



Competitiveness Of Indonesian Coffee Commodities In Global Market

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ABSTRACT

The scope of this research includes international trade in coffee commodities using the Harmonized System (HS) code 0901. The method used in this research uses Revealed Comparative Advantage (RCA) and Trade Specialization Index (ISP). RCA method, the four largest coffee exporting countries in Indonesia have an average value of 3.10. These values mean that Indonesia has a strong comparative advantage but is still below Colombia, Brazil, and Vietnam. Based on ISP analysis, the position or stage of development of the Indonesia's coffee trade with a value of 0.88. This indicates that the coffee commodity is at the fourth stage or maturity stage. Indonesian coffee is already at the stage of standardizing the technology used and shows that Indonesia as a coffee exporter in the global market.

INTRODUCTION

International trade broadly influences global economic conditions. Which is considered an important source of income in developing countries. Indonesia is one of the countries that can't be separated from international trade in its economy, being an agricultural country. The agricultural sector is one of Indonesia's mainstay export products in international trade and has large contribution to Indonesia's GDP, around 12.40 percent in 2022 (Badan Pusat Statistik, 2022).

One of the valuable international trade commodities is coffee. Indonesia is the fourth world coffee exporting country after Brazil, Vietnam, and Colombia (International Coffee Organization, 2024). International Trade Centre noted that Indonesia exported 279,996 tons of coffee in 2023 with the value of 929,135 US dollars (International Trade Centre, 2024). This figure shows a decrease, which in 2021 was 387,264 tons with the value of 858,558 US dollars and in 2022 was 437,947 tons with the value of 1,149,168 US dollars. Seeing this decline, it is possible that Indonesia still faces many obstacles as an exporter of coffee to the global market.

Indonesia's main weaknesses are low productivity, coffee quality and climate which can affect the decline in coffee yields. Indonesia produces 500 kg of coffee per Ha with an area of 1.2

million Ha, lower than Vietnam whose productivity reaches 2.7 tons per Ha with a land area of 630 thousand Ha. Apart from that, the trend of cultivating robusta coffee is higher than that of arabica, where Indonesian robusta generally gets a lower price than other types of coffee produced by Colombia and Brazil. Meanwhile, global market demand for robusta is 30% and arabica is 70% (Sarvina et al., 2020).

Indonesian coffee exports reach five continents, namely: Asia, Africa, Australia, America and Europe with the main share in Europe. In 2022, the top five importing countries for Indonesian coffee were the United States, India, Egypt, Germany, and Malaysia. Demand for exports of Indonesian coffee products to the United States (US) market was considered to be the highest compared to other countries (Badan Pusat Statistik, 2022).

Apart from being a coffee exporting country, Indonesia is also an importer of coffee from five continents, namely, Asia, Africa, Australia, America and Europe. In 2022, the top five coffee exporting countries to Indonesia were Brazil, Vietnam, Malaysia, Timor Leste and Japan (Badan Pusat Statistik, 2022). Based on data from the International Trade Centre (2023), Indonesian coffee imports in 2023 increased by 40,899 tons with a trade value reaching 116,996 US dollars. Even though Indonesia is the largest coffee exporting country in the world, the growth rate of Indonesian coffee imports is also increasing. The increase in imports was caused by the growth potential of Indonesian coffee which was not accompanied by capacity and production improvements as well as regulations that were able to encourage increased exports of coffee products (Parnadi & Loisa, 2018).

Efforts to improve the agricultural sector, one of which is by encouraging the production of agricultural commodities that have superior competitiveness in the international market (Firmansyah et al., 2017). Research on the competitiveness of Indonesia's coffee in the international market must always be held to encourage Indonesia's coffee export performance to improve. Indonesia's export performance has previously been researched by Alexander & Nadapdap (2019) who stated that Indonesia's coffee exports have experienced such dynamic fluctuations. Competitiveness is determined by Esterhuizent (2006) as the ability of an industry or company to achieve sustainable growth in a global environment when obtaining at least the opportunity cost of the resources used. The measurement of competitiveness in this research refers to the measure used by Balassa (1965) which is referred to by several studies such as Vollrath (1991), Batra & Khan (2005), and Laursen (2015). This research empirically finds a measurement of the comparative advantage of Indonesian coffee export commodities compared to the world export value. This study aims to identify and analyze the competitiveness of Indonesia's coffee commodities. This research aims to 1) analyze the position of Indonesian coffee trade in the international market, 2) analyze the comparative advantages possessed by Indonesian coffee in the international market.

LITERATURE REVIEW

Internal and external factors will be strongly associated with competitive advantage. Widely used to assess the competitiveness of a country, region, or industry, is Porter's Diamond Approach (Porter, 1998), which offers four criteria to measure the level of competitive strength (Windsberger, 2006; Allen & Potiowsky, 2008). (1) Conditions; these include production elements such as capital, human resources, physical infrastructure, and information. The quality of condition factors increases an industry's chances of competing; second, demand, which relates to the amount and quality of demand; and third, related or supporting industries, which provide additional value. (4) Strategy, structure, and competition, which means that industry conditions must be adapted to the environment, the strategy to be taken, and see how competing firms are formed, managed, and developed.

Coffee commodities have comparative and competitive advantages in the on-farm market. If businesses can improve the efficiency of their employees so that they can produce better

yields, they can maximize their main raw material, which is the coffee commodity [11]. This suggests an opportunity for domestic coffee market demand for more processed ground coffee. However, market protection is not favorable [12]. To attract customers and make customers decide, companies must have a competitive advantage. Companies are looking for new ways to be better and more competitive [13]. Improving productivity is a way to improve competitiveness. Using high-quality seeds, using varieties that are highly productive, adaptive, and resistant to diseases and pests, and improving farming techniques in accordance with Standard Operating Procedures (SOPs) can increase output. (Kurniawan dkk. 2020).

METHODS

The object of this research is coffee export data with HS code 0901 for 2014 - 2023. The research object focuses on the level of competitiveness of Indonesian coffee commodities in the international market. The data used is time series data from 2014 to 2023. This research uses secondary data from sources including the UN Comtrade, International Trade Centre (ITC), and Badan Pusat Statistik (BPS). Analyze Indonesia's position as to whether it tends to be a coffee exporting or importing country using the Trade Specialization Index method. The Trade Specialization Index (ISP) formula is as follows:

$$ISP = \frac{X_{ij} - M_{ij}}{X_{ij} + M_{ij}}$$

where:

ISP = Trade Specialization Index (ISP)
 X_j = Value of Indonesian coffee exports
 M_j = Value of Indonesian coffee imports

Therefore:

1. ISP value is positive (> 0 to 1), Indonesia has strong competitiveness or tends to become a coffee exporting country.
2. ISP value is negative (< 0 to -1), Indonesia has weak competitiveness or tends to become a coffee importing country (Hinloopen & Van Marrewijk, 2001).

Revealed Comparative Advantage (RCA) method is an analytical method that will be used to determine the comparative advantage of Indonesian coffee compared to world coffee. Revealed Comparative Advantage (Balassa, 1965) can be defined as:

$$RCA = \left(\frac{X_{IK}}{X_{IM}} \right) / \left(\frac{X_{WK}}{X_{WM}} \right)$$

where:

X_{IK} = Value of Indonesian coffee exports
 X_{IM} = Total value of Indonesian exports
 X_{WK} = Value of world coffee exports
 X_{WM} = Total value of world exports

Therefore:

1. RCA > 1, Indonesia has a comparative advantage for coffee exports.
2. RCA < 1, Indonesia has a comparative disadvantage for coffee exports.

RESULTS AND DISCUSSION

Trade Specialization Trade (ISP)

Based on the results of the ISP analysis in Table 1, Indonesia tends to be a coffee exporting country.

Table 1 Trade Specialization Index Values for Indonesia Coffee Commodity in 2014 – 2023

Years	Trade Specialization Index
2014	0.91
2015	0.95
2016	0.91
2017	0.94
2018	0.68
2019	0.86
2020	0.91
2021	0.93
2022	0.90
2023	0.78
Average	0.88

Source: Prepared by the authors from UN Comtrade (2024).

Based on Table 1, the Trade Specialization Index (ISP) value for Indonesian coffee commodities is always positive (above 0 to 1). The lowest ISP value occurred in 2023 with a value of 0.78 and the highest value was in 2015 with a value of 0.95. The ISP value for Indonesian coffee commodities ranges from 0 to 1, indicating that Indonesia has competitiveness and tends to be an exporting country. Badan Standarisasi Nasional developed Standar Nasional Indonesia (SNI) for coffee and its processed products at a maturity stage ranging from 0.81 to 1.00, which means that Indonesian coffee is at the standardization stage in terms of the technology used. The SNIs that have been determined by BSN include SNI 2907:2008 Coffee Beans, SNI 01-3188:1992 Determinants of coffee passing through the sieve, value of defects and impurities in coffee beans, SNI 01-4282:1996 Dipped coffee, SNI 01-3542:2004 Ground coffee, SNI 2983:2014 Instant coffee, SNI 01-4314:1996 Packaged coffee drinks, SNI 01-4446:1998 Mixed coffee, SNI 6685:2009 Milk sugar coffee, SNI 7708:2011 Creamer sugar coffee, SNI ISO 11292:2015 Coffee instant – determinant of total carbohydrates and free carbohydrates – High performance anion exchange chromatography method and SNI ISO 24114:2015 Instant coffee – criteria for authenticity. Indonesia is a net exporter, which means that the export value is greater than the import value itself, this shows that Indonesia sells more coffee abroad than it buys from other countries.

Revealed Comparative Advantage (RCA)

Indonesia's comparative advantage in the world coffee market is measured using Revealed Comparative Advantage (RCA). This index is used to compare Indonesia's competitive position with other coffee producing countries. A higher RCA index (> 1) indicates that the country has a comparative advantage in that product and is highly competitive, and vice versa.

Based on the results of the RCA index calculation, all of the Indonesian RCA indices obtained have a comparative advantage as indicated by the RCA value from 2014 to 2023 which is more than one. So, it shows that Indonesia is one of the coffee producers that has comparative competitiveness in the global market, with an average RCA of 3.10. This shows that Indonesia has a comparative advantage in the global market. The RCA index for coffee producing countries from 2014 to 2023 is in Table 2 as follows:

Table 2 (RCA) Index For Coffee Producing Countries In 2014 - 2023

Year	Indonesia	Brazil	Vietnam	Colombia	India
2014	3.49	16.19	13.03	27.15	1.01
2015	4.31	15.74	8.06	39.02	1.11
2016	3.67	13.79	9.06	41.65	1.11
2017	4.08	12.29	8.36	39.66	1.25
2018	2.87	11.53	7.51	35.38	1.01
2019	3.34	12.89	5.32	37.94	0.99
2020	2.87	13.62	4.00	46.33	0.96
2021	2.26	12.65	3.91	47.97	0.97
2022	2.10	13.60	4.24	38.20	0.89
2023	1.98	11.91	6.49	32.38	0.95
Average	3.10	13.42	7.00	38.57	1.02

Source: Prepared by the authors from UN Comtrade (2024).

Based on Table 2, the RCA value of Indonesian coffee commodities when compared with competing countries in the global market looks smaller and is only better than India. Colombia is the country with the highest comparative advantage with an average RCA value of 38.57, followed by Brazil with an average value of 13.42 and Vietnam with an average value of 7.00. The RCA value, which is still smaller than the three strong countries above, needs to be looked at further in terms of production, supply and value chains, trade regulations and other export regulations. So that Indonesia's RCA index increases, beating these countries.

CONCLUSION AND LIMITATION

Based on the research that has been carried out, the conclusion that can be obtained from this research is that Indonesia's export conditions have strong competitiveness. Using ISP and RCA calculations, it can be concluded that ISP value of Indonesia's commodities range from 0 to 1, which shows that Indonesia have competitiveness and tendency as an exporting country, Indonesia has a strong comparative advantage in the international coffee market with an average RCA value of 3.10 meaning that the position of the Indonesian coffee trade is at a maturity stage. However, this value does not make Indonesia the strongest country in coffee bean exports because there are other competing countries such as Brazil, Colombia and Vietnam.

Some suggestions for increasing the competitiveness of coffee are for government agencies to improve or maintain Indonesia's position as the fourth country in the global coffee market. Government agencies must be able to coordinate and supervise exactly the coffee process from upstream to downstream in accordance with applicable Good Handling Practices (GHP), Good Agricultural Practices (GAP) and Standar Nasional Indonesia (SNI) guidelines in improving its quality and quantity. In addition, the Indonesia government can also collaborate with associations or organizations that accommodate coffee bean and coffee farmers and in other forms over time according to market developments. Further research is needed to analyze descriptively to see the competitiveness of Indonesian coffee based on coffee quality, not just quantity.

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