam, Thailand, Myanmar, Japan, and Cambodia show a rising trend in the IIT index. At the same time, there is a tendency to decline IIT scores in Malaysia, Singapore, and the Philippines.

Average IIT Indonesia-RCEP rating of 19.74 when compared based on the Grubel & Llyod classification (1971), this IIT Indonesian- RCEP rating belongs to have a low integration. The value of 19.74 is the average output of the HS 2

agricultural sector The figures came from 14 RCEP countries between 2010 and 2019.

### **Intra-industry Trade each Member of RCEP 2 Digit**

Table 2 shows that eight of the 24 commodity groups have an IIT value of less than 50% in all RCEP countries. In developed countries, IIT rates are generally higher than in developing countries such as Japan, South Korea, and Singapore, where IITs are greater than in poor countries. (Sawyer et al., 2010). Singapore has proven to be the most efficient port country in the world (Madiyah and Widyastutik, 2020) with the highest IIT score among other RCEP members. In Japan, there are several commodity groups whose integration values are strong or very strong. These findings are supported by Afriandini and Hastiad's analysis (2018) of trade between Indonesia and Japan which shows that trade between Japan and Indonesia currently leads to more intra-industrial trade than inter-industrials.

Unlike Brunei Darussalam, Cambodia, Laos and Myanmar are members of the RCEP with limited agricultural trade relations with Indonesia. That was the case of Sawyer et al. (2010) when poor countries also had low IITs.

Based on the calculation results of each HS 2 digit commodity code classification, it is seen that Indonesia and other RCEP members have better flow of goods for processed flour products (HS 19), processed vegetables, fruits, nuts or other plants. (HS 21). The high value of IIT is due to the increased economic integration that has caused tariffs to fall. This has had a positive impact on the exports of many agricultural products in the world, especially in some RCEP member countries (Ministry of Commerce, 2016); and (Kemenperin, 2020).

In contrast, meat and other edible animal parts (HS 02), plant feed materials (HS 14), vegetable fats and oils (HS 15) are commodity classifications with the lowest integration values between Indonesian products and RCEP member countries. Juihardi (2016) stated that Indonesia is still realistically unable to meet domestic beef needs so it is still dependent on imports, as local products can only meet 73.98% Indonesia's demand and 26.02% were obtained from imports. Amalina et al (2018) also

found that HS 15 in Indonesia had a low IIT score. Indeed, IIT for HS 15 codes is low on average because not all RCEP countries use intra-industrial trade in HS 15 goods. Several RCEP countries carrying out HS 15 intrasector trading include Japan (Ministry of Industry, 2020), New Zealand and Australia. (Nuryanti, 2010).

### **Intra-Industry Trade Value Classification of Each RCEP Member 4 Digits**

From the data of HS 01-24 trade flows of a total of 196 agricultural products from each RCEP member country, there is a imbalance in the IIT value of agricultural goods sold by the respective RCEP countries based on IIT calculations. For the RCEP member countries, this shows that Singapore is the trade partner for agricultural exports for the most dependent on Indonesian agricultural products, 143 out of 196 species over 10 years, followed by Malaysia with 133 species. Brunei Darussalam, Cambodia, and Laos, on the other hand, are RCEP members with the largest number of products with cross-sectoral integration. (One direction).

Pada saat yang sama, berdasarkan hasil The calculation of the GL index of each trading partner, not only can see the classification of how many products have intra-industrial integration, but also can see patterns of intra-industry trade between Indonesia and those countries. See the IIT level of each RCEP member. 192

Main commodity IIT values of each RCEP member

#### **Brunei Darussalam**

Only three products have two-way trade integration with Indonesia. However, none of the three products had a high IIT score. IIT ratings in Brunei Darussalam, Indonesia are very low, with an average IIT rating of only 0.0175 over the last 10 years. Frozen fish (excluding fillets) is the only agricultural product integrated with industry in Indonesia and Brunei Darussalam. Despite having a low history of intra-industrial trade, Brunei Darussalam has great potential as an Indonesian export market (Ambarita dan Sirait, 2019).

#### **Kamboja**

Indonesia IIT value of Cambodia is still low, with an average IIT rating of only 0.19 over the last 10 years. According to Hermawan (2017), agricultural exports generally grew larger than Indonesian imports, only interindustrial trade remains.

Tobacco waste (HS 2401) is the only industrially integrated agricultural product between Indonesia and Cambodia. This is natural because Cambodia

has focused on textile and clothing exports over the past 15 years, which have been a major catalyst for increasing its exports. (Amir et al., 2020).

### **Laos**

IIT Indonesia score Laos is very low, the average IIT score of the last 10 years is only 0,098. Nizar and Wibowo (2007) found that IIT's Indonesian agricultural export to Laos was 38.30 in 2005, much higher than non-agricultural exports with IIT less than 1%. Similar to Cambodia, Indonesian agricultural exports to Laos generally increased more than Indonesians imports, i.e. trade between industries. (Hermawan, 2017).

### **Malaysia**

Malaysia is a developing country that is currently in the process of industrialization and is considered to be successful in diversifying its abundant natural resources exports. (Amir et al., 2020). The value of IIT Indonesia's exports to Malaysia was not very fluctuating between 1993 and 2005, with IIT's value in 1993 being 0.25 and 0.23 in 2005. (Nizar dan Wibowo, 2007). Not much different from 1993 to 2005, transactions also experienced a decline in the last ten years, i.e. in 2010 the value of Indonesian IIT to Malaysia was 16.70 and in 2019 it dropped to 14.23. This is consistent with the findings of the Ningsih and Kurniawan study (2016), although Indonesia is still a major agricultural exporter to Malaysia, its intensity continues to decrease every year.

### **Filipina**

Indonesia and the Philippines have the highest average IIT of agricultural products in 2019 of 5.12, and the average over the last ten years is 3.85. Table 3 shows that Indonesia has 55 agricultural products that belong in 194 intra-industrial trade, and 10 of 55 belong to have moderate to strong IIT values. Seeds, fruits and spores (HS 1209) are Indonesia's most dependent agricultural products. Among ASEAN-4, Widarjono (2009) recorded the Philippines as the country with the lowest IIT score, which was 1.29 in 2005. This low IIT score in the Philippines is also supported by (Nizar dan Wibowo 2007). Although the Philippines is considered an unfriendly country under international trade rules (Madiyah and Widyastutik, 2020), the Philippines has several commodities with high IIT values.

### **Myanmar**

Overall, Indonesian agricultural exports to Myanmar have grown larger than Indonesian imports, but are still inter-industrial trade. (Hermawan, 2017).

### **Singapura**

IIT Indonesian and Singaporean agricultural products are stored regularly each year and their value increases. Table 9 shows 10 out of 196 agricultural products that have strong or very strong correlations with IIT values over the last 10 years. (2010-2019). The average IIT of the agricultural sector from 2010 to 2019 was 12.27. The commodity that has the most internal industrial relationships is thin flour. Widarjono (2009) as well as Nizar and Wibowo (2007) explained the history of agricultural IIT business in Indonesia and Singapore in 1995 by 4.36 which increased more than tripled in 10 years later, then in 2005 IIT value was 13.48. There was an increase until 2010, but from 2012 Indonesian agricultural exports to Singapore decreased sharply. (Ningsih dan Kurniawan, 2016). Despite the drop, IIT prices remain relatively high among RCEP participants in Indonesia and Singapore, as Singapore's economy is heavily influenced by international trade. Singapore is also supported by the largest commercial terminal in ASEAN and the second largest in the world (Amir et al., 2020) as well as the highest transport infrastructure index among RCEP members (Madiyah and Widyastutik, 2020).

Food security in Singapore is the highest in the world, although 90% of the food consumed there is filled with imports. Singapore is the world's logistics hub and has the highest food security index in the world after the United States. Singapore is a country that relies on the concept of commercial intermediaries, buying raw products and processing them for re-export.

### **Thailand**

The IIT value of agricultural products exported to Thailand was 7.69 in 1995 (Widarjono, 2009). The IIT's average score over the last 10 years from 2010 to 2019 was 7.12 not much different from the IIT score in 1995. Thailand is currently focusing on increasing the value added of natural resources for agricultural and fisheries exports. (Amir et al., 2021). A total of 96 agricultural products are integrated with Indonesia. Seeds, fruits and spores from Indonesia (HS 1209) are a highly integrated agricultural product with Thailand.

## Vietnam

Vietnam is ranked fourth in ASEAN after Thailand in terms of IIT results. IIT Thailand with Indonesia is 5.95 and the amount of goods integrated into Indonesia is 96 out of 196 agricultural products. Since 2016, the value of Thai IIT has continued to rise every year, possibly because Vietnam is drawing up a political master plan that is expected to approve its trade relations with other countries. One promotes high-value products and reduces the export of raw materials (Amir et al., 2020).

Hermawan (2017) stated that the export and competitiveness of Indonesian agriculture increased every year, but Ningsih and Kurniawan (2016) found results when Indonesia was not optimally exploiting the regional market.

## China

The IIT value of Indonesian agricultural products with China shows the trend over the last 10 years to rise. The ongoing IIT trend is reasonable with the highest IIT score in 2019 of 12.08 and the last 10-year IIT average of 9.38. The value of the IIT of agriculture tends to increase compared to the reverse of the industrial sector whose IIT index has experienced a decline, Astriana (2015) and (Mayadewi dan Purwanti, 2020). The most closely related products between Indonesia and China are cereal and fruit plants, which are mainly used in the production of perfumes and medicines. (HS 1211). The IIT trend has increased to the highest IIT score in 2019 of 12.08 and the average IIT scoring in the last 10 years of 9.38. HS 01 to 05 are animal goods and animal products with high IIT values except HS 02. The findings were supported by Alhayat (2012) who found that one of the three strong intra-industrial trade between Indonesia and China was animal and animal products.

## Jepang

In Japan, IIT ranges from 8.88 to 11.72. The average IIT score is 10.24 and the 2019 IIT rating is 9.88. Food preparation nes (HS 2106) is the Indonesian agricultural product with the highest IIT score in Japan. Based on the ITPC report (2018), it notes that in the HS group 210690, edible dairy fat and sugar are the foods most imported from Japan from Indonesia in the last five years. The share of these two substances is 11.2% 11.1%. Satriana et al. (2019) also supports coffee (HS 9001) as a major export commodity to Japan..

## Korea Selatan

The average IIT score between Indonesia and South Korea is 7.46 and IIT in 2019 is 6.30. Products containing the main ingredients of coffee and tea (HS 2101) such as extracts, essences and

concentrates are Indonesian agricultural products with the highest IIT in South Korea. South Korea focuses on developing renewable energy to eliminate its dependence on imports of migas, one of its partners is Indonesia, and migas products are one of the main items of trade between Indonesia and South Korea. Therefore, a system was formed to increase agricultural exports to South Korea in exchange for oil and gas products. (Ayu dan Wibisono, 2017).

## Australia

The average IIT score is 8.82 and IIT 2019 7.43. Cereals (except wheat and meslin) are agricultural products with the highest IIT value in trade between Indonesia and Australia. Australia is Indonesia's ninth largest trading partner, despite a trade deficit with Indonesia. (Andriani dan Andre, 2017). There are indications that trade between Indonesia and Australia is interdependent (Susanto, 2019), which is consistent with the outcome of the IIT score agreement between Australia and Indonesia, where some goods have high IIT indices.

Trade cooperation between Indonesia and Australia is beneficial for agricultural products such as live beef and red meat, cotton and wheat. In contrast, for Australia, Indonesia is Indonesia's second largest grain export market and Australia's largest livestock, meat, and cotton market. (DPR RI, 2017).

## Selandia Baru

IIT scores tend to rise to an IIT index average of 2.79 and IIT 2019 is 3.48. The intra-industrial index of Indonesian agricultural products in New Zealand is not too high, indicated by the highest IIT score that is only on the boundary of moderate integration. Moluska suitable for human consumption, inside or outside the shell, alive, fresh, cold, frozen, dried, salty or in salty water (HS 0307) is an Indonesian agricultural product with the highest IIT in New Zealand.

Trade history between New Zealand and Indonesia peaked before 2010 (Nuryanti, 2010), but after 2010, Indonesian exports to New Zealand began to decline (Hikmah et al., 2018) and (Sari, 2018). New Zealand is not Indonesia's main export market, but several cooperation projects have been discussed in the agricultural sector. (Fajri dan Rani, 2016).

Based on the IIT rating of the top ten commodities of RCEP Indonesia from 2010 to 2019, the commodity with the highest IIT value is flour. (HS 19). This shows that the trade relationship of Indonesian milk processed products with RCEP is bilateral or two-way trade. In order for this relationship to continue, Indonesia must maintain the quality and quality of these products. This shows that the trade relationship between Indonesia



and the world related to products is bilateral. Indonesia must maintain the quality and quality of the outstanding products so that this relationship can continue. Other superior commodities of IIT 10 are processed food (HS 21), processed vegetables, fruits, nuts and plant parts (HS 20), grains and fruit oils (HS 12), sugars (HS 17), obtained from fish or crustaceans, processed meats, from molluska (HS 16), rubber, resins and other plant extracts (HS 13), residues and waste from the food industry; processed products (HS 23), fruits and nuts (HS 08), products processed from starches, inulin, gluten and wheat (HS 11). This indicates that the goods have bilateral trade relations with the world.

Overall, Indonesia's agricultural trade and RCEP are actually still very weak at a figure of 19.74, indicating that the Indonesian dream of entering the global supply chain is still far away.

The still low IIT score may be due to people and governments who are still concerned about import activities. However, if Indonesia wants to enter the global value chain, imports should not be avoided. The still traditional Indonesian business structure still believes that all goods should be produced on their own, which shows that Indonesia's dream of becoming a global player is still far away, because at present one of the business parameters of the developed country can be seen, for example, from its trading practices. Trade between Indonesia and RCEP is still one direction, especially on agricultural products that are only exported from Indonesia, as well as, on the contrary, Indonesia only imports other products. Most goods with low IIT in Indonesia consist of six of the 24 agricultural products, namely meat and bread (HS 02), animal products (HS 05), plant feed materials (HS 14), animal fats. (HS 15). Coke (HS 18) and alcoholic products (HS 22).

Although Indonesia's IIT is still relatively low, several countries help Indonesia to boost intra-industrial trade in Indonesia. Malaysia is one of the evidence that intra-industrial trade is real. Malaysia is a member of the RCEP with the geographical and demographic conditions that are most similar to Indonesia, but Malaysia is also a RCEP member with the highest IIT score. This high Indonesia-Malaysia IIT value shows that Indonesia and Malaysia depend on each other for their trade. Unlike Singapore, whose economy is heavily influenced by international trade, Singapore has the highest level of food security in the world, is the

world's logistics hub, and ranks second in terms of food safety, although 90 percent of its share is imported. Singapore has the highest dependence of agricultural products on Indonesia, this is due to Singapore's dependence on the concept of trade intermediary buying raw materials from Indonesia and processing them for re-export.

Thailand ranked 3rd in ASEAN and 4th in RCEP for IIT score with Indonesia behind 5 ASEAN countries (Jepang, Cina, Korea Selatan, Australia dan Selandia Baru). These countries can be a priority for Indonesia to increase trade in agricultural products between industries, as they have a long history of interindustrial trade and the amount of integrated agricultural product.

By looking at the countries that can be prioritized for intra-sector trade, then we can determine which goods will benefit from trade between Indonesia and RCEP. This is because Indonesia does not need to export all Indonesian agricultural products or import goods that can not provide economic benefits for Indonesia. Based on the results of IIT calculations for each country above, it can be seen whether specific agricultural products are associated with each country.

Indonesian agricultural products that are potentially traded intra-industrially with RCEP based on high IIT values are live animals (HS 01) that are interdependent with Malaysia. Fish (HS 03) are interdependent with New Zealand only. Hewani products (HS 04) Indonesia are interdependent with Malaysia, Thailand and Japan. Trees (HS 06) are interdependent only with China, vegetables (HS 07) with Malaysia and fruits (HS 08) with South Korea. Coffee (HS 09) Indonesia is integrated with Vietnam and China. Cereal (HS 10) only with Singapore. Industrial products obtained from the milling of starch, gluten and wheat (HS 11) in Indonesia are integrated with South Korea and Japan. Seed and fruit oil (HS 12) has a high dependence on Thailand, Japan and Australia. Plant latex (HS 13) is closely integrated with the Philippines, Singapore, and of South Korea. Processed fish meat (HS 16), sugar (HS 17), processed flour (HS 19), treated vegetables (HS 20), food processed varieties (HS 21) and food industry waste (HS 23) are agricultural related products in more than three RCEP countries.

## CONCLUSION

The RCEP member countries are Indonesia's potential trading partners, but the Indonesia-RCEP average IIT score is 19.74, which is still low integration. The low IIT score may be because the Indonesian government and society are still concerned about imports. Even if you want to enter the global supply chain / global value chain, imports are not immediately avoided, as long as such imports can be part of the production process. The still traditional Indonesian trade structure still believes that all goods must be produced on their own, indicating that Indonesia's dream of becoming a global player is still far away. Indonesia's intra-agricultural industry trade with RCEP members increased during 2010-2019, although IIT remained low.

For many agricultural products exported by Indonesia, intra-industrial trade links tend to increase, especially with Malaysia. The most interactive products in the industry are in Singapore, Thailand, China, Japan, Korea, and Australia. The benefit of the trade cooperation should be the optimization of Indonesia's trade collaboration and the economy as a whole. This shows that the connection of RCEP Indonesia's trade with the agricultural products of these countries is a two-way trade. This two-way trade will provide benefits for both sides to maintain Indonesia's export continuity, as this trade interdependence will maintain trade balance despite future trade shocks. Although Indonesia and Brunei Darussalam, Cambodia, Laos, Myanmar, the Philippines, Vietnam, and New Zealand are among the lowest, the three countries have begun to show an increase in IIT value over the past five years, with more intensive promotion expected to improve intra-industry trade in agricultural products.

Commodities with the highest index in industry among Indonesia and ranked 1 to 3 members of RCEP are HS 19 (processing based on cereals, flour or milk; dried cake products), HS 21 (other edible products); HS 20 (sayuran olahan, buah atau bagian tanaman lainnya). Products with the lowest index in the industry are (Meat and Meat Offal). On the other hand, the goods with the lowest value in the industry are HS 14. (anyaman nabati).

Based on the results of the calculation of intra-industry trade, the author suggests that the government not only think about how to meet

domestic needs for certain goods, but also should focus on the consequences that will be caused, especially the government burden on the trade balance sheet, because the excessive composition of imports can cause low IIT, it is also expected that Indonesia improve the level of trade integration of Indonesia and the RCEP member countries through hilirisasi or carrying out processing activities on agricultural products from Indonesia. Exporting processed goods, not only commodities in the form of raw materials, can add value to Indonesia's commodity. The government can provide facilities or incentives for entrepreneurs to establish agricultural processing industries by providing tax relief within a certain period of time. The policy one needs to do is to focus on Indonesia's trade patterns with its trading partners, byining potential commodities with Indonesian trading partners.

Through this article, the author also wants to convey a picture of Indonesia's readiness in the face of intra-industrial trade, because until now Indonesia still sees poor import activities, where imports are considered to threaten the economic stability of Indonesia. While it could be import activities on certain products can increase economic of scale and products that are differentiated for Indonesia.

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