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Determine Competitiveness of Indonesian Export Commodities using Revealed Comparative Analysis

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ABSTRACT

This article aims to analyze the level of competitiveness of Indonesian products in world trade. The analytical tool used is the static revealed comparative advantage (SRCA), and dynamic revealed comparative advantage (DRCA). The data used from the International Trade Centre are classified according to the Harmonized System (HS) from 2013 to 2019. The result is that by using SRCA, Indonesia has competitiveness for products: tin and articles group only contribute to the export value of 0.95% of Indonesia's total exports. The most significant share of exports is the group of mineral fuels, mineral oils, and products of their distillation; bituminous substances; minerals, group of goods Animal or vegetable fats and oils and their cleavage products; prepared edible fats; animal by 13.60%. In the DRCA, the most significant export value is 10 groups included in the rising star category: natural rubber and its derivatives, cars and other motorized vehicles, fatty acids and their derivatives for industry, lignite, lead not forged, ferroalloys, wire, cable, and the like, refined copper, petroleum and mineral, and margarine and its derivatives. This indicates these products had positive growth, but growth in Indonesia was higher than the growth of similar products in the world.

Keywords: competitiveness, Static RCA, Dynamic RCA, specialization, commodities.

Introduction

The government encourages Indonesia's non-oil and gas exports, as oil and gas exports have declined since the 1990s. Primary products such as logging, manufacturing, and some low-technology processed products also dominate the critical commodity products. This results in the commodity getting poor added value. The low value-added is inseparable from the exchange rate between agricultural and non-agricultural products. Agricultural products tend to have low added value, while non-agricultural products have a higher exchange value and change rapidly from time to time. Product inequality between sectors and regions makes this competitiveness problem more complex (Rodríguez-Pose, 2012).

The last few decades have seen dramatic shifts in the patterns of competitiveness and industrial specialization in the global economy (Deng, 2017). In the past decade, the principle of competition has been extensively debated in economic studies and economic policy study, but there is lack consensus on its interpretation real world (Benalywa et al., 2019). The system dynamics approach is expected to solve complex problems that many agroindustries face from the upstream to downstream levels (Sumadi et al., 2020). The variation of concepts derives from the complexity of policy experts' expectations, viewpoints, and goals (Rahardjo et al., 2020). Competitiveness can be looked at three levels: regional or macroeconomic, manufacturing, and firm or microeconomic. Competitiveness often considers the geographical areas of the inquiry, comparing businesses or commerce within an area within a different world or nations (Daulika et al., 2020). Trade liberalization

provides export growth incentives and brings a more productive climate in international, regional, and domestic markets (Widodo, 2009).

The definition of comparative advantage applies to a regional competition. The comparative advantage hypothesis notes that trade fluxes occur because of relative cost disparities between trading partners (Benalywa et al., 2019). Another issue is the strategic attitude to price competitiveness, which is just one way to prevent optimal competitiveness (Cinquetti, 2018). The foreign economic factor reverts to a sustainable price: labor cost absorbs all marginal revenues in every domestic factor sector. Accordingly, quality pricing is related exclusively to cost selection by foreign exporters (Khaliqi et al., 2020). If a nation has a strategic edge in producing and selling these commodity categories, profitability is vital in global markets. (Erkan & Author, 2019). The field of inquiry is characterized by a diversity of conceptual, methodological, and empirical approaches that inhibit the creation of clear conclusions about the export performance determinants (Granabetter Doris, 2016).

Product competitiveness, especially in the international market, Indonesia needs to increase the competitiveness of products that can compete in the international market. Such competitiveness can be generated from the ability of human resources and the use of production technology, and effectiveness in the logistics system.

This study aims to determine Indonesian products that are competitive in international trade using the revealed comparative advantage (SRCA) and dynamic revealed comparative advantage (DRCA) approaches. RCA analysis is one tool that can accurately describe product competitiveness in the international market (Journal, 2015). So far, the competitiveness used is only one of the two approaches, so sometimes, the results are different (Science, 2020).

However, the manufacture of general items that call for low-cost labor mostly take place in low-wage countries, including China, Indonesia, India, and Vietnam, and Korea still lags behind advanced nations, such as Italy, Germany, and Japan in terms of high value-added and high-end products (Son, 2014).

To see trade flows and patterns, and index measure can be used, namely the Trade Intensity Index (TII). This index describes the bilateral trade between the two countries concerning the total international trade in the world. In addition, TII can also be used to see the intensity of trading, namely in Intra trade or extra trade. This index is used to measure whether the trade value between the two countries is more excellent (or smaller) than expected, based on their importance to world trade. An index value more excellent than 1 indicates intense trade between the exporting country and the partner country compared to their trade with the rest of the world (Constantinescu & Panagoret, 2017).

The definition of competitiveness is complex compared to the various meanings often used to describe specific circumstances. Competitiveness, in general, is the capacity to manufacture goods and services that satisfy foreign market criteria and offer increased and long-term quality of life for people (Bernardini Papalia et al., 2015). Competitiveness also applies to the willingness of companies/industries/regions/countries to achieve sustained sales and relatively stable job rates while staying accessible to external competition (Fundeanu & Badele, 2014).

In today's world, the essential concept affecting the global development ranking of countries is undoubted "competitiveness"(Erkan & Author, 2019). The product-level comparative advantage of aggregated trade flowed in a general theoretical framework and developed an approach for estimating trade costs using pooled product-level trade data (French, 2017) (Shahzad, 2015). While the macro-economic variables such as inflation, unemployment, interest rate, tax rate, economic growth rate are important, they are not effective enough to enable countries to compete at the global level in today's world (Łapińska et al., 2020). However, today's competitive power is not a condition to export more products in global markets. In this perspective, the factor density of the exported product is crucial in achieving competitiveness(Ćorović et al., 2020).

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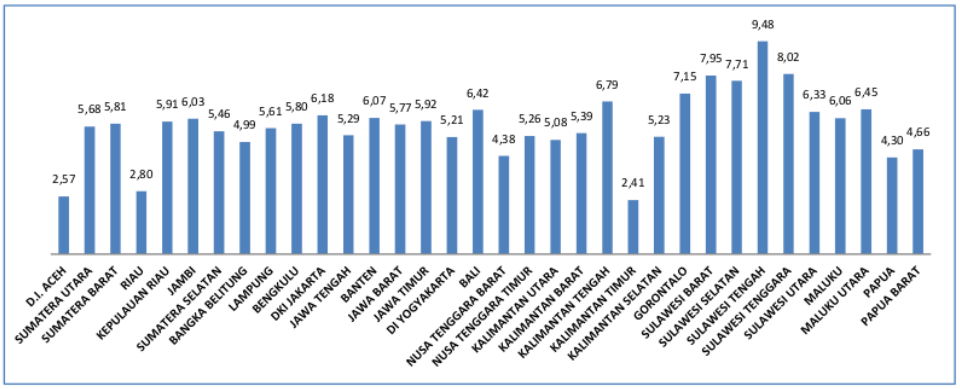
Such statistics tend to be more important for emerging countries because of the recent industrialization trends and increased trade from South to South, which accounted for approximately 40 percent of overall global trade with manufacturers (Esquivias, 2013). A key concern regarding country-specific specialization and the complex changes in comparative advantage trends arise with the convergence cycle on the world market (Widodo, 2009). Increased transparency resulted in a more extraordinary rise in import growth over exports and a steady improvement in trade deficits (Kazuo & Abstract, 2012).

Overall, Indonesia's competitiveness index in 2017/2018 reached 4.68. This figure is higher than 2016/2017, which amounted to 4.51. The decline in the value of the competitiveness index occurred during 2014-2016. Indonesia's competitiveness ranking from 2016 to 2017 showed an increase from rank 41 to rank 36. In the same year, India declined from rank 39 to rank 40 and Singapore from rank 2 to rank 3.

During the period 2010-2019, the national economy grew by an average of 5.39% per year. This growth rate is considered high if we look at the dynamics of the regional and global economies, which show a tendency to stagnate. By using the 2010-2019 constant price GRDP data, during that period, Central Sulawesi Province showed the highest average economic growth of 9.48% per year, while East Kalimantan Province was the province with the lowest average economic growth, which was only 2 41% per year. Using geometric averages, all provinces' average economic growth reaches 5.50%. From the picture below, it can be seen that the economic growth between provinces has relatively high variations.



Picture 1.
Comparison of Average Economic Growth 2010-2019 Inter-Provinces in Indonesia
Source: Central Bureau of Statistics, compiled

From the review of the sectoral competitiveness of the economy using LQ, it will be seen the comparison of sectoral competitiveness from one province to another. The LQ value of the agriculture, forestry, and fisheries sectors in almost all provinces has an LQ value> 1. Out of 34 provinces, only 9 provinces have LQ scores below one. West Sulawesi is the province with the most considerable LQ value for this sector, namely 3.0799. This implies that the agricultural, forestry, and fisheries sectors in West Sulawesi have an output far better than the average output of all provinces. The LQ value above

1 also indicates that the agriculture, forestry, and fisheries sectors in West Sulawesi have great potential to be exported outside West Sulawesi.

Judging from the value of Indonesia's Global Value Chanin (VGC), in 2019, Indonesia's participation in the global chain was still low, namely at 43.5, below the average aggregate participation of developing countries which was 48.5. Malaysia is a country that has a very high, with an index reaching 60.8. Likewise, with Thailand (54.3) and China (47.7). This participation index indicates a country's involvement in the production of a good, which involves many countries during production. The value chain includes design & development, the input of raw materials and other factors, selection and assembly, physical transformation and processing, acquisition of required services such as transportation and financing, response to consumer demand. Indonesia's participation in the Global Value Chain is mainly contributed by the mining industry, wholesale and retail trade, and agriculture. The three major countries that take advantage of the input of goods from Indonesia are China, South Korea, and Malaysia. Indonesia is still producing intermediate goods, rebought after becoming finished goods.

This analysis aims to examine the extent of foreign trade competition in Indonesian goods. The empirical method used is the static exposed comparative advantage (SRCA), and dynamic revealed comparative advantage (DRCA).

The low level of Indonesia's participation in the VGC is because Indonesia is still dependent on exports of agricultural and mining products, which do not provide significant added value for Indonesia.

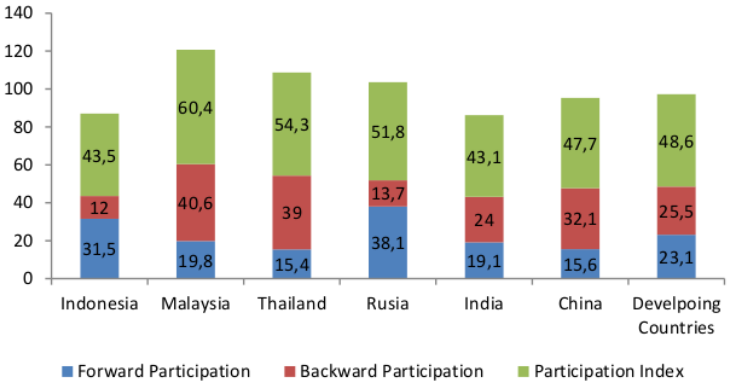


Figure 2.
Indonesia's VGC Value compared to Several Countries
Source: World Bank, 2019

However, the manufacture of general items that call for low-cost labor mostly take place in low-wage countries, including China, Indonesia, India, and Vietnam, and Korea still lags behind advanced nations, such as Italy, Germany, and Japan in terms of high value-added and high-end products (Son, 2014).

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The definition of competitiveness is complex compared to the various meanings often used to describe specific circumstances. Competitiveness, in general, is the capacity to manufacture goods and services that satisfy foreign market criteria and offer increased and long-term quality of life for people (Bernardini Papalia et al., 2015). Competitiveness also applies to the willingness of companies/industries/regions/countries to achieve sustained sales and relatively stable job rates while staying accessible to external competition (Fundeanu & Badele, 2014).

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Research Method

This study uses secondary data obtained from the World Trade Organization (2019) and the International Trade Center (2019). The data series used are trade data for Indonesian products traded with trading partners from 2013 to 2019. The data is then processed using static and dynamic Revealed Comparative Advantage.

Some studies done by researchers and policymakers to highlight the determinants of export competitiveness used the RCA Balassa index to calculate comparative advantage (Irsahd & Xin, 2017). Revealed comparative advantage (RCA) indices use the trade trend to classify those industries in which an economy has a competitive advantage by contrasting the trading profile of the country of interest with the world average (Hossain et al., 2017). This paper looks at the profitability of exports using the Balassa index (Balasa, 1958). The Balassa index is based on the work of Balassa (Balasa, 1958), who developed Liesner 's principle (1958); the index measures comparative export advantages based on the Ricardian exchange theory, using the following equation (Falkowski, 2017):

$$RCAij = \left(\frac{Xij}{Xit}\right) / \left(\frac{Xnj}{Xnt}\right)$$

X reflects the export flows from a given country j, of a given sector or commodity I while t is a product group and n is a country group. A recorded export comparative advantage (or disadvantage) index is calculated by comparing the export share of total exports globally with the export share of a comparable category of total exports in the countries(Łapińska et al., 2020). The RCA index is relatively easy to understand (OBADI, 2016). If the index value is greater than 1, the country has a disclosed competitive advantage, i.e., the nation is fairly skilled in producing and selling the commodity in question. The nation has a comparative disadvantage when the value is $0 < RCA < 1$ (Oelgemöller, 2013). Established competition exchange metrics such as the reported Comparative Advantage Index (RCA) and the published Competition Index (RC) to measure the international competitiveness of the industries evaluated (Figiel & Kufel, 2013).

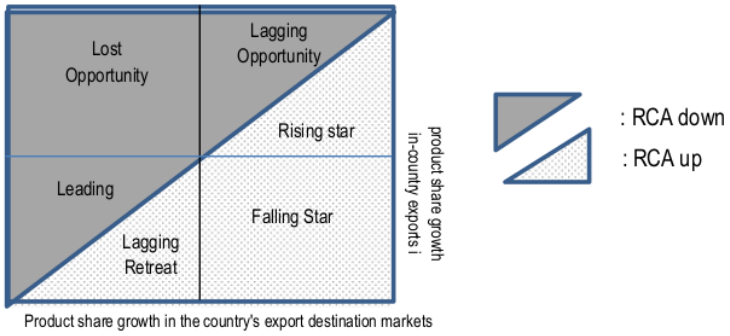
Dynamic analysis of RCA changes by separating the factors causing its growth is Dynamic Revealed Comparative Advantage. (DRCA) (Hossain et al., 2017). The advantages of DRCA are (1) identifying product advantages over time, (2) DRCA explains the position of products in export destination markets by categorizing each product based on its position in the destination market. Therefore, the DRCA can better explain changes in competitiveness than RCA in general, especially to identify what products are experiencing an increase or loss of market share. DRCA provides policy recommendations regarding products by export market conditions. As previously mentioned, a product that experiences an increase in RCA value is not necessarily categorized as a product with good export performance and vice versa. These have in typical a balanced relationship in which bilateral trade in a particular industry and year can be decomposed into an export-fixed effect industry which

measures the export potential of the exporting country in the industry; a fixed importer-industry effect is capturing the effective demand of the importing country for foreign goods in an industry; and an exporter-importer portion, which accounts for bilateral trade frictions (Hanson, Lind, & Muendler, 2015).

$$DRCA_j = \frac{\Delta RCA_j}{RCA_j} = \frac{\Delta\left(\frac{X_{i,j}}{\sum_j X_{i,j}}\right)}{\frac{X_{i,j}}{\sum_j X_{i,j}}} - \frac{\Delta\left(\frac{X_{m,j}}{\sum_j X_{m,j}}\right)}{\frac{X_{m,j}}{\sum_j X_{m,j}}}$$

Xi, j = export of commodity j from the country I to destination market (region or world), Xm, j = export of commodity j from region or world to destination market. Suppose the RCA value increases due to an increase in the export share of the country of origin, which is simultaneous for the proportion of export Country of destination with a higher export share of the country of origin than the company is considered to be a rising star. Conversely, if the share of export countries rises lower than the increase in the share of destination countries, the RCA value will decrease, and the product is said to be a lagging opportunity or unable to take advantage of the increase in market size (Siggel, 2006). A product with an increased RCA value can be a falling star if the increase in RCA is caused by a decrease in the share of export destinations, which means the market size for the product is getting smaller and smaller.

Figure 2: the position of export competitiveness in DRCA



Result and Discussion

Base on statistical calculation using RCA calculations from HS2, from 99 groups of Indonesian goods having 30 groups of goods with an RCA value above 1. The first rank is the group of Tin and articles thereof with HS79 code which had the highest RCA value during 2013 - 2017. The high value indicates that Indonesian exports to the world of these goods have very high competitiveness. Indonesia can dominate or hold an essential role of these products in the world market for goods of the same type. The competitiveness of these goods in 2017 increased slightly compared to 2013, from 27.52 to 28.14.

During 2013-2019, of the 30 groups of goods, 9 types of goods showed a decrease in competitiveness even though the decline was minimal. The most significant decrease occurred in the group of ores, slag, and ash with HS26 code that was equal to -1.12. Meanwhile, the most considerable increase in competitiveness occurred for the group of vegetable plaiting materials; vegetable products not elsewhere specified or included which showed an increase in competitiveness of 11.02 and then in second place were animal or vegetable fats and oils and their cleavage products; prepared edible fats with an increase of 3.95.

Table 1. Exported Goods Group with RCA> 1.

No	PRODUCT LABEL	2013	2019	+/-
1	Tin and articles thereof	27.52	28.14	0.62
2	Animal or vegetable fats and oils and their cleavage products; prepared edible fats; animal	20.14	24.10	3.95
3	Musical instruments; parts and accessories of such articles	8.49	9.11	0.62
4	Vegetable plaiting materials; vegetable products not elsewhere specified or included	4.64	15.67	11.02
5	Man-made staple fibers	5.87	5.94	0.07
6	Prepared feathers and down and articles made of feathers or down; artificial flowers; articles	3.98	5.63	1.65
7	The pulp of wood or other fibrous cellulosic material; recovered (waste and scrap) paper	4.13	5.27	1.14
8	Coffee, tea, maté, and spices	4.48	3.93	-0.55
9	Rubber and articles thereof	4.69	4.36	-0.32
10	Footwear, gaiters, and the like; parts of such articles	3.10	3.56	0.45
11	Nickel and articles thereof	3.36	3.33	-0.02
12	Manufactures of straw, of esparto, or other plaiting materials; basketware and wickerwork	3.40	3.21	-0.18
13	Wood and articles of wood; wood charcoal	2.89	3.05	0.16
14	Fish and crustaceans, mollusks, and other aquatic invertebrates	2.82	2.85	0.03
15	Cocoa and cocoa preparations	2.72	2.37	-0.35
16	Tobacco and manufactured tobacco substitutes	2.12	2.84	0.71
17	Man-made filaments; strips, and the like of man-made textile materials	2.59	2.11	-0.47
18	Paper and paperboard; articles of paper pulp, paper, or paperboard	2.26	2.44	0.18
19	Preparations of meat, fish or crustaceans, mollusks, or other aquatic invertebrates	2.05	1.99	-0.05
20	Miscellaneous chemical products	2.14	2.14	0.00
21	Mineral fuels, mineral oils, and products of their distillation; bituminous substances; mineral	1.80	1.96	0.15
22	Articles of apparel and clothing accessories, not knitted or crocheted	1.94	1.89	-0.05
23	Ores, slag, and ash	2.74	1.51	-1.22
24	Soap, organic surface-active agents, washing preparations, lubricating preparations, artificial	1.87	1.88	0.00
25	Articles of apparel and clothing accessories, knitted or crocheted	1.56	1.72	0.15
26	Cotton	1.19	1.51	0.32
27	Miscellaneous edible preparations	1.09	1.54	0.45
28	Copper and articles thereof	1.08	1.46	0.37
29	Preparations of cereals, flour, starch, or milk; pastrycooks' products	1.03	1.43	0.40
30	Lac; gums, resins, and other vegetable saps and extracts	0.96	1.38	0.41

Source: International Trade Center, UN, proceed.

Based on these static RCA measurements, many Indonesian products have high competitiveness in the international market. However, the use of high technology in export-oriented goods is still low. The tin and articles group thereof in 2018 turned out to only contribute to the export value of 0.95% of Indonesia's total exports. The most significant share of exports is the group of mineral

fuels, mineral oils, and products of their distillation; bituminous substances; minerals, namely 21.84%, followed by the group of goods Animal or vegetable fats and oils and their cleavage products; prepared edible fats; animal by 13.60%. Both of these goods have an RCA value of more than 1. Goods with a reasonably large export share but having an RCA below 1 include the group of electrical machinery and equipment and parts and goods there; sound recorders and reproducers, television at 5.01% but the RCA value was only 0.34 in 2017. This indicates that electrical machinery products are pretty vulnerable to competition in the international market.

Table 2. Commodity Plotting Based on Competitiveness Group.

Year	Rising Star	Falling Star	Lagging Retreat	Lost Opportunity	Leading Retreat	Lagging Opportunity
2014	02, 03, 05, 06, 07, 08, 14, 19, 20, 21, 22, 23, 24, 30, 32, 33, 38, 39, 44, 45, 46, 48, 53, 54, 55, 56, 58, 59, 64, 66, 69, 72, 73, 75, 78, 81, 83, 84, 87, 90, 92,96, 99	10 , 12, 13, 15, 16, 17, 28, 29, 37, 50, 52, 70, 71, 74, 93		01, 04, 09, 11, 25, 34, 36, 41, 42, 47, 49, 76, 80, 82, 85, 86, 88, 91, 95, 97	26, 27, 31, 40, 43, 51, 89	18, 35, 57, 60, 61, 62, 63, 65, 67, 68, 79, 94
2015	07, 08, 09, 14, 15, 18, 19, 20, 21, 22, 24, 25, 28, 30, 32, 33, 35, 42, 43, 44, 46, 47, 48, 52, 53, 55, 56, 57, 58, 59, 60, 61, 62, 64, 65, 67, 68, 70, 71, 73, 78, 79, 81, 82, 86, 87, 88, 92, 96, 99	02, 05, 06, 10, 13, 26, 49, 72	27, 36, 41, 80	11, 12, 16, 31, 37, 38, 39, 45, 51, 76, 83, 89, 90, 91, 93, 97	4, 17, 23, 29, 40, 50, 74, 75	03, 34, 54, 63, 66, 84, 85, 94, 95
2016	03, 12, 14, 16, 19, 21, 22, 26, 32, 33, 34, 35, 37, 38, 39, 45, 56, 57, 59, 61, 63, 64, 65, 71, 79, 84, 87, 90, 96, 99	04, 05, 23, 25, 28, 29, 31, 42, 43, 51, 67, 69, 72, 74, 86, 89, 91, 97	41, 52, 66, 75	02, 06, 07, 08, 09, 11, 18, 20, 40, 47, 48, 60, 68, 70, 78, 82, 83, 85, 88, 94, 95	10, 27, 36, 46, 49, 50, 53, 54, 55, 58, 73, 76, 80, 81, 93	01, 13, 15, 17, 24, 30, 44, 62, 92
2017	04, 15, 28, 40, 47, 72, 74, 76, 78, 79, 80	08, 11, 14, 19, 20, 25, 29, 38, 42, 45, 50, 91, 93, 97	01, 07, 13, 23, 34, 48, 61, 68, 87	24, 26, 33, 43, 67, 85, 86, 95	02, 03, 06, 09, 10, 12, 16, 17, 18, 21, 22, 30, 31, 32, 35, 36, 37, 39, 41, 44, 46, 49, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 62, 63, 64, 65, 66, 69, 70, 71, 73, 75, 82, 83, 84, 88, 89, 90, 92, 94, 96, 99	05, 27, 81
2018	13, 21, 23, 25, 28, 31, 33, 38, 39, 44, 46, 53, 72, 73, 76, 81	10, 12, 14, 16, 17, 18, 22, 26, 35, 36, 37, 42, 48, 49, 50, 59, 61, 62, 65, 66, 70, 79, 82, 87, 88, 93, 95, 96, 99	01, 04, 07, 19, 24, 41, 55, 60, 71, 80, 91, 92	05, 29, 30, 45, 67, 69, 74, 84, 97	02, 03, 06, 08, 09, 11, 15, 20, 32, 34, 40, 43, 51, 52, 54, 55, 57, 58, 63, 64, 68, 78, 83, 85, 86, 89, 90, 94	27, 47, 75
2019	08, 10, 11, 12, 13, 15, 16, 19, 21, 22, 23, 28, 30, 33, 34, 38, 40, 64, 67, 71, 72, 74, 75, 78, 79, 80, 81	14, 17, 24, 32, 35, 47, 53, 56, 87, 88, 89, 91, 99	48, 50, 55, 57, 92	18, 20, 26, 27, 31, 39, 42, 63, 65, 68, 73, 83, 85, 86, 90, 93, 94	01, 02, 03, 04, 06, 07, 25, 29, 36, 37, 41, 43, 44, 45, 46, 49, 51, 52, 54, 58, 59, 60, 61, 62, 66, 69, 70, 76, 82, 84, 95, 97	05, 09, 96

Source: International Trade Center, UN, proceed.

In the Dynamic RCA calculation using more detailed HS4 standards, from 30 commodity groups that have the most significant export value, there are 10 groups included in the rising star category, namely HS 4001 (natural rubber and its derivatives), HS 8703 (cars and other motorized vehicles), HS 3823 (fatty acids and their derivatives for the industry), HS 2702 (lignite), HS 8001 (lead not forged), HS 7202 (ferroalloys), HS 8544 (wire, cable, and the like), HS 7403 (refined copper), HS 2710 (petroleum oil and mineral oil), and HS 1517 (margarine and its derivatives). This indicates that during 2015-2019 these products had positive growth both in Indonesia and in the world, but growth in Indonesia was higher than the growth of similar products in the world. Such goods have improved the share of world exports over 2015-2019.

Also, there are products in the falling star category, such as HS 4703, HS 4802, and HS 7108. This indicates that although Indonesia's export growth in 2015-2017 has increased, world growth on these products has decreased. For the lost opportunity category, there are four types of products included in the HS 2709, HS 2603, HS8708, and HS 0901. The lost opportunity category is an indication that Indonesia is unable to respond optimally to the export of these products, whereas in the world, the exports of these products have increased growth caused by both internal and external factors. One factor that needs to be considered is the dependence of these products on certain export destination countries, so aspects of market expansion (market extensification) need to be studied in more depth.

Conclusion

The result is that the majority share of exports by the use of SRCA is: (a) the group of mineral fuels, mineral oils, and distillation products; (b) bituminous substances; stones, category of goods, Animal or vegetable fats and oils and their cleavage products; processed edible fats; livestock. The result is that by using DRCA, there are 10 groups included in the rising star category are natural rubber and its derivatives, cars and other motorized vehicles, fatty acids and their derivatives for industry, lignite, lead not forged, ferroalloys, wire, cable, and the like, refined copper, petroleum oil and mineral oil, margarine and its derivatives. This indicates that during 2015-2019 these products had positive growth both in Indonesia and in the world, but growth in Indonesia was higher than the growth of similar products in the world.

From the results of the SRCA and DRCA calculations, it can be seen that from 2013 to 2019, the competitiveness of Indonesian products in world trade experienced a shift in competitiveness. This shows that Indonesia's competitiveness has not been consistent in the world market due to various aspects, such as commodity price volatility and Indonesia's dependence on imported products. The most important thing is that Indonesian products with such competitiveness are primary products still dependent on natural resources using low technology. This low technology results in low added value, and each is highly dependent on the instability of the product's price on the world market.

From the calculation of product competitiveness in international trade, it is found that competitive products are products of agriculture and processing using medium and low technology. The primary strategy that the government must undertake is to increase the growth in exports of goods and services by utilizing global production chains and expanding export products and markets.

Limitation and Acknowledgement

Limitation

The limitation in this study is that potential destination countries do not follow Indonesia's competitiveness for each calculated product for that product. If a competitive product can find the right destination country, Indonesia will gain an international trade advantage.

The main strategies that must be carried out by the Ministry of Trade of the Republic of Indonesia are increasing export market access through (1) Strengthening market intelligence; (2) accelerated settlement of negotiations; (3) Economic diplomacy for safeguarding, deepening, and expanding export markets; (4) Integrated promotion and trade missions, buying missions, exhibition participation and positive campaigns for Indonesian products; (5) Establishment of Indonesian

international cooperation funding agencies; and (6) Repositioning and strengthening the role/contribution of trade representatives abroad.

Integration in marketing networks and production chains through (1) Increasing independence, competitiveness, and standards of export products; (2) Increased participation in Global Production Network (GPN) and Global Value Chains (VGC); (3) Strengthening export support infrastructure (including logistics); and (4) Increasing the continuity and standardization of products from upstream to downstream; (5) Strengthening of logistics management institutions and increasing the added value of export products, through (1) Diversification of export products, specially manufactured products with medium-high technology; (2) Increasing service exports; and (3) Assistance and facilitation of small and medium industries which have export orientation.

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