



Indonesia's Clove Export Competitiveness in the Continental Markets of Asia and the World

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Abstract

Free trade significantly contributes to economic growth, particularly through export potential. Indonesia, a leading global clove producer, is analyzed alongside eight competitor countries (Malaysia, Sri Lanka, China, Madagascar, Tanzania, Comoros, Kenya, and Grenada) from 2013-2022 using data from UN Comtrade, FAOSTAT, and BPS. Competitiveness was assessed with the Revealed Comparative Advantage (RCA) and Revealed Symmetric Comparative Advantage (RSCA), while trade specialization was evaluated using the ISP and Export Product Dynamic (EPD). Indonesia shows a high RCA index but trails Madagascar, Comoros, and Tanzania in global exports, ranking second in Asia after Sri Lanka. The ISP indicates Indonesia at stage 4, and the EPD places it among Rising Stars alongside Madagascar, Grenada, Comoros, and China. To boost competitiveness and minimize imports, government policies must align with prevailing challenges and market conditions.

Keywords: Competitiveness, Cangkeh Export, EPD, ISP

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INTRODUCTION

In the era of free trade, exports play an important role in a country's economic development and growth. A country's export

potential includes the ability to sell products and services to international markets, providing various benefits such as increased state income, employment opportunities, and economic

expansion. Indonesia has strengths in the natural resources, information technology, and creative economy sectors in global trade (Erlangga, 2023). Indonesia applies the theory of comparative and competitive advantage to support its international trade. In improving the quality and competitiveness of export products, Indonesia faces the challenge of continuously improving the quality of its products.

Indonesia is a country with an open market economic system, which allows international economic transactions to improve welfare and fulfill domestic needs (Ramandhani & Abadi, 2023). Indonesia's trade balance shows a significant increase in total trade, exports, and trade surplus from 2018 to 2022, with a peak in 2022.

Non-oil and gas exports, particularly from the agriculture, mining, and manufacturing sectors, play an important role in the Indonesian economy. While agriculture accounts for a small share of exports, its contribution remains significant. The agricultural industry shows stability and consistent growth, supported by better infrastructure and productivity.

Cloves are one of Indonesia's key agricultural commodities with a long history of high-quality production. Favorable tropical environmental conditions make it one of the leading clove producers in the world plantation industry.

From an economic perspective, cloves are not only an export item but also play an important role as a raw material for the cigarette industry, as a spice for people's direct consumption, and provide health benefits according to (Neni, 2016) in (Dewi et al., 2021). However, major obstacles have recently been experienced by Indonesia's clove sector, which has an impact on its export competitiveness in

the global and continental Asian markets. the following graph shows Indonesia's clove production from 2000 to 2022.

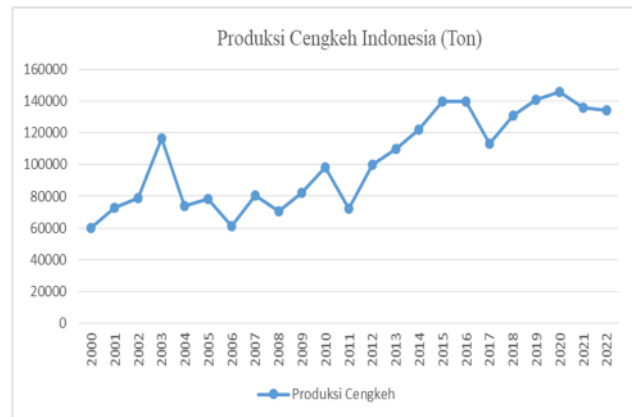


Figure 1. Development of Indonesia's Clove Production 2012-2022

Source: Food Agriculture Organization Statistic, 2024

The graph above illustrates the annual changes in Indonesia's clove production as well as its increasing trend. However, clove production does not always follow the same pattern as the area used for agriculture. The amount of agricultural land is always increasing every year. The quantity and availability of cloves for export can be affected by the amount of land used for clove cultivation. The possibility of clove production is increasing along with the size of the planting area. This shows that production efficiency has not been achieved and shows the instability of clove production.

The existence of clove cigarette factories, which indicates that the domestic market absorbs national clove production, is also the cause of the erratic movement of clove production. The number of clove exports is affected because around 80% of the harvest is used as the main component by the producers themselves. The

plantation industry, which is one of the subsectors of the agricultural sector, includes this product as one of its flagship items.

Table 1. Largest Clove Exporting Countries in 2022 (tons)

No.	Country	Export Quantity (tons)
1.	Madagascar	272.967
2.	Singapore	94.679
3.	Indonesia	56.990
4.	United Arab	45.137
5.	Tanzania	42.120

Source: UN Comtrade, 2024

Clove exports show some interesting trends in 2022, with several countries emerging as major participants in the clove market. With total exports of 272,967 tons, Madagascar ranked first in the world in clove production. This reflects Madagascar's supremacy in the world clove market, as the quantity and quality of clove output is globally recognized. Reinforced by the results of research stating that Madagascar has strong competitiveness followed by Tanzania and Indonesia (Wijayanti and Rachmanto, 2023).

Table 2. Largest Clove Importing Countries in 2022 (tons)

No.	Country	Import Quantity (tons)
1.	India	25.104
2.	Indonesia	18.170
3.	Singapore	11.603
4.	United Arab Emirate	6.279
5.	China	3.351

Source: UN Comtrade, 2024

With total exports of 56,990 tons, Indonesia ranked third in the world for clove exports that year despite being the world's largest producer. This demonstrates the complexity of market dynamics influenced by variables related to global demand, market competition, commodity prices, and relevant trade laws. From the standpoint of Indonesia's overall exports, clove exports represent a large portion of non-oil and gas exports which constitute the country's overall export earnings.

Import data shows that Indonesia also imports cloves to meet domestic demand, suggesting an inability to sustainably meet domestic demand. The increase in clove exports and imports shows that Indonesia has a great potential to dominate the global market, an overview of the increase in harvested area and productivity as well as clove export activities shows that Indonesia has a great opportunity to dominate the global market.

Given that clove exports can significantly improve a country's economy, Indonesia's clove exports must be competitive. International trade is undoubtedly characterized by ongoing competition between countries, which actually aims to rank first. Therefore, every country needs to be competitive in order to have a comparative and competitive advantage. Research on Indonesian clove commodities has been conducted to find out the current condition and how much potential it has in the global market.

RESEARCH METHODS

The data used in this study are secondary data obtained from several sources including UNComtrade, Trade map, FAO, and BPS. After that the data is compiled in the form of panel data for 2013 - 2022). This research discusses the competitiveness of Indonesian exports in the

Asian and World Continental Markets of the nine largest producer countries in the world, namely Indonesia, Madagascar, Tanzania, Malaysia, China, Sri Lanka, Kenya, Grenada, and Comoros.

To measure competitiveness using the RCA (Revealed Comparative Advantage) method, while the RSCA (Revealed symmetric Comparative Advantage) form as a refinement model of the RCA method form is to determine comparative advantage. The RCA formula is mathematically as follows:

$$RCA = \frac{Xijt/Xit}{Xiwt/Xwt}$$

Where $Xijt$ is Commodity export value of country x in year t ; Xit is Total export value of country x in year t ; $Xiwt$ is World commodity export value in year t ; Xwt is Total world export value in year t . The ISP (Index of Trade Specialization) method was used in the study to measure competitive advantage. This index can be used to determine the status of a commodity, including whether a country tends to import or export it. The ISP is with the following formula:

$$ISP = (Xij + Mij) / (Xij - Mij)$$

Details Xij is Export value of commodity x in country w ; Mij is Import value of commodity x to country w . The method used to determine whether a country is in a dynamic position towards export market share is the EPD (Export Product Dynamic) method. There are 4 categories in this position, namely "Rising Star", "Falling Star", "Lost Opportunity", and "Retreat".

RESULTS AND DISCUSSION

In the aspect of trade, a country can be known how the level of competitiveness is owned through export or import activities. This study

aims to determine the competitiveness of a country with other countries through RCA analysis. This analysis aims to measure the level of performance of clove exports from producing countries in the Asian and world markets.

Table 3. RCA Calculation Results in the Asian Market for 2013-2022

No.	Country	Average
1.	Indonesia	14,88
2.	Sri Lanka	103,89
3.	Malaysia	0,33
4.	China	0,02

Source: UN Comtrade, 2024 (processed)

The results of the RCA value above show that Indonesia and Sri Lanka have a comparative advantage with the results of the RCA value > 1 . During 2013-2022 the value was always greater than one with an average value of 14.88 for Indonesia and 103.89 for Sri Lanka. The RCA value > 1 means that Indonesia has a very high comparative competitiveness in clove commodities. Malaysia and China do not have a comparative advantage because the RCA value < 1 , namely with an average value of 0.33 and 0.02.

From the results of the RCA analysis that has been carried out, Indonesia and Sri Lanka have comparative advantage competitiveness in the Asian market, while Malaysia and China do not have comparative advantage competitiveness in the Asian market. Malaysia and China are among the countries with the largest producers in the world but comparatively these countries do not have competitiveness. This is due to Malaysia's currency weakening with political instability and government policies that can reduce the ranking from 27 to 34 in the IMD World Competitiveness Ranking (WCR, 2024). China is also focusing on improving

competitiveness in free trade. The country also proposed the idea of revitalizing rural areas.

Over the last 10 years from 2013-2022, Indonesia's average value reached 18.87, which is quite high in the world market. The results of Indonesia's RCA value per year fluctuate but tend to decrease. Malaysia has an average RCA value of 0.38 and China of 0.03, which means that the country has low competitiveness in the world market. Comoros has the highest value compared to other competitor countries, which is 25,263.51. The next highest value is Madagascar at 2,488.51 followed by Tanzania at 209.12 then Sri Lanka with a value of 124.89 followed by Grenada at 10.68 the last is Kenya at 1.70.

Table 4. RCA Calculation Results in the World Market for 2013-2022

No.	Country	Average
1.	Madagascar	2.488
2.	Sri Lanka	124,89
3.	Indonesia	18,87
4.	Malaysia	0,38
5.	Tanzania	209,12
6.	Comoros	25.263
7.	China	0,03
8.	Kenya	1,70
9.	Grenada	10,68

Source: UN Comtrade, 2024

The results of the RSCA value above show that the four countries with the world's largest clove producers in the Asian market that have a value of more than 0 are Indonesia and Sri Lanka. Malaysia and China have values less than 0 which means that both countries have no competitiveness or have low competitiveness in the Asian market. In contrast, Indonesia and Sri

Lanka have high competitiveness in the Asian Market.

Table 5. RSCA Calculation Results in the Asian Market for 2013-2022

No.	Country	Average
1.	Indonesia	0,84
2.	Sri Lanka	0,97
3.	Malaysia	-0,62
4.	China	-0,95

Source: UN Comtrade, 2024

This shows that the four countries with the largest clove producers in the Asian market that are able to be highly competitive in the Asian market are only 2, namely Indonesia with an average RSCA value of 0.84 and Sri Lanka of 0.97. During the 10 years from 2013-2022 Indonesia tended to increase even though Sri Lanka decreased but still had high competitiveness and occupied the first position then followed by Indonesia in the Asian Market.

Table 6. RSCA Calculation Results in the World Market for 2013-2022

No.	Country	Average
1.	Madagascar	1,00
2.	Sri Lanka	0,97
3.	Indonesia	1,00
4.	Malaysia	-0,58
5.	Tanzania	0,98
6.	Comoros	1,00
7.	China	-0,95
8.	Kenya	-0,02
9.	Grenada	-0,58

Source: UN Comtrade, 2024

Based on the RSCA value obtained, Indonesia has an average value of 1.00 and Sri Lanka of 0.97, which is greater than 0. This means that both countries have high competitiveness in

the world market. Malaysia and China have an average value of -0.58 and -0.95 which is less than 0 so they are categorized as countries minus low competitiveness in the world market.

Although both countries are among the largest producers in the world, they do not have comparative competitiveness based on RSCA calculations. Comoros, Tanzania and Madagascar have a value of more than 0, with an average value of 1.00 so that the country has high competitiveness in the world market. The countries of Grenada and Kenya have values less than 0 so that the countries have low competitiveness with an average value of -0.58 for Grenada and -0.02 for Kenya.

International trade theory reveals that international trade occurs as a result of different needs that cannot be met by a country. The country will fulfill its needs by buying products from other countries. Domestic consumption needs in Indonesia are still relatively high, resulting in the movement of clove exports down in the world market and opening up great opportunities for other countries such as Madagascar, Tanzania, Sri Lanka, Comoros as major producers.

The results of the ISP analysis of Indonesia from the last ten years show different conditions in each year. Broadly speaking, Indonesia is in the introduction stage, import substitution stage, growth stage and maturity stage. The low ISP value results from the high import activities of Indonesia. This activity occurs due to the lack of clove availability in meeting domestic needs as a supplier to the cigarette industry.

Increased imports of cloves are also due to small harvests so that domestic consumption is not sufficient (Ministry of Agriculture, 2018). According to research (Yuliansyah et al., 2023) the cause of the fluctuating ISP value is due to

fluctuating export and import movements as well.

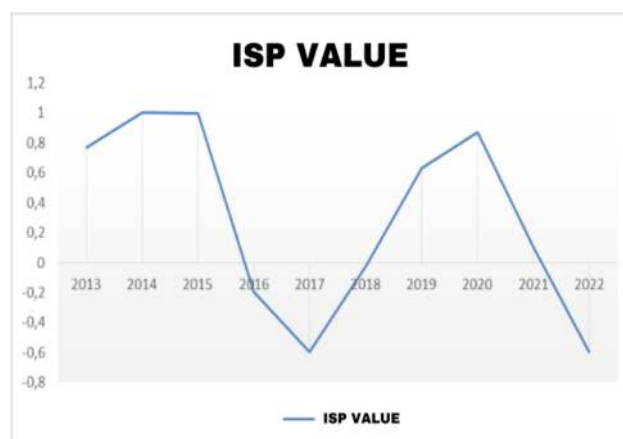


Figure 2. ISP Indonesia Calculation Results 2012-2022

Source: Food Agriculture Organization Statistic

According to research (Septiani et al., 2023) shows that the quality of domestic cloves has not met the standards for export activities. Low productivity and quality are obstacles in developing the potential of Indonesian cloves for export. This also affects the competitiveness and volume of clove exports. The low production of cloves is influenced by the lack of use of superior seeds, the lack of absorption of modern technology and the majority of clove plants managed by farmers using old plants. Indonesia has the potential as a world clove producer because it is superior in natural resources but low in human resources, infrastructure, modes and technology (Jumawan et al., 2024).

The Ministry of Agriculture has sought to increase productivity by replanting old plants, using superior seeds and maintenance to increase exports. Potential areas are one way to develop cloves. Government assistance in the form of superior seeds and rejuvenation of old plants needs to be evaluated to suit potential areas and can be developed optimally.

The limitations of policies related to the price of cloves and cloves in general in encouraging productivity and price stability require policies that are important and directed at increasing quantity and quality oriented to increase the competitiveness of cloves.

Export Product Dynamic (EPD) is a method used in the analysis and identification of a country's clove commodity whether it has competitive power and rapid product growth in export activities (Simbolon et al., 2024). The results of the analysis show that Indonesia and China are in the Rising Star position in the Asian market. This position occurs when the market share of Indonesian clove commodities has increased or is positive.

The Rising Star position is the most ideal market position and can be utilized by Indonesia and other competitor countries. In line with research (Hidayah et al., 2022) Indonesia with 9 destination countries occupies the Rising Star market position.

This also happens in the world market by the countries of Grenada, China, Madagascar and Comoros, which means that the products in these countries are countries with commodities that have a competitive advantage in the world market (Pratama et al., 2020). The increase in product share and export share has a positive value or is directly proportional to be a sign that the country has a competitive advantage.

The clove exports of Malaysia, Sri Lanka, Kenya, and Tanzania in the Asian and world markets are in a Lost Opportunity position where in these markets clove products lose the opportunity to increase export market share. This happens because in this position indicates that there is an increasing exporter demand in the country, but the

market share has decreased or does not have the opportunity to optimize a dynamic market for profit.

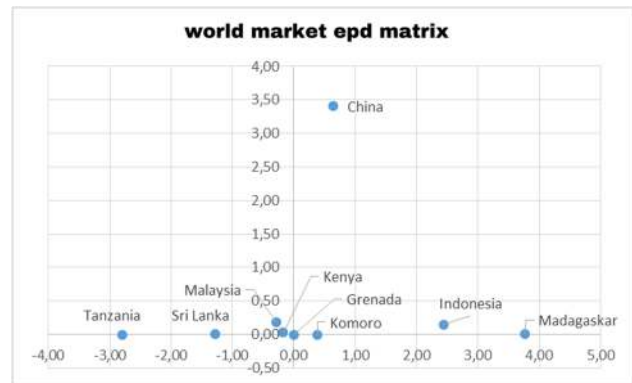


Figure 3. EPD Calculation Results for 2012-2022
Source: Food Agriculture Organization Statistic

Some countries such as Tanzania are resource-dependent and therefore vulnerable to global price fluctuations and adverse climates. Poor fiscal conditions in Sri Lanka and dependence on commodity exports in Kenya have led to ineffective management and missed opportunities to increase export market share.

CONCLUSION

Indonesia's cloves have strong competitiveness in continental Asian and global markets, but its exports still lag behind competitors such as Sri Lanka, Madagascar, Comoros and Tanzania. Indonesia's Trade Specialization Index shows progress through four stages over the past ten years.

Indonesia's competitiveness position is in the "Rising Star" category, while Malaysia, Sri Lanka, Grenada, and Tanzania are in the "Lost Opportunity" category. To improve the competitiveness of clove exports, it is recommended that Indonesia increase productivity through technological

innovation for farmers, reduce imports with a plantation intensification policy, and develop export markets in countries such as Sri Lanka, Malaysia, Tanzania, and Kenya.

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