AGRISEP: Journal of Agricultural Socio-Economics and Agribusiness Studies

https://ejournal.unib.ac.id/agrisep

COMPETITIVENESS ANALYSIS OF LAMPUNG PROVINCE COFFEE: RCA AND RSCA APPROACH

Kusmaria*; Edy Humaidi; Sudiyo
Agribusiness Management Study Program, Department of Economics and Business, Politeknik Negeri Lampung, Lampung, Indonesia
* Corresponding Author: kusmaria@polinela.ac.id

ABSTRACT

Lampung province is one of the coffee production centers in Indonesia. The coffee industry in Lampung is a significant contributor to the local economy, with its products being sent to various regions in Indonesia and even abroad. However, it has yet to be discovered whether the coffee products produced can compete with those from other regions. This research aims to analyze the competitiveness of coffee in Lampung province. This research was conducted in Lampung Province. This location was chosen purposively, taking into account that this area is a coffee production center and is the area with the second-highest coffee production in Indonesia. This research uses secondary data in the form of time series data over a period of 5 years (2018-2022). The analytical tool used to analyze the comparative competitiveness of coffee uses the Revealed Comparative Advantage (RCA) and Revealed Symmetric Comparative Advantage (RSCA) methods. The research results show that the coffee commodity in Lampung Province over the last 5 years has had high competitiveness, as seen from the RCA value > 1 and the RSCA value > 0.

Keywords: competitiveness, lampung coffee, production coffee, RCA

INTRODUCTION

Agriculture is a sector that has several subsectors, including plantations, forestry, fisheries, animal husbandry, and food crops. The plantation subsector makes a significant contribution when compared to other subsectors. One of its superior commodities is coffee (Irfanda, 2020). Coffee is a leading commodity in this sector. The trend of drinking coffee in Indonesia has become a lifestyle. The proliferation of coffee shops or coffee shops characterizes this. According to Gumulya & Helmi (2017), the existence of a coffee shop can be used as a symbol of lifestyle, where its existence is a place to gather, socialize, have discussions, and even become a place of work. The Indonesian coffee-drinking culture, which has been going on for a long time, is an opportunity for Indonesia to develop this commodity as a whole, starting from increasing productivity to post-harvest handling (Humaidi et al., 2023).

Coffee could be a drink that's commonplace to most individuals. Coffee is well known with different bunches of individuals. Its fans are not as it were Indonesians but also individuals from different countries all through the world. This can be since coffee has been recognized as a drink that emphatically influences human wellbeing. Coffee is famous because it has a distinctive image and taste. Coffee is one of the hopes for plantation goods, which has long been a pioneer of the economy in Indonesia, which has relatively high export figures. Not only is it a source of community income, but it is additionally a source of movement and outside trade wage for the nation (Ariyanti et al., 2019).

Lampung Province is one of the coffee production centers in Indonesia. Coffee production in Lampung Province ranks second after South Sumatra Province, producing 156,395 tons in 2021 (Badan Pusat Statistik, 2022). Coffee production in Lampung Province increased in 2017 from 107,183 tons to 156,395 tons in 2021. This high coffee production is one of the causes of the development of the coffee bean processing agro-industry. Currently, Bandar Lampung is spread over 60 ground coffee agro-industry points (Dinas Perindustrian dan Perdagangan Provinsi Lampung, 2020).

The high production growth followed by the growth of the agroindustry sector and the increasing trend of drinking coffee, especially in coffee shops or coffee shops, will, of course, lead to intense competition between coffee business operators. Furthermore, within the current period of globalization of mechanical insurgency 4.0 exchange, competition conditions are progressively tight, and each nation opens its markets to each other (Sahat et al., 2018). As a tropical country, Indonesia can develop diversified processed coffee products (Darmawan et al., 2021). The phenomenon of coffee competition in Indonesia, with the emergence of new competitors both from within and outside the country, requires business actors and coffee farmers to respond to this immediately. Inseparable from production activities, coffee managers will undoubtedly encounter more or less obstacles, such as damaged machines

(overload), costs beyond estimates, and pressure on low selling prices, which impact sales and profits.

Competitiveness is also defined as the ability of a company or country to defend the market it has entered. Indicators measuring a commodity's competitiveness can use comparative and competitive advantages (Narulita et al., 2014). Comparative advantage may be a degree of potential competitiveness, to be specific the competitiveness that would be accomplished on the off chance that the economy did not involvement any twisting. Commodities with a comparative advantage moreover have financial proficiency, whereas competitive advantage measures the competitiveness of exercises in genuine financial conditions (Daryanto, 2009). In order to remain able to compete in an increasingly tight trade market, each country must have superior trade commodities.

Competitive and comparative advantages can be achieved through increasing the productivity of coffee farming (Pratiwi, 2013). The success of a commodity in international trade is determined by its competitiveness (Humaidi, 2021; Tasya, S.,et al, 2022). Increasing productivity can be done by allocating production factors efficiently to produce optimum production or by reducing production costs (Pratiwi, 2013). The ability of a region to increase its economic competitiveness will significantly depend on the region's ability to determine factors that can be used as measures of regional competitiveness and the region's ability to determine policies toward other regions (Alghoziyah et al., 2016; Humaidi et al., 2021).

The issues Indonesian coffee agribusiness confronts are complex, from upstream (on cultivation) to downstream. On the cultivation side, Indonesia's coffee efficiency level is lower compared to other major world coffee-creating nations such as Brazil (1,000 kg/ha/year), Columbia (1,220 kg/ha/year), and Vietnam (1,540/kg/ha/year). The productivity of coffee plants in Indonesia has only reached 774 kg of coffee beans/ha/year (BPS 2022)). The low productivity of Indonesian coffee is due to the reality that 95 percent of Indonesian coffee is from smallholder farms, which by and expansive don't utilize overwhelming coffee seeds, improvement strategies are still direct, and plant restoration is direct; the need of supporting offices and infrastructure comes about within the moo quality of Indonesian coffee.

Given the complex issues facing Indonesian coffee agribusiness, from cultivation to downstream, it is clear that research on the competitiveness of coffee agribusiness in Lampung is not just necessary but urgent to conduct research regarding.

RESEARCH METHOD

The research strategy incorporates things particular to the time and put of the investigate, depicts the sorts and sources of information and data collection

methods, talks about the inquire about factors examined, and clarifies information examination strategies. The information collection handle was careful, guaranteeing the unwavering quality and legitimacy of the inquire about.

This research was conducted in Lampung Province. This location was chosen purposively, taking into account that this area is a coffee production center and is the area with the second-highest coffee production in Indonesia. The research will be carried out from April to September 2023. This research uses secondary data in a time series over 5 years (2018-2022). The analytical tool used to analyze the comparative competitiveness of coffee uses the Revealed Comparative Advantage (RCA) and Revealed Symmetric Comparative Advantage (RSCA). Methods RCA and RSCA analysis are used to measure the competitiveness of products in a region based on the export value that has been carried out. This research's findings will have practical applications in the field of agricultural economics and coffee production. RSCA (Revealed Symmetric Comparative Advantage) is a simple modification of RCA where the index value ranges from -1 to 1. The equations that can be used are as follows (Tampubolon, 2019).

$$RCA_{ij} = \frac{\dfrac{x_{ij}}{\sum x_{ij}}}{\dfrac{\sum jx_i}{\sum i \sum ix_{ij}}}$$

The RCA value is a crucial economic indicator that directly correlates with a region's competitiveness. If a region's RCA value is greater than one (RCA>1), it signifies a comparative advantage in related products, indicating strong competitiveness. Conversely, an RCA value below one suggests a comparative disadvantage, reflecting weak competitiveness. The higher the RCA value, the stronger the competitiveness. To address the limitations of RCA, the Revealed Symmetric Comparative Advantage (RSCA) was developed with the following formula:

$$RSCA = \frac{(RCA - 1)}{(RCA + 1)}$$

The RSCA concept changes the assessment of competitiveness. The RSCA value is limited between -1 and 1. A product is said to have competitiveness if its value is above zero, and it is said to have no competitiveness if its value is below zero.

RESULT AND DISCUSSION

The competitiveness of coffee in Lampung Province, a topic of interest for all stakeholders, can be effectively analyzed using the Revealed Comparative Advantage (RCA) method. This method, as explained by Soleh & Darwanto (2012), provides a clear understanding of a region's comparative advantage. An RCA value of more than one is a significant indicator of a region's commodities' competitiveness, a point of engagement for all involved.

The competitiveness of coffee in Lampung Province can be seen from its comparative advantage. One method for analyzing the comparative competitiveness of a commodity is the Revealed Comparative Advantage (RCA) method. An RCA value of more than one indicates that a region's commodities are competitive. The results of this analysis can be seen in the following Table 1.

Table 1.   Revealed Comparative Advantage (RCA) Analysis Results for Lampung Coffee

Year	Export Value of Lampung Province (million US$)		Export Value of Indonesian(million US$)		RCA	Level Competitiveness
	Coffee Export	Total Export	Coffee Export	Total Export		
2018	345.2	3,452.1	806.9	180,012.7	22.3	High
2019	332.1	2,929.2	872.3	167,683.0	21.8	High
2020	367.0	3,144.8	809.2	163,191.8	23.5	High
2021	400.6	4,844.0	849.4	231,609.5	22.6	High
2022	560.6	5,606.2	1,136.3	291,979.1	25.7	High

Based on Table 1. the coffee commodity in Lampung Province from 2018 to 2022 has been highly competitive. This can be seen from the revealed comparative advantage value of more than 1 (Revealed comparative advantage > 1). The RCA method, as used in this analysis, compares the proportion of a country's exports of a particular product to the proportion of world exports of that product. In other words, it measures how much more or less a country exports a particular product compared to the rest of the world. This aligns with Alexander & Nadapdap (2017) research utilizing the RCA method.

This is in line with research conducted by Kaunang (2013) to look at the export performance of coconut oil commodities in North Sulawesi, which states that if the RCA index value is less than one, it means there is a decline in the export performance of North Sulawesi coconut oil commodities. Meanwhile, if the RCA index value is more significant than one, the export performance of North Sulawesi coconut oil commodities is higher than the previous year. The high competitiveness of coffee in Lampung province cannot be separated from the suitability of agroecology for coffee plants, namely the condition of the soil,

temperature, and altitude of the place that is suitable for the growing conditions of coffee plants, such as at the desired temperature of around 20-30 0C, this is in line with the opinion of Hardison (2003) which states that superior commodities are commodities that are by local agroecology. Export competitiveness is important in carrying out export competition between countries because many countries try to gain income through exports (Amin et al., 2021; Suprayogi et al., 2017)

The high Revealed Comparative Advantage (RCA) value of coffee could be influenced by various things factors, such as (1) the value of coffee exports and the total export value, which is much greater when compared to Indonesia, (2) the high productivity of coffee exceeds the productivity of Indonesian coffee, (3) government policies that support increasing productivity and quality of coffee, (4) giving capital, credit assistance, counseling regarding coffee knowledge and technology optimization, (5) there is a special organization that organizes expansion of harvested land, technical research, supervision of quality standards and marketing. Meanwhile, the opposite is true in Indonesia, where one factor contributing to its low comparative advantage is the low quality of Indonesian coffee (Humaidi et al., 2023).

This can happen because most Indonesian farmers are small farmers with limited finances and knowledge to produce quality coffee beans. One indicator is that coffee is harvested when the coffee cherries are still green. The low quality of Indonesian coffee beans will affect the selling value received, where this selling value will determine the total value of coffee exports from a country (Aulia, 2021). If the upstream industry, in this case the company/industry, excels in competing, it will automatically increase the productivity of the downstream industry, namely coffee farmers in Lampung province as producers. The downstream industry, which includes processing and marketing, plays a crucial role in increasing the value of coffee beans. For instance, proper processing and effective marketing can significantly increase the selling price of coffee beans. With more market demand, the selling price increases. By increasing the selling price, the welfare of farmers can increase, so that farmers increase productivity (Humaidi, 2021).

Understanding the suitability of land for plant growth requirements is crucial, especially in planning the development of agricultural commodities (Humaidi et al., 2021; Humaidi et al., 2020). We continued our analysis with the RSCA analysis, a comprehensive approach that allows us to gain a deeper insight into the competitiveness of coffee in Lampung Province. This process of analysis, which is a key part of our research, should be of interest to all those involved in the coffee industry, as it provides a robust understanding of the factors contributing to the competitiveness of coffee in Lampung Province.

Table 2.   Revealed Symmetric Comparative Advantage Analysis Results

Year	RCA	RCA-1	RCA+1	RSCA
2018	22.3	21.3	23.3	0.9142
2019	21.8	20.8	22.8	0.9123
2020	23.5	22.5	24.5	0.9185
2021	22.6	21.6	23.6	0.9151
2022	25.7	24.7	26.7	0.9251

The calculation results in Table 2. using the Revealed Symmetric Comparative Advantage (RSCA) method, a widely recognized and credible approach, clearly evaluate coffee products' competitiveness in Lampung Province from 2018 to 2022. The positive RSCA values, a testament to the high competitiveness of these coffee products, are particularly noteworthy, with the highest RSCA score recorded in 2022 at 0.9251. This high value is attributed to the increase in production in Lampung Province in 2020 and the decrease in production exports in Indonesia, leading to a higher RSCA value than in other years. It is important to note that coffee production in Lampung is concentrated in two main areas, West Lampung and Tanggamus.

The description of the research results above shows that coffee is the leading commodity in Lampung province, which is highly competitive in Indonesia. This is a reference for the Indonesian government, especially Lampung province, regarding the coffee commodity development area, especially since coffee is a highly competitive export commodity and contributes to the country's foreign exchange. Export competitiveness is important in carrying out export competition because many countries try to gain income through exports (Suprayogi et al., 2017). Furthermore, this is also in line with the research results by Amin et al. (2021), which state that superior products in a region are initial capital in regional development, so they must be a priority in policy formulation. Given that coffee products in Lampung province are superior and powerful, there is great hope that they can become a priority commodity that will continue to be developed in the area, opening up opportunities for further growth and development.

The government's role in encouraging the coffee industry in Indonesia, particularly in Lampung Province, is pivotal in determining the competitiveness level (Humaidi et al., 2020). As a key facilitator, the government plays a crucial role in enhancing the competitiveness of companies and industries. Its primary function is to regulate regulations and policies that can strengthen the determining factors of competitiveness by facilitating the industrial environment. This effort is aimed at improving conditions of competitiveness factors so that they can be used effectively and efficiently (Porter, 1998).

Therefore, through several related elements, government policy is obliged to monitor and evaluate plantation development in the fields of service, processing, and marketing of products both domestically and abroad, which must be carried out comprehensively and continuously. The government's role in reviving independent coffee exports involves creating regulations governing the Lampung coffee trade system and facilitating the export process. Facilitating regulations and policies in the industrial environment is hoped to improve the conditions of export problems, such as high tariffs and complex export procedures. It can increase competitiveness factors to be used efficiently and effectively.

CONCLUSION AND SUGGESTION

Conclusion

The research results show that the coffee commodity in Lampung Province has been highly competitive over the last five years, as seen from the RCA value> 1 and the RSCA value > 0, with the highest RCA value of 25.7 and the highest RSCA of 0.9251.

Suggestions

The high competitiveness of coffee in Lampung Province is an advantage that the government must take advantage of by implementing regulations that favor farmers. For example, the government must regulate appropriate trading systems to gain a better bargaining position, which will result in higher prices and more prosperity for farmers.

ACKNOWLEDGMENT

REFERENCES

Alexander, I., & Nadapdap, H. J. (2017). Analisis Daya Saing Ekspor Biji Kopi Indonesia Di Pasar Global Tahun 2002-2017. *JSEP (Journal Of Social And Agricultural Economics)*, 12(2), 1–16. doi: 10.19184/Jsep.V12i2.1127

Alghoziyah, Ismono, R. H., & Sayekti, W. D. (2016). Daya Saing Usahatani Karet Rakyat Di Desa Kembang Tanjung Kecamatan Abung Selatan Kabupaten Lampung Utara. *Jurnal Ilmu Ilmu Agribisnis*, 4(3), 244–252. doi: 10.37637/ab.v5i3.1045

Amin, Z., Andry, A., & Humaidi, E. (2021). Pemetaan Sektor Agribisnis Pangan Unggulan Di Kabupaten Musi Rawas. *Jurnal Penelitian Pertanian Terapan,* 21(1), 1–8. doi: 10.25181/jppt.v21i1.1942

Ariyanti W., Suryantini, A., & Jamhari. (2019). Usahatani Kopi Robusta Di Kabupaten Tanggamus:Kajian Strategi Pengembangan Agrobisnis. *Kawistara,* 9(2), 179-191. doi: 10.25157/ma.v7i2.5481

Aulia, R. (2021). Daya Saing Ekspor Kopi Indonesia Di Pasar Internasional. *Jurnal Agribisnis Kepulau*, 9 (3), 252-266. Retrieved from https://ojs.unpatti.ac.id/index.php/agrilan/article/view/1284

Badan Pusat Statistik. (2022). *Buletin Statistik Perdagangan Luar Negeri Ekspor Menurut HS. BPS Indonesia.* Retrieved from https://www.bps.go.id/id/publication/2023/02/27/b29f38a033b4e0 9fc0e0edee/buletin-statistik-perdagangan-luar-negeri-ekspor-menurut-hs--desember-2022.html

BPS. (2022). *Statistik Indonesia.* Jakarta: Badan Pusat Statistik. https://www.bps.go.id/id/publication/2022/02/25/0a2afea4fab72a5 d052cb315/statistik-indonesia-2022.html

Darmawan, A., Adi Wibowo, L., & Surachman, A. (2021). Penerapan Rantai Nilai Global Sebagai Strategi Peningkatan Ekspor Produk Kopi. Coopetition : *Jurnal Ilmiah Manajemen,* 12(1), 9–16. doi: 10.32670/Coopetition.V12 I1.277

Daryanto, A. (2009). *Dinamika Daya Saing Industri Peternakan.* Bogor: IPB Press

Dinas Perindustrian dan Perdagangan Provinsi Lampung. (2020). *Jumlah Agroindustri Kopi Di Kota Bandar Lampung. Dinas Perindustrian Dan Perdagangan Provinsi Lampung*. Retrieved from https://disperindag.lampungprov.go.id/berkas/uploads/lkj_21.pdf

Gumulya, D. & Helmi, I. S. (2017). Kajian Budaya Minum Kopi Indonesia. Dimensi. Dimensi, 3(2), 112-122. doi: 10.47007/ap.v2i2.3500

Hardison. (2003). *Analisis Strategi Pengembangan Komoditas Unggulan Di Kabupaten Siak Provinsi Riau* (Thesis, IPB University, Bogor, Indonesia). Retrieved from http://repository.ipb.ac.id/handle/123456789/6839

Humaidi, E. (2021). Premium Green Beans Selection From Dry Processing. *IOP Conference Series: Earth And Environmental Science*, 1012(1), 1-5. doi: 10.1088/1755-1315/1012/1/012013

Humaidi, E., Analianasari, & Unteawati, B. (2023). Perilaku Konsumen Dalam Pembelian Kopi Di Coffe Shop. *Agrimor*, 8(2), 53–60. doi: 10.32938/ag.v8i2.1937

Humaidi, E., Kertayoga, I. A. W., & Analianasari. (2021). Preparation Of A Map Of Leading Food Commodities In The Lampung Province Using The Location Quotient (LQ) Method. *IOP Conference Series: Earth And Environmental Science*, 1012(1), 1-5. doi: 10.1088/1755-1315/1012/1/012009

Humaidi, E., et al. (2020). Pemetaan Komoditas Sayur Unggulan Di Provinsi Lampung. *Jurnal Agribisnis Indonesia*, 8(2), 106–114. doi: 10.29244/jai.2020.8.2.106-114

Humaidi, E., et al. (2023). Impact Of Consumer Satisfaction On Consumer Loyalty In The Honey Industry (A Study Of Suhita Honey And Similar Products). *JIA (Jurnal Ilmiah Agribisnis) : Jurnal Agribisnis Dan Ilmu Sosial Ekonomi Pertanian*, 8(4), 70–74. doi: 10.37149/jia.v8i4.435

Irfanda, A. I. (2020). Analisis Daya Saing Di Desa Tleter Kecamatan Kaloran Kabupaten Temanggung. *AGRISAINTIFIKA: Jurnal Ilmu-Ilmu Pertanian,* 3(2), 152-158 doi: 10.32585/ags.v3i2.550

Kaunang, W. R. C. (2013). Daya Saing Ekspor Komoditi Minyak Kelapa Sawit Sulawesi Utara. *Jurnal Emba*, 1(4), 1304-1316. doi: 10.35794/emba.1.4.2013.2910

Narulita, S., et al. (2014). Analisis Daya Saing Dan Strategi Pengembangan Agribisnis Kopi Indonesia. *Jurnal Agribisnis Indonesia*, 2(1), 63-74. doi: 10.29244/Jai.2014.2.1

Porter, M. E. (1998). *Strategi Bersaing Teknik Menganalisis Industri Dan Pesaing.* Tangerang: Kharisma Publishing

Pratiwi, A. (2013). Analisis Daya Saing Komoditas Kopi Arabika Di Kabupaten Tapanuli Utara. *Jurnal On Social Economic Of Agriculture And Agribusiness,* 2(12), 1–15. doi: 10.31289/agr.v2i1.3552

Rachmaningtyas, A., et al. (2021). Daya Saing Ekspor Kopi Indonesia Di Pasar Internasional. *Jurnal Agribisnis Kepulau*, 9(3), 252-266. doi: 10.30598/agrilan.v9i3.1284

Sahat, S. F., et al. (2018). Analisis Pengembangan Ekspor Kopi Di Indonesia. *Jurnal Ekonomi Dan Kebijakan Pembangunan,* 5(1), 63–89. doi: 10.29244/Jekp.5.1.63-89

Soleh, et al. (2012). Kontribusi Dan Daya Saing Ekspor Sektor Unggulan Dalam Perekonomian Jawa Tengah. *Diponegoro Journal Of Economics*, 1(1), 1-13. Retrieved from https://ejournal.undip.ac.id

Suprayogi, B. M., Arifin, Z., & Mawardi, K. M. (2017). Analisis Daya Saing Ekspor Kopi Indonesia, Brazil, Kolombia, Dan Vietnam. *Jurnal Administrasi Bisnis (JAB),* 50(2), 190–194. Retrieved from https://administrasibisnis.studentjournal.ub.ac.id/index.php/jab/article/view/1994

Tampubolon, J. (2019). RCA Analysis With Selected Products To Enchance Prediction Power Of Competitiveness. *Jurnal Ekonomi Dan Studi Pembangunan,* 11(2), 143–57. doi: 10.17977/um002v11i22019p143

Tasya, S., et al. (2022). Analisis Daya Saing Komparatif Komoditas Kopi (Coffea Sp.) Indonesia Di Pasar Internasional. *Jurnal Ilmiah Wahana Pendidikan,* 8(12), 335–341. doi: 10.5281/zenodo.6945650