COMPETITIVENESS OF INDONESIA'S AGRICULTURAL EXPORTS TO CHINA: TRENDS AND STRATEGIC INSIGHTS

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Abstract

Background: Economic development in open economies like Indonesia was marked by international trade. Starting with the restoration of diplomatic relations in 1990, China emerged as one of the biggest trading partners for Indonesia. However, Indonesia's competitiveness in the international market remained at a concerning level compared to other major exporters.

Purpose: The research was conducted on the competitiveness of Indonesia's agriculture exports to China during 2019-2023, for certain commodities, and described Indonesia's current market position and growth prospects.

Design/Methodology/Approach: The paper applied the Revealed Comparative Advantage and the methodologies of Export Product Dynamics in order to judge Indonesia's competitive position in major agricultural products, such as coconut, cashew nut, Brazil nut, coffee, nutmeg, cardamom, palm oil, copra, and natural rubber.

Findings/Result: The analysis showed that nutmeg and cardamom showed outstanding growth, placing them in the "Rising Stars" status in the Chinese market, as evidenced by their high export share growth coupled with a high increase in global market share. On the other hand, palm oil and copra recorded negative competitiveness, leading into the "Retreat" quadrant.

Conclusion: The study suggested that to build Indonesia's competitiveness in agricultural exports, it was important to improve quality and value addition through processing, besides non-tariff barrier understanding. These strategies would further fortify Indonesia's market position and trade performance at large with China and globally.

Originality/value (State of the art): For the first time, this research performed updated research on agri-food products export competitiveness of Indonesia to the Chinese market, by using updated data availability (2019-2023) and combined methodology approach between RCA and EPD. The obtained insights would be very important guidance for policymakers in the formulation of endorsing better trade policies in agricultural commodities within Indonesia to increase its presence in world markets.

Keywords: agricultural commodities, business analytics, business policy, market position, international trade

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INTRODUCTION

The globalization of economic activities increased the significance of international trade as a key driver of economic growth (Zhou et al. 2024). In countries with open economic systems, foreign trade, particularly exports, was critical for national economic growth, serving as a key source of foreign exchange, stimulating domestic production, and creating jobs (Bustaman et al. 2022). Trade in goods was essential for income generation, economic expansion, and international competitiveness. Participation in international trade was crucial for maintaining living standards in small open economies (Baldauf et al. 2000). The agri-food sector played a vital role in this context by contributing to employment, food security, and foreign exchange earnings. However, intense competition in international trade demanded exceptional quality and standards for exported commodities. International trade occurs between residents of two or more countries based on mutual agreement. It involved imports and exports, significantly boosting the gross domestic product of many nations (Hasoloan, 2023). Elevating export competitiveness was crucial for products to thrive in foreign markets. A commodity's ability to penetrate and maintain a presence in international markets was essential for countries aiming to excel in free trade.

Indonesia established free trade agreements regionally with ASEAN countries, while trade with non-ASEAN nations was handled through bilateral agreements. At that time, Indonesia's key trade partners included China, the U.S., Japan, India, and Singapore (Sumiahadi et al. 2021). Bilateral relations between Indonesia and China began on April 13, 1950. Ties were suspended in 1967 following Indonesia's political unrest but were fully restored in 1990 (Zulkarnain & Indriyani, 2024). Since then, relations strengthened, with China becoming one of Indonesia's largest trading partners, fostering cooperation in trade, investment, and infrastructure.

In contemporary international trade theory, trade evolved into value-added trade (TVA) and was integrated into global value chains (GVCs) (Wuri, 2024). In addition, participation in global value chains (GVCs) has led to the rise of new global competitors, challenging the trade dominance of developed countries and prompting recent research on competitiveness concerns (Wuri, 2024). The concept of competitiveness was linked to productivity (Hotman &

Malau, 2022). According to Porter (1990), a product's competitiveness was assessed by the output produced per input used. Competitiveness was measured through comparative advantage and competitive advantage theories. Ricardo's theory of comparative advantage indicated that mutually beneficial trade could occur even without absolute superiority in production, as long as price differences existed (Salvatore, 2012). In contrast, competitive advantage was achieved when unique product innovations were created by companies, enhancing market competitiveness (Porter, 1990). Comparative advantage was the basis of the economy that needed to be utilized through economic development to become a competitive advantage (Ariga & Novianti, 2022).

As an agrarian country, Indonesia had significant agricultural potential that contributed to its Gross Domestic Product (GDP) and boosted foreign exchange earnings from exports (Pradipta & Firdaus, 2014. Furthermore, as an agrarian and maritime country, Indonesia had a comparative advantage (Ariga & Novianti, 2022). Indonesia's plantation sub-sector was the leading agricultural sector, supplying raw materials to industry, absorbing labor, and generating foreign exchange (Ariga & Novianti, 2022).

In international trade, a commodity's competitiveness was determined by its comparative advantage, measured by Revealed Competitive Advantage (RCA), and its competitive advantage, assessed through Export Product Dynamics (EPD). Successful international trade requires countries to specialize and compete effectively, with market control serving as an indicator of competitiveness for specific commodities (Ariga & Novianti, 2022). This study evaluated the competitiveness of key plantation commodities in Indonesian exports and provided recommendations to enhance market share, using China as a case study. Specifically, the objectives were to analyze the trade performance of these key commodities to China from 2019 to 2023, assess their comparative and competitive advantages through Revealed Comparative Advantage (RCA) and Export Product Dynamics (EPD), and propose strategies to improve Indonesia's competitiveness in China's agrifood market. This research was expected to serve as a reference for the government in formulating policies related to increasing competitiveness and developing Indonesia's selected commodities export market.

METHODS

The data employed in this research included commodities from the yearly export data of six Indonesian commodities to the Chinese market during the years 2019-2023. These exports were for coconuts, cashew nuts, Brazil nuts 0801, coffee 0901, nutmeg, and cardamom 0908; palm oil 1511, copra 1513, and natural rubber 4001. The variables of this study were export volume measured in tons and export value in USD. Sources are the Indonesian Bureau of Statistics and UN COMTRADE data.

Data analysis methods applied included descriptive analysis, Revealed Comparative Advantage, and Export Product dynamics. RCA was coined by Balassa in 1965 to rank product-specific specialization in cross-country trade. A particular sector was considered a comparative advantage for a country if the share of a country's total exports in that sector was greater than the sector's share in total world exports (Ito et al. 2017). Nevertheless, most countries remained dependent on the traditional measures of comparative advantage, which was a critical issue for policymakers as well as academics. This study conducted a descriptive analysis to summarize the historical trends of Indonesia's commodity exports, focusing on China as one of the major trading partners of the country, as noted by Wuri (2024). The statistics covered export growth rates and year-on-year comparisons.

This study applied the calculation of the RCA to assess Indonesia's comparative advantage in the commodity trade with China. The RCA was a measure comparing a country's export performance for a particular commodity with the world average's export performance for the same commodity. The data used in this analysis are the export value of commodity j from Indonesia to China, x_{ij}; Indonesia's total export value to the Chinese market, x_i; the global export value of commodity j, w_{ij}, and global total export value, w_i. The formula used in estimating RCA is as follows (Equation 1):

$$RCA = (x_{ij}/x_i)/(w_{ij}/w_i) \ ... \ (1)$$

In this paper, the RCA was calculated as the share of a commodity from a particular country in the gross import value of the destination country (in this case, China), compared to the share of the same commodity originating from all competing exporting countries in the international market. If RCA > 1, then the country had a comparative advantage in the exportation of the commodity. If, instead, RCA < 1, that country did not have a comparative advantage. Year-to-year comparisons were made of RCA so as to determine if, over time, a country was perceived as gaining or losing competitiveness in a given commodity.

The next analysis used was the Export Product Dynamic (EPD). EPD was a method for defining whether a commodity from a country had comparative advantages with enough growth in the export flow to a particular destination market. EPD was used to evaluate and analyze how dynamic the export conditions of the commodities of a country were within the target market. Data used in this analysis consisted of export growth data for a commodity from Indonesia to China and market share growth data for the commodity in the international market. EPD could be computed by the following formula (Equation 1 and 2):

$$Growth \ share \ x = \frac{\sum_{t=1}^{T}\left(\frac{x_{ij}}{w_{ij}}\right)_t \times 100\% - \sum_{t=1}^{T}\left(\frac{x_{ij}}{w_{ij}}\right)_{t-1} \times 100\%}{T}$$

$$Growth \ share \ y = \frac{\sum_{t=1}^{T}\left(\frac{x_i}{w_i}\right)_t \times 100\% - \sum_{t=1}^{T}\left(\frac{x_i}{w_i}\right)_{t-1} \times 100\%}{T}$$

Using the growth in the export share of a product during the observation period, T, as growth share X and growth in the global market share during the same period as growth share Y, Figure 1 classified the status of Indonesia's commodity exports using the growth-share matrix based on export volumes to different countries.

In general, the EPD matrix categorized a commodity's market position into four categories, based on market share. Based on market share, the four categories were: Lost Opportunity, Rising Star, Retreat, and Falling Star. The most ideal and desirable market position corresponded to "Rising Star," a designation that meant a country was gaining a share in fast-growing products. The least favorable category was "Lost Opportunity," a situation where the country loses its market share for dynamic products. The positions of "Falling Star" and "Retreat" were also not desirable but were, nevertheless, better in comparison with the position of "Lost Opportunity." Being in the "Falling Star" position meant an increase in market share; however,

the products did not take part in the dynamic sectors of the global market. As for "Retreat," while this is usually an unfavorable position, there were situations where this could prove advantageous, such as a movement away from stagnant products to more dynamic ones.

RESULTS

Agricultural Export Volume Analysis Indonesia to China (2019-2023)

Indonesia's export performance to China was dominated by agricultural commodities. From these key commodities, various trends could be observed. Table 1 depicts several key Indonesian commodities export volumes from 2019 to 2023 for coconut, cashew, and Brazil nuts (HS 0801), Coffee (HS 0901), Nutmeg, cardamom (HS 0908), Palm oil (HS 1511), Copra (HS 1513), and Natural Rubber (HS 4001).

Cashew nut exports were on the increase, especially in recent times, in 2020 and 2021, the volume of exports increased from 184,042 tons in 2019 to 385,523 tons in 2021. In 2022, exports went down slightly to 322,412 tons and then recovered partly in 2023 to 383,362 tons. Cashew nuts showed an upward trend, reflected by year-on-year growth during most of the periods, indicating great demand for this commodity.

From 3,007 tons in 2019, coffee exports increased to 9,786 tons in 2022, up 129% from the previous year. In 2023, it reached 9,293 tons, which is a -5% change from last year. Over the years, coffee demonstrated impressive growth, driven by increased demand worldwide, especially in emerging markets such as China. Despite the decline projected in 2023, coffee showed bright export prospects for Indonesia. The competitive advantages of Indonesian coffee were determined by various aspects that include production areas and supportive policies developed by the government toward quality and productivity improvements (Harmiansyah 2023; Syifahati 2023). In addition, the industrial processing development of coffee was important to build up better value in exports (Husain 2023).

In the last few years, the amount of nutmeg and cardamom exported from Indonesia to China has increased tremendously. In 2019, this was recorded at 4,963 tons, but it increased spectacularly to 31,472 tons in the year 2023. The highest increase was observed during 2021-2023 when it increased by more than sixfold compared to the year 2019. This upward trend in the graph shows the demand for Indonesian nutmeg and cardamom in the Chinese market. This phenomenal growth pointed not only to the attractiveness of these commodities but also to Indonesia's big potential to become one of the leading suppliers in the global spice market. The rapid growth in these exports was thus a great opportunity that Indonesia should continue to capitalize on for further expansion of its market share and the strategic strengthening of its position in world trade.

Palm oil remained the largest commodity export from Indonesia by volume. In 2019, the exports of palm oil reached 5.2 million tons, which then nearly crashed to 3.8 million in 2020 with a -26% growth. It started recovering and reached 4.2 million tons in the year 2023, which was a 22% growth from the previous year. It had been fluctuating at the top of Indonesia's export commodities continuously and bounced back strongly after falling in 2020. The resilience of palm oil exports was very important to the economy of Indonesia for significant foreign exchange earnings and economic stability (Ulfah et al. 2019). However, increasing labor costs and international trade policies remained a constant threat to the competitiveness of the sector (Glorius et al. 2021; Umarach 2021).
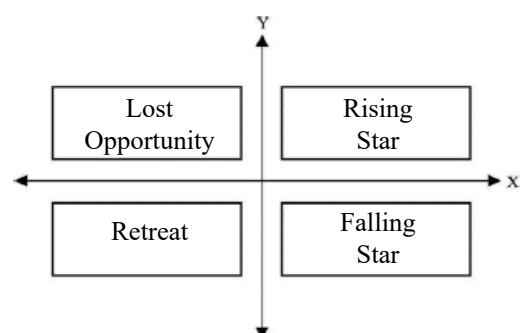

Figure 1. Matrix EPD

Table 1. Volume export (tons) bilateral trade between Indonesia and China

Commodity	HS Code	2019	2020	2021	2022	2023
Coconuts, Cashews, Brazil Nuts	HS 0801	184,042	277,530	385,523	322,412	383,362
Coffee	HS 0901	3,007	4,108	4,268	9,786	9,293
Nutmeg, Cardamom	HS 0908	4,963	10,165	20,131	23,580	31,472
Palm Oil	HS 1511	5,207,795	3,878,102	4,254,424	3,482,938	4,248,694
Copra	HS 1513	827,994	613,396	555,082	488,728	673,688
Natural Rubber	HS 4001	220,261	329,985	174,722	155,251	215,570

Quantitatively, copra exports continued their decline from 2019 through 2022-from 827,994 tons in 2019 to 488,728 the previous year, representing a 41% decrease. However, in 2023 there was a fluctuation that had been uncommon until then: an export volume of 673,688 tons during the current year was 38% higher compared to last year. Having continually decreased for some years, in 2023, coconut oil exports recovered very strongly, reflecting either renewed demand or improvement in the conditions of production and exportation. This fluctuation underlined the sensitivity of rubber exports with respect to global market dynamics (Amrulloh et al. 2021; Hariani et al. 2021).

The export of natural rubber has been highly fluctuating over the years. It showed a high growth of 50% in the year 2020, while it declined steeply by -47% in 2021. Starting its recovery, exports rose 39% in the year 2023 and touched 215,570 tons. Such high volatility in the volume of export of natural rubber indicated the situation regarding changing demand and the market situation worldwide. In this context, the year 2023 marked a much greater recovery of natural rubber exports.

Despite challenges in global markets, these commodities-nutmeg and cardamom, palm oil, and coffee-have remained dominant and showed positive long-term growth, while coconut oil and natural rubber steadily recovered from past declines. Cashew nuts also continued steadily in demand, with slight fluctuations in the most recent years. Such trends underpinned Indonesia's diversified agricultural export portfolio, given that from coffee, especially, strong growth potential was expected, with global consumption trends shifting toward specialty products and new markets, including China, continuing to develop.

Comparative Advantage Analysis

The RCA analysis of Indonesia's export commodities in the Chinese market was done for 6-digit HS codes on primary products like coconuts, cashews, Brazil nuts, coffee, nutmeg, cardamom, palm oil, copra, and natural rubber. The basis for measuring the competitive advantage of these commodities was derived through the Revealed Comparative Advantage method. Therefore, the value of RCA inferred the degree of comparative advantage that one commodity had compared to other commodities in the international market, particularly that of China. A higher value of RCA indicated a rather increased level of comparative advantage and competitiveness of a commodity within a target market.

Such analyses were important in determining the position of Indonesia in the global market, especially in measuring the degree to which these six commodities selected were capable of competing with similar products of other countries. A high value of RCA indicates that Indonesia enjoys a considerable comparative advantage in producing and exporting commodities to China, and that points toward export opportunities. Therefore, the RCA analysis allowed identifying commodities on which export growth strategies and trade policy improvements should be focused. Table 2 compared the RCA values for Indonesia's six major export commodities to the Chinese market and served as the basis for strategic decisions towards strengthening competitiveness in efforts to capture market share. With it, if the value of RCA was higher than 1, a country then had the comparative advantage in the production of the product; otherwise, if smaller than 1, the result was a comparative disadvantage.

Table 2. RCA analysis for Indonesia's export commodities to China

Year	Coconuts, Cashews, Brazil Nuts (HS 0801)	Coffee (HS 0901)	Nutmeg, Cardamom (HS 0908)	Palm Oil (HS 1511)	Copra (HS 1513)	Natural Rubber (HS 4001)
2019	2.84	0.20	12.22	63.64	85.67	16.66
2020	4.78	0.26	25.55	45.08	58.88	21.64
2021	4.49	0.15	33.06	35.08	41.08	7.50
2022	3.62	0.26	30.16	23.63	27.70	6.19
2023	3.47	0.28	39.77	29.52	37.92	8.80
Average	3.84	0.23	28.15	39.39	50.25	12.16

In the period under review, the RCA of five export commodities of Indonesia to China was above 1, with the exception of coffee. This means that Indonesia had a comparative advantage in exporting these five commodities above to China. However, the RCA value for coffee was always less than 1 during the 2019-2023 period, which means Indonesia did not have a comparative advantage in coffee exportation to China. Alexander and Nadapdap (2019) also agreed with this, since their findings showed that though Indonesia had the potential in the exportation of coffee due to its climate and region, its RCA for coffee remained lower, which means low capabilities against global competition.

Further, Sari and Utomo (2021) stated that factors of Indonesian coffee competitiveness include quality and productivity, which needed improvement to increase Indonesia's position in international markets. The results of Muhlis and Sulistyaningsih (2023) confirmed that the low value of Indonesian coffee RCA was driven by low prices and small market shares, with implications for weak competitiveness. This finding was supported by the study of Zuhdi et al. (2021), which explained that improvements regarding quality and productivity were also very important for enhancing coffee competitiveness in the Indonesian market globally.

Other factors contributing to competitiveness include regulatory aspects that are imposed by government policy. For instance, Amrulloh et al. (2021) claimed that such regulations about quality, for instance, contaminants in the product could affect the possibility of coffee export from Indonesia and require good bilateral relations to tackle the problem. Therefore, with all the high potential in Indonesia in coffee production, existing challenges indicate that efforts should be paid better to enhance the competitiveness of Indonesian coffee in export markets (in particular to China) by government and industry players.

The RCA value for coconuts, cashews, and Brazil nuts (HS 0801) was on an uptrend during 2019-2020 but then started declining over the next three years. An increasing RCA in 2019-2020 depicted that Indonesia was in a position to reinforce its position as one of the major suppliers of these products to the Chinese market. However, the decline in the next three years indicated challenges, while the five-year average RCA reached 3.84, which showed these commodities remained the main export products of Indonesia to the mentioned market. One of the factors that create a comparative advantage for a product is its quality. According to Setyawati et al. (2018), some commodities, such as cashews and Brazil nuts, had high demand in international markets, particularly in countries with large populations like China. Besides, Indonesian cashew nuts were quite competitive in the global market, according to research conducted by Mani and Yudha (2021), which could also be a reason for the upward trend in 2019-2020.

During the five years of observation, starting from the previous decline in 2021, nutmeg and cardamom (HS 0908) showed an upward trend. In 2023, the highest RCA value was reached at 39.77, showing that these commodities started to export quite steeply. The five-year average value of 28.15 indicated that nutmeg and cardamom were among the most competitive commodities within the Chinese market, with a trend to go further in growth potential. The extraordinary rise in the RCA during 2023 testified that Indonesia has been able to increase the competitiveness level of nutmeg and cardamom to an internationally more competitive level, especially within the Chinese Market. The need for nutmeg and cardamom added to the globalization of spice demand, hence a factor in increasing Indonesia's exports to the Chinese market. However, though the RCA value fell in 2021, the validation could be attributed to exogenous factors such as the COVID-19 pandemic, which stalled supply chains and global demand. According to Rahman and Sari (2021), during

the pandemic, many countries faced a decline in demand for various commodities, which might have affected the export performance of Indonesia. However, the quick recovery after 2021 suggested that probably the market recovered for nutmeg and cardamom, and Indonesia took advantage of the opportunity to increase its exports.

Comparative advantage decreased from 63.64 in 2019 to 29.52 in 2023 relative to palm oil (HS 1511), and in copra, it fell from 85.67 in 2019 to 37.92 in 2023. While Indonesia still held a strong comparative advantage for copra exports, this commodity, albeit decreasing, retained appealing comparative advantages. This decline reflected the challenge faced by the Indonesian palm oil and copra industries in keeping their respective products competitive in the international market. With this decrease in RCA, innovation quality improvement, and supply chain strengthening would be required to sustain and enhance competitiveness in international markets.

In the case of HS 4001 natural rubber, it seesawed: it peaked in 2019 with an RCA value of 16.66, while in 2022 it fell to 6.19. In 2023, it increased again to 8.80, reflecting a recovery in competitiveness. These changes could likely be influenced by a variety of factors, including changing global demand, commodity prices, and trade policies by importing countries.

Competitive Advantage Analysis

The EPD methodology provided insight into the positioning and competitiveness of different commodities in the international market, particularly in China. It measured the competitive advantage of each product while mapping the dynamic movement of the represented position of that commodity, targeted to be exported by the country. For this reason, the following tests became indispensable: Six agricultural commodities, namely coconuts, cashews, Brazil nuts (HS 0801); coffee (HS 0901); nutmeg, cardamom (HS 0908); palm oil (HS 1511); copra (HS 1513); and natural rubber (HS 4001). The analysis of these diverse products was specifically needed to get an idea about the competitive advantages of those commodities in the Chinese market. The EPD methodology was necessary to look at the performance of the product within the context of export, which considers two important variables: Growth Share X, defined as growth in a product's export share, and Growth Share Y, or the growth of the world market share.

With this, the analysis allowed each commodity to be mapped in the four-quadrant EPD matrix, namely: Rising Star, Falling Star, Last Opportunity, and Retreat. Each quadrant provided information with respect to the export performance of the product and about the opportunities or challenges that the product faced in the world market. It was possible to identify, through the EPD approach, those leading products that have great potential for further growth in the export market. The results of the EPD calculations will underline more clearly the trends and dynamics that have driven commodity export growth in Indonesia, including, for instance, how these products compete against the best producers in international markets. This provided useful analysis to frame appropriate policy responses at both the enterprise and national levels in pursuits as diverse as the improvement of product quality and strengthening supply chains to enhance international promotion strategies.

The results from the EPD analysis using the data from 2019 to 2023 for the six commodities exported to China for all products were positive in export share growth, as seen in Table 3. Nutmeg and cardamom (HS 0908) recorded a very high export share growth of about 65.29%. Therefore, it showed that such commodities have become increasingly competitive and in demand in the Chinese market. It indicated that such products have huge potential for continuous growth in China and may further expand to other regions.

Qian (2023) explained that this would enhance the quality of agricultural exports and, therefore, consolidate such positions in the international market. To this end, nutmeg and cardamom, high-value-added commodities, could use the recognition to enhance their competitiveness in the Chinese and global markets. Jin (2023) estimated that cross-border e-commerce would play an important role in enhancing the quality and competitiveness of the agricultural products exported from China. The digital platforms would be useful for the producers of nutmeg and cardamom, thereby helping to enhance the visibility of their products within the international market. On the whole, such a rise in the share of nutmeg and cardamom exports to China testifies that these commodities, with appropriate policy support they could get, together with innovative market linkages with which they were involved, bright prospects exist for further development both in domestic and international markets.

Table 3. EPD analysis of Indonesian export commodities to China

Commodity	HS Code	Growth Share X (%)	Growth Share Y (%)
Coconuts, Cashews, Brazil Nuts	HS 0801	28.61	17.84
Coffee	HS 0901	32.65	17.84
Nutmeg, Cardamom	HS 0908	65.29	17.84
Palm Oil	HS 1511	-0.85	17.84
Copra	HS 1513	4.02	17.84
Natural Rubber	HS 4001	9.15	17.84

Meanwhile, palm oil suffered from a slight decline in export share of -0.85%, though it grew 17.84% in the global market share. It indicated that Indonesian palm oil was in a less competitive position in the Chinese market and inversely, demand kept increasing in the global market. One of the factors that contribute to this situation is that the importing countries, including China, applied some non-tariff barriers which may affect the competitiveness of Indonesian palm oil. For instance, the European Union banned the importation of palm oil from Indonesia, factoring in its environmental grounds as a means to discriminate against Indonesian products in the global arena (Rahayu and Sugianto 2020). Besides, according to Othman et al. (2022), tight trade policies and environmental regulations by the importing countries could undermine the market opportunity available for Indonesian Palm Oil. This meant that Indonesian products were still facing a lot of obstacles amidst the growing global demand for the product, inhibiting export growth.

Another factor contributing to the decline in export share that palm oil has is underperformance in the downstream industry. While Indonesia had the potential for value addition through the processing of palm oil, limitations were observed in low investment in crop rejuvenation and poor productivity of crops. According to Azahari (2019), this generally affected the quality and quantity of the products and, subsequently, competitiveness in the global market.

Copra and natural rubber exports to China continued to increase, though at a rate lower than the rise of the global market share. Some factors explained such dynamics: international trade policies, global demand, and the competitiveness of Indonesian products in the international market.

First, in natural rubber production, Indonesia was among the top positions in world production, with a percentage of 27.95% in global natural rubber production (Aprilini,

2023). Despite Indonesia's positive growth on record in natural rubber exports, international market challenges brought this segment to decline after the influence of the U.S.-China trade war (Prasada and Dhamira 2022). This in return, led to a trade war that contributed to lowered global production and international trade. As such, this has placed Indonesia in a position where it needed to expand its natural rubber market to other countries as Prasada and Dhamira (2022) assert. This underlined the fact that exports to China, though on a growing trend, could not depend on a single market for continued growth.

Second, concerning the copra industry, despite the increase in demand for coconut products at the global level, such as copra and coconut oil, Indonesia still faces challenges in increasing its market share on the global platform (Prades et al. 2016). As indicated by studies, what is needed to maximize export opportunities is good macroeconomic policy measures that ensure the competitiveness of Indonesian coconut products in the export market (Mulyadi et al. 2019). Other factors that could contribute to export performance include the quality of the product and also effective marketing strategies (Anggrasari 2023).

Referring to Figure 2, in the Chinese market, five commodities from Indonesia (excluding palm oil), a major exporter, were positioned as rising stars. Each commodity demonstrated strong competitive advantages. As shown in the matrix, all six commodities had positive values on both the X and Y axes, with nutmeg and cardamom (HS 0908) holding the highest position. Commodities in this quadrant exhibit high export share growth as well as an increasing global market share, indicating strong performance and substantial export potential. This showed that these commodities were in demand and had the potential for continued growth (Reviane et al. 2022). Consequently, this opened up opportunities for Indonesia to expand its market penetration in China through increased

production capacity, product diversification, and innovation to maintain a strong position in this competitive market (Malau et al. 2022).

Although these five commodities were in a favorable position, Indonesia still needed to improve product quality and value addition to strengthen its competitiveness in both the Chinese and global markets. Focusing on further processing of raw materials into higher-value-added products could result in better selling prices and attract a broader market segment (Nurhayati et al. 2018). This approach could also enhance the competitiveness of Indonesian products amid growing global competition. To sustain momentum as a rising star, Indonesia needs to invest in research and development (R&D) to create product innovations that align with Chinese consumer preferences (Roache, 2012). For instance, nutmeg and cardamom (HS 0908), which showed the highest performance, could be further developed into processed or organic products with higher added value, aligning with global consumer trends that increasingly prioritize healthy and environmentally friendly products (Gauvin and Rebillard 2018).

Government policy support from Indonesia was also crucial in strengthening the export ecosystem. Policies that support infrastructure, provide incentives for exporters, and create trade agreements that facilitate market access could help Indonesian exporters expand their market share in China (Arvis et al. 2014).

Research indicated that sound policies regarding logistics and trade could reduce non-tariff barriers and improve supply chain efficiency (Febransyah and Goni 2020). Thus, a combination of improved product quality, innovation, and strong policy support will enable Indonesia to fully capitalize on the potential of the Chinese market.

Managerial Implications

All these emerging trends of Indonesia's agricultural exports to China had several important implications for policymakers, businesses, and international trade strategists. Although Indonesia has developed competitive advantages in the exports of cashew nuts, palm oil, coconut oil, and natural rubber to China over the years, in comparative perspective, its coffee exports remained rather less competitive than those of its competitors, though it has grown recently. According to the EPD analysis, coffee was seen to be a "Rising Star", due to increasing demand in China, with the Indonesian share in the market also on the rise. However, Indonesian coffee was still below 1 in RCA, signifying it within a comparative disadvantage next to big exporters like Brazil and Vietnam (Pratita & Budiarto, 2021). Indonesian coffee had the potential for increasing growth, but it was still at a disadvantage in competitiveness, especially in comparison with these leading exporters. This would imply that there was ample room for betterment in productivity and export strategy related to Indonesian coffee.
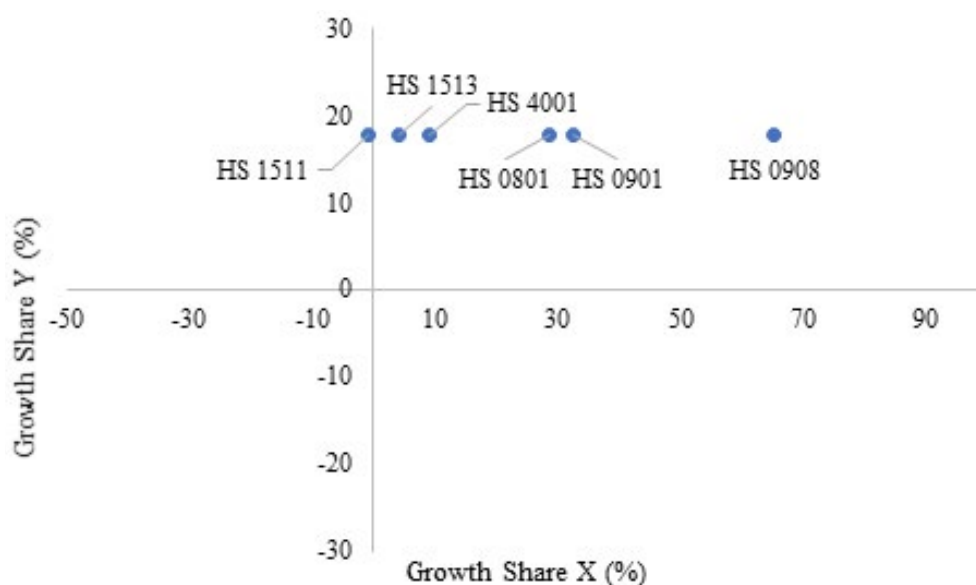

Figure 2. EPD matrix of Indonesian export commodities to China

Overcoming these challenges involved enhancing productivity and quality control, particularly in the coffee sector. In this light, investment in good agricultural practices, post-harvest handling, and other activities that would entail sustainability certifications- for example, Fairtrade and Rainforest Alliance-offered a better alternative to increase the Indonesian coffee quality and marketability. Above all, it could heighten the competitiveness of Indonesian products while meeting the environmentally and ethically conscious consumers in China where sustainability was a key purchasing factor. Researchers have documented that in high-growth markets like China, the consideration of sustainability certification has increased in consumers' purchasing decisions (Witjaksono et al. 2022).

It was important that the Indonesian focus remained on developing value addition, a sure way of improving market share and profitability. In short, the need for value addition in farm commodities was to ensure better returns on exportation. Modernizing the supply chains and processing infrastructure would allow Indonesia to attempt and meet its increasing share of the market in China and beyond (Purba et al. 2021). Value addition into higher-order products impartially packaged or branded commodities like coffee, nutmeg, and cardamom would in any case go hand in glove with the global trends of premiumization, adding economically to the country's revenue through exports. Investments in modern infrastructure and supply chain enhancements would hence translate to an uptick in Indonesia's output, processing, and export capabilities.

Another major obstacle was the NTBs imposed by China. These included strict product standards, licensing restrictions, and quantitative import quotas for Indonesian goods entering the Chinese market. In the face of these challenges, Indonesia needed to adopt strategic trade diplomacy that renegotiates bilateral agreements like the ASEAN-China Free Trade Agreement to secure better market access and reduce trade barriers (Udin, Sinaga, & Firdaus, 2014). Hence, it solely depended on how stronger diplomatic and trade relations are established with China that may help obtain NTBs and conditions of the improved market. Besides, the boom in China's e-commerce industry creates new opportunities for Indonesian exporters. Cross-border integration between Chinese and Indonesian e-commerce platforms like Alibaba and Tokopedia could provide wider market access to farm products from Indonesia. With higher demands for more luxurious, ethically sourced products in urban centers across China, the ability to reach buyers directly through digital platforms will continue to expand Indonesia's market exposure. Indeed, studies find that e-commerce development in China could become a really impressive channel for Indonesian agricultural exports (Song 2023). In summary, Indonesia's agricultural export strategy needed to be undergirded with improvement in product quality, value addition, active trade diplomacy, and exploiting digital trade platforms. Such a multidimensional approach will effectively allow Indonesia to tap into China's growing demand and consolidate its position within the global agricultural market. Accordingly, with a long-term perspective, Indonesia could achieve resilience in export performance in various markets.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

This paper investigated the performance of Indonesian agricultural exports to China in the period 2019-2023, using Revealed Comparative Advantage and Export Product Dynamics methodologies. Some commodities have performed really well, such as nutmeg and cardamom, which are now entitled to get the status of "Rising Stars" in the Chinese market. These are products, that, encouraged by the increase in demand and the preference for natural, high-added value goods on the part of consumers worldwide, held great promise for further expansion. In this category, on the other hand, were commodities such as palm oil and copra, whose competitiveness has gone on a downward slide. Indeed, international trade policies and rising labor costs made it rather challenging for these commodities to maintain their position in global markets. Nevertheless, despite these challenges, improvement in the quality of the products and innovations along the supply chain could allow Indonesia to be more competitive in the future. The study suggests that methods to enhance the quality of products through value addition and removal of non-tariff barriers by the importing countries could improve the competitiveness of agricultural products both in the Chinese and global markets. In any case, the political support for infrastructure, logistics, and international promotion was crucial for enhancing Indonesia's export performance. When backed by appropriate trade policies and product innovations, Indonesia could realize the full potential for its agricultural commodities, especially within international markets and most especially in China.

Recommendations

The following are strategic action recommendations that would enhance Indonesia's competitiveness in efforts to capture the markets, both Chinese and global: Value addition to commodities such as nutmeg, cardamom, and coffee through quality improvement would enhance their attractiveness. Higher-value products or certified organic products were achieved through investment in technologies that enable such products to have a distinctive edge in these competitive markets. Besides, addressing NTBs was key in the quest to improve market access. Indonesia should strive for trade diplomacy in order to negotiate better terms from bilateral agreements like the ASEAN-China Free Trade Agreement. Additionally, the policies by the government should encourage exporters via logistics enhancements, reducing supply chain inefficiencies, and incentivizing innovation. Particularly, digital platforms have presented a good avenue to expand market access and more cross-border e-commerce. Working together with Alibaba-like platforms allowed for direct contact with consumers in China. Finally, investment in R&D could align exportable Indonesian products with the highly changing global consumer demand currently fixated on health-conscious and environmentally sustainable niches. Indeed, by focusing on such areas, Indonesia could shore up its agricultural export performance and secure long-term growth in the Chinese market.

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