

Analysis of West Java Export Leading Product Competitiveness

Mira Nurfitriya

Entrepreneurship Study Program, Universitas Pendidikan Indonesia

Abstract. This study aims to determine the analysis of the competitiveness of export products in West Java for the 2015-2019 period. The analysis used in this research is comparative advantage index analysis using Revealed Symmetric Comparative Advantage (RSCA). By using the comparative advantage index analysis per commodity in West Java, the results show that most of the superior products in West Java have not experienced significant changes, but there will be some products that have decreased competitiveness (comparative). The low competitiveness of superior products in West Java is caused by several things, such as the non-conductive macro economy, weak technology development, weak competitive climate (micro); and the inaccuracy of the business development strategy implemented by business actors and other shareholders. In addition to these things, there are several inhibiting factors in increasing the competitiveness of West Java's leading export products, among others, unsettled production factors, poor institutional factors, and the relationship and utilization of supporting industries that have not been maximized.

Keyword. competitiveness; export; leading product; west java.

Article history. Received January, 2021. Revised March, 2021. Accepted June, 2021

Corresponding Author. miranurfitriya@upi.edu

INTRODUCTION

Trade between countries occurs due to differences in production factors that are owned to be used directly by each country. Over the past few decades, international trade has become one of the main wheels of economic growth in the global economic order. Countries that want to excel in international trade must have four basic things, namely: well-established production factors, good institutions, the existence of supporting industries that can support production, as well as strategic competitive conditions and the structure of the domestic industry (Porter, 1990; Salvatore, 2004).

Export and import are activities that describe international trade activities. The development and economic growth caused by this export expansion is certainly inseparable from economic development in each region, where each region must have different product potentials that contribute some of Indonesia's superior products and of course encourage the country's economy more broadly (Nurfitriya, 2020).

It is important to increase a country's exports from year to year. However, more importantly the increase in exports of goods or products appears as a concept and indicator of the country's development. If most of the export goods increase, then the country's export income will increase, so that it will also increase competitiveness in the global market (Porter, 1990; Gabriele, 2006; Erkan and Sariçoban, 2014).

The concept of competitiveness itself has developed in the history of economic thought. Through different approaches starting from the classical theory of mercantilism which introduced the notion of trade competition between countries, to the theory of absolute advantage of the state, the theory of competitive and comparative advantage, to neoclassical theory (Voinescu dan Moisoiu, 2014). The latest theories that develop the concept of competitiveness to the regional level, where these theories bring classical theories closer to regional applied economics (Porter, 2000; Martin, 2005; Thissen et al., 2013).

The level of competitiveness in international trade according to David Ricardo's theory is basically determined by two factors, namely comparative advantage and competitive advantage. However, there is another fact that even a country that does not have

a comparative advantage can export a product, this is in line with Heckscher Ohlin's theory where the country will export because the country has an endowment factor (ownership of production factors such as capital and labor).) which is relatively large and inexpensive, as well as the intensity factor (labor intensity/capital intensity) (Krugman, 2009; Salvatore, 2004; Changjun, 2001; Widodo, 2007).

International competitiveness has long been a major concern of scientists, policy makers, business people and the general public. Competitiveness itself reflects the ability to "survive" a region or country by remaining competitive in the current global economy. In other words, product competitiveness can also be interpreted as the ability of a product to survive by remaining competitive in the global economy at a better price than other potential products. In most cases, competitiveness explains most of export growth, and rapid export growth increases competitiveness (Ariff dan Hill, 1985; Lawrence (2003).

West Java is one of the provinces that contributes superior products in Indonesia, such as footwear, coffee, tea, batik, and others. The West with the largest creative industry base in Indonesia is currently seen as having a major role in supporting prosperity in the country's economy. Throughout 2018, the Indonesian creative industry was able to make a significant contribution to the national GDP which is projected to reach IDR. 1,000 trillion. There are three sub-sectors that make a significant contribution to the creative economy, namely the culinary industry by 41.69 percent, followed by the fashion industry (18.15 percent), and the handicraft industry (15.70 percent). (Ministry of Industry, 2020).

In previous studies, researchers have mapped the potential of export products in West Java. Based on the analysis of the position of export products in West Java, from the two time points analyzed, 2016 and 2019, there are several products that are considered potential for economic development in West Java, one of which is rubber-based products which are consistently in a position of high export growth. and high market share. In addition, there are also opportunities for some of West Java's superior products such as footwear and coffee and other spices to return to the same position with rubber-based products as in previous years with the support of the right strategy from business actors and local governments (Nurfitriya, 2020). One of the next steps we can take to develop the regional economy through these superior products is to know the competitiveness of each of these superior products, so that each region can focus on developing products according to the potential, position and competitiveness of their respective regional products. The purpose of this study itself is to further analyze the export competitiveness of each of the leading products in West Java, so that the implementation of the strategy will be more targeted and accurate for regional economic development.

METHOD

This study uses a qualitative approach with an exploratory descriptive method. Exploratory research is used to investigate a problem or situation to gain good knowledge and understanding, while descriptive research itself has a clear statement of the problem being studied, certain hypotheses, and detailed information (Malhotra (2007). This study uses secondary data that can be obtained from agencies that provide the necessary data, such as the Central Bureau of Statistics, Bank Indonesia, and related journals and articles. While the object in this research is West Java's leading export products using the 2-digit SITC (Standard International Trade Classification) code as follows:

Table 1. Classification of West Java's Leading Export Products Based on 2-Digit SITC

No.	Product Description Based on SITC 2 Digit
1	Telecommunications Equipment (76)
2	Woven Yarn, Textile Fabrics and Their Results (65)
3	Apparel (84)
4	Electrical Machines, Apparatus and Tools (77)
5	Office Machines and Data Processors (75)
6	Paper, Cardboard and Their Processes (64)
7	Shoes and Other Foot Equipment (85)
8	Other Industrial Products (89)
9	Rubber Goods (62)
10	Organic Chemistry (51)
11	Non-Metal Minerals (66)
12	Furniture (82)
13	Industrial Machinery and Equipment (74)
14	Motorized Vehicles For Highways (78)
15	Plastic Material (57)
16	Wood and Cork Items (63)
17	Iron and Steel (67)
18	Coffee, Tea, Chocolate, Spices (07)
19	Other Metal Items (69)
20	Processed Plastic Materials (58)

Source: Central Bureau of Statistics (2020)

Revealed Comparative Advantage (RCA) and Revealed Symmetric Comparative Advantage (RSCA)

In some literature, there is a technique that can be used to measure the weak and strong sectors of a country. One of the most widely used methods is the concept of "revealed comparative advantage" developed by Balassa (1965).

According to Balassa (1989) revealed comparative advantage (RCA) has been defined as the ratio of a country's exports of a particular commodity to the total exports of merchandise.

$$RCA = (X_{ij}/XW_j) (Xi/XW) \quad (\text{Modification of Bowen, et al., 1998})$$

Note:

X_{ij} : West Java exports for commodities j

XW_j : Indonesian exports for commodities j

X_i : West Java's total exports

XW : Indonesia's total exports

However, because the RCA value turns out to produce an output that cannot be compared on both sides ($RCA > 1$ and $RCA < 1$), there is a modification of the Balassa model, which is called symmetric comparative advantage or RSCA (Revealed Symmetric Comparative Advantage), with values ranging from - 1 to 1 (Dalum *et. al.*, 1998; Laursen, 1998; Widodo, 2009). Here's the formula from RSCA:

$$RSCA_{ij} = (RCA_{ij} - 1)/(RCA_{ij} + 1) \quad (\text{Widodo, 2009})$$

The RSCA value of a commodity shows two possibilities, namely:

- RSCA > 0 (0 to 1), then a region has a comparative advantage over the country average so that the commodity has strong competitiveness.
- RSCA < 0 (-1 to 0), then a region has a comparative advantage below the country average so that a commodity has weak competitiveness.

RESULTS AND DISCUSSION

Export Competitiveness Analysis Using Revealed Symmetric Comparative Advantage (RSCA)

This analysis is used to measure the weak and strong sectors of West Java's leading products. The RSCA value of a commodity shows two possibilities, namely: (1) if the RSCA value is more than zero (0 to 1), then a commodity has a high comparative advantage (high competitiveness); (2) if the RSCA value is less than zero (-1 to 0), then a commodity has a comparative disadvantage (low competitiveness). After the available data is obtained, the data is then processed together with three time points, namely 2015, 2017 and 2019, after being processed, the results are as shown in the image below:

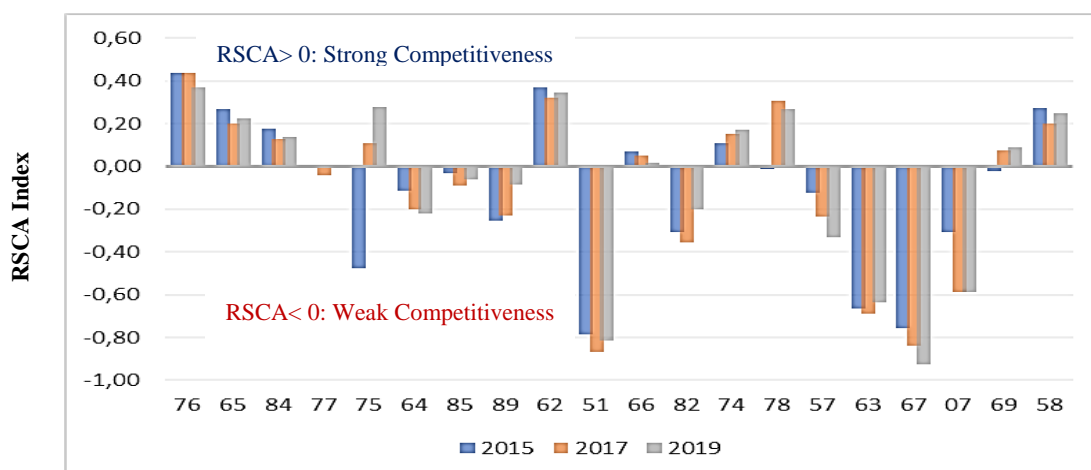


Figure 1. RSCA Leading Products Index of West Java in 2015, 2017 and 2019

Source: Central Bureau of Statistics, processed

In Figure 1 above, it can be seen that for the competitiveness of West Java's superior products in 2015, 2017 and 2019 most of them did not experience significant changes, but in some products that experienced a decrease in competitiveness (comparative advantage), such as Electrical Machines, Apparatus and Tools (77); Paper, Cardboard and Their Processes (64); Organic chemicals (51); Plastic Material (57); Iron and steel (67); and Coffee, tea, cocoa, spices, and manufactures thereof (07); while there are several leading export products from West Java that have increased their competitiveness, including: Office Machines and Data Processors (75); Other Industrial Products (89); Furniture (82); Motorized Vehicles For Highways (78); and Other Metal Items. (69). There have been several changes to the RSCA index for West Java's leading export products in three time points, 2015, 2017 and 2019. The following is presented in Table 2 an analysis of changes in the RSCA ranking using Spearman Rank to make it easier to understand.

Table 2. Spearman Rank Correlations RSCA 2015 and RSCA 2017

			RSCA2015	RSCA2017
Spearman's rho	RSCA2015	Correlation Coefficient	1.000	.885**
		Sig. (2-tailed)	.	.000
		N	20	20
	RSCA2017	Correlation Coefficient	.885**	1.000
		Sig. (2-tailed)	.000	.
		N	20	20
**. Correlation is significant at the 0.01 level (2-tailed).				

Table 3. Spearman Rank Correlations RSCA 2017 and RSCA 2019

			RSCA2017	RSCA2019
Spearman's rho	RSCA2017	Correlation Coefficient	1.000	.968**
		Sig. (2-tailed)	.	.000
		N	20	20
	RSCA2019	Correlation Coefficient	.968**	1.000
		Sig. (2-tailed)	.000	.
		N	20	20
**. Correlation is significant at the 0.01 level (2-tailed).				

Spearman correlation is used to measure the correlation between two variables where both variables are in the form of rank (rank). From Table 2 and Table 3 above, it can be seen that the Spearman coefficient number is 0.885 for 2015 and 2017, and is 0.968 for 2017 and 2019 with a significance value of 0.000. From the magnitude of the coefficient, it can be concluded that there is a fairly strong correlation between changes in the RSCA ranking from the 3 time points analyzed, namely changes in RSCA rankings in 2015 and 2017, and changes in RSCA rankings in 2017 and 2019 in West Java.

The low competitiveness of leading export products in West Java is caused by several things, such as the non-conduciveness of the macro economy due to the crisis or other shocks on macro variables such as exchange rates, interest rates, commodity prices, and so on; weak technology development to increase productivity; weak competitive climate (micro); as well as the inaccuracy of business development strategies implemented by business actors and other stakeholders.

West Java export products basically have huge potential in national and international trade, especially because West Java has many natural resources, both renewable (agricultural products such as cocoa, coffee and crude palm oil), and non-renewable (mining and minerals such as gold, tin, coal, nickel and bauxite). However, based on the results of the competitiveness analysis above, these products are in a weak competitive position saing.

Some of the obstacles that result in the weak competitiveness of these products are as follows (Porter, 1990; Salvatore, 2004; Ministry of Trade, 2020):

1. Unsettled Factors of Production

Factors of production here include labor, capital, use of technology, and entrepreneurship. We can highlight the technology and capital factors, which of these two factors directly affect the productivity of the export product. If a commodity is supported by appropriate technology, its productivity value will increase many times. In addition to technological factors, the obstacle is also the low quality of export products. This is by knowledge of proper production management, which is related to the ability of human resources available in the industry. If the two collaborate well, we can be sure that the competitiveness of these products will increase.

2. Poor institutional factors

This factor is related to the policies and regulations that support product development and the strategies implemented by the government and the management of the business. An example is the ineffectiveness of the policies and strategies that have been carried out at this time, because these policies and strategies have not been well targeted in accordance with the needs of each product. Most of the policies and strategies that have been implemented at this time are still general in nature, not yet specialized according to the needs of each product, which of course will vary. In addition to policies and strategies, the current regulations do not support the development of exports for these products.

3. Lack of Optimal Supporting Industries

Optimizing the interaction between the core industry and supporting industries and other related institutions is very important for the sustainability of a business. In this case, supporting industries such as raw material providers (farmers, miners, etc.), raw material industry, food and beverage industry, equipment and machinery industry, exporters, traders, government agencies, research and development institutions, associations, transportation service industries and financial or banking institutions must be optimized.

If these three obstacles can be repaired and used optimally, then West Java's superior products with weak competitiveness will slowly shift to become highly competitive products. Of course, the producers of these products cannot run alone, support and assistance from various parties are needed to make it happen.

CONCLUSION

The competitiveness of West Java's superior products in 2015, 2017 and 2019 mostly did not experience significant changes, but in some products, competitiveness decreased (comparative advantage). The low competitiveness of leading export products in West Java is caused by several things, such as the non-conduciveness of the macro economy due to the crisis or other shocks on macro variables such as exchange rates, interest rates, commodity prices, and so on; weak technology development to increase productivity; weak competitive climate (micro); as well as the inaccuracy of business development strategies implemented by business actors and other stakeholders. In addition to these things, there are several inhibiting factors in increasing the competitiveness of West Java's leading export products, among others, production factors that are not yet established, institutional factors that are not good, and the existing supporting industries are less than optimal. To realize West Java's leading export products that are highly competitive, of course all these factors must go hand in hand with the same goal. It is hoped that this research can open wider knowledge about the condition of the export competitiveness of superior products in West Java, so that it can be used as a reference in further research, as well as the basis for developing West Java's superior products for stakeholders.

REFERENCES

- Ariff, M., & Hill, H. (1985). *Export- Oriented Industrialisation: The ASEAN Experience*. Sydney: Allen & Unwin.
- Badan Pusat Statistik. (2020). *Major Non-Oil and Gas Export Based on 2 Digit SITC Code in West Java*. Bandung, Indonesia: BPS.

- Balassa, B. (1965). Trade liberalization and revealed comparative advantage. *Manchester School of Economic and Social Studies*, 33(2): 99–123.
- Balassa, B. (1989). “Revealed” comparative advantage in Japan and the United States**. *Journal of Economic Integration*, 4(2): 8–22.
- Bowen, *et al.*, (1998). Applied International Trade Analysis, United States of America: University of Michigan Press.
- Changjun, Y. (2001). Comparative advantage, exchange rate, and exports in China. CERDI-Universite d’Auvergne.
- Dalum, B., Laursen, K., & Villumsen, G. (1998). Structural change in OECD export specialisation patterns: de-specialisation and ‘stickiness’. *International Review of Applied Economics*, 12(3): 423-443.
- Erkan, B., & Sariçoban, K. (2014). Comparative Analysis of the Competitiveness in the Export of Science-Based Goods Regarding Turkey and the EU+13 Countries. *International Journal of Business and Social Science*, 5(8): 117-130.
- Gabriele, A. (2006). Exports of Services, exports of goods, and economic growth in developing countries. *Journal of Economic Integration*, 21(2): 294-317.
- Kementerian Perindustrian Republik Indonesia. (2020). Kemenperin Bakal Telurkan 2000 Pelaku Industri Kreatif Tahun 2020. Siaran Pers: Kementerian Perindustrian Republik Indonesia. [Siaran Pers]. Diakses pada 15 Oktober 2020.
- Krugman, P. R. & Maurice, O. (2009). International Economics: Theory and Policy, 8th Edition, Boston: Pearson Addison Wesley.
- Laursen, K. (1998). Do export and technological specialisation patterns co-evolve in Terms of convergence or divergence?: Evidence from 19 OECD countries, 1971-1991. Department of Industrial Economics and Strategy / DRUID: Copenhagen Business School.
- Lawrence, R. Z. (2003). Competitiveness. The Concise Encyclopedia of Economics: Library of Economics and Liberty. Retrieved from the World Wide Web: <http://www.econlib.org/library/Enc1/Competitiveness.html>.
- Malhotra. (2007). Marketing Research an Applied Orientation. International Edition: Pearson.
- Porter, M. (1990). Analisis perdagangan produk alas kaki Indonesia-China. Harvard Business Review.
- Porter, M. (1990). The competitive advantage of nation. Harvard Business Review.
- Salvatore, D. (2004). International Economics, 8th Edition, New Jersey: John Wiley & Sons, Inc.

- Nurfitriya, M., Koeswandi, T.A.L., Fauziah, A., & Budiman, A. (2020). West Java Leading Product Position: BCG Matrix Analysis. In A. Herwany, E. Febrian, A. Gunardi, & D. R. Indika (Eds.), *Economic and Development* (pp. -). Jakarta: Redwhite.
- Martin, R., (2005). A study on the factors of regional competitiveness. Report for The European Commission, Directorate General Regional Policy, Cambridge: University of Cambridge.
- Thissen, Mark, Oort, Frank, V., Diodato, Dario and Ruijs, A. (2013). *Regional Competitiveness and Smart Specialization in Europe*, Edward Elgar Publishing, MA.
- Voinescu, R., & Moisoiu, C. (2015). Competitiveness, Theoretical and Policy Approaches. Towards a more competitive EU. *Procedia Economics and Finance*, 22: 512 – 521.
- Widodo, T. (2007). *Comparative advantage: Theory, empirical measures and case studies*. Gadjah Mada University: Faculty of Economics and Business.
- Widodo, T. (2009). Dynamic comparative advantage in the ASEAN+3. *Journal of Economic Integration*, 24(3): 505-529.