

## The Competitiveness and Export Performance of Indonesian Coffee in the Organization of Islamic Cooperation (OIC)

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### Abstract

*Established in 1969, the Organization of Islamic Cooperation (OIC) has aimed to foster cooperation among Islamic countries, yet its impact, particularly in trade, remains uneven. Indonesia, despite being a leading coffee producer, faces challenges in maximizing its trade potential within the OIC framework. This research critically evaluates the competitiveness and export performance of Indonesian coffee to OIC countries using the Revealed Comparative Advantage (RCA) and Constant Market Share (CMS) methods, questioning the effectiveness of this long-standing economic cooperation. The study reveals that Indonesian coffee exports to the OIC and selected countries between 2010 and 2022 have shown an overall upward trend, with notable growth in Algeria, Egypt, Iran, and Morocco. However, the market dynamics vary, with Indonesia's market share facing challenges in Algeria, where Vietnam dominates. The study emphasizes the need for Indonesia to tailor its product offerings and strategies to align with local consumer preferences to enhance competitiveness, especially in markets like Algeria. The unique contribution of this study lies in its detailed analysis of Indonesia's export performance in diverse OIC markets, highlighting the critical importance of market-oriented strategies and adaptive competitiveness to sustain and improve Indonesia's position in the global coffee trade.*

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## 1. Introduction

Agricultural exports have become a significant driver of economic development (Hermawan et al., 2023), particularly for developing countries (Hoang, 2018; Xu, Nghia, & Nam, 2023). The positive impact of agricultural commodity exports on economic growth has been well-documented, with evidence showing that they contribute substantially to Indonesia's economic expansion (Arifah & Kim, 2022). Beyond their economic contributions, agricultural exports enhance developing countries' participation in international trade, fostering increased production, improved diplomatic relations, and access to foreign products (Dooranov et al., 2023). Consequently, nations worldwide, including Indonesia, have been striving to bolster their export capacities, leveraging their geographical advantages to specialize in agricultural exports, particularly in plantation commodities (Rum & Rijoly, 2020; Tety, Kurnia, & Andriani, 2022).

Indonesia has been particularly focused on enhancing the competitiveness of its agricultural products in international markets through improved productivity, robust export policies, and strengthened institutional support (Sulaiman, Ali, & Ahmad, 2020). Additionally, strategies to boost agricultural exports have included optimizing traditional markets while also exploring and diversifying potential new markets (S. T. Wahyudi & Maipita, 2019). This dual approach is vital for sustaining export growth and mitigating the risks associated with over-reliance on established markets.

As a developing country with the fourth-largest population globally, surpassing 270 million people in 2020 (World Bank, 2023), and with a majority Muslim population of 87.40 percent (Ministry of Religious Affairs, 2022), Indonesia plays a crucial role within the Organization of Islamic Cooperation (OIC). Established in 1969, the OIC is the second-largest intergovernmental organization after the United Nations, comprising 57 member states across four continents (Hassan, Sarwar, & Muazzam, 2016). Among these, Indonesia has the highest GDP, reaching IDR 15,833 trillion in 2019, positioning it as the 16th largest economy globally (Central Statistic Agency of Indonesia, 2019). Other OIC countries with significant GDP values (top 40 globally) include Saudi Arabia, Turkey, Nigeria, Iran, the United Arab Emirates, Malaysia, and Egypt (World Bank, 2020). The economic landscape of these OIC member countries suggests a substantial potential for intra-OIC trade, further reinforced by the fact that OIC countries account for 22.3 percent of the global population (World Bank, 2023). This demographic and economic context underscores Indonesia's strategic potential to expand and deepen trade relationships within the OIC.

Coffee is one of Indonesia's key export commodities with significant potential for integration into the global economy (Hong, 2016). From 1995 to 2015, global coffee production increased by 65 percent, driven by substantial output growth in leading coffee-producing countries such as Brazil, Colombia, and Vietnam, with Vietnam's production growing by 600 percent (Torok, Mizik, & Jambor, 2018). This surge in production underscores the high global demand for coffee, making it one of the top export commodities worldwide, second only to oil (Pascucci, 2018). This global trend presents Indonesia, as a major coffee producer, with a unique opportunity to enhance its trade relations, particularly within the OIC.



According to data from the International Trade Centre, (2024c), Indonesia's coffee exports to OIC countries in 2019 were valued at approximately US\$152 million, representing about 17.20 percent of the country's total coffee exports. In comparison, exports to ASEAN and the European Union were valued at US\$113 million and US\$185 million, accounting for 12.84 percent and 20.98 percent of Indonesia's total coffee exports, respectively. Market share analysis indicates that Indonesia's coffee exports met about 9.80 percent of the coffee demand in OIC countries in 2019, whereas market shares in ASEAN and the European Union were approximately 16.86 percent and 1.26 percent, respectively.

The competitive dynamics within the European Union, where Indonesia faces stiff competition from major coffee producers like Brazil, Colombia, and Vietnam—whose market shares reach up to 26.77 percent—suggest that the OIC market may offer a more viable and strategic opportunity. Given Indonesia's significant role in the OIC, the country is well-positioned to capitalize on these opportunities to strengthen its coffee export performance within the organization. This potential can be further maximized by enhancing the competitiveness of Indonesian coffee in OIC markets through targeted strategies and robust trade policies.

Previous research has extensively explored various aspects of the Indonesian coffee industry but has offered limited insights into its performance within the OIC market. For instance, Nasution et al. (2018) utilized an artificial neural network model to forecast Indonesian coffee exports, providing valuable insights for industry stakeholders. Siregar et al. (2019) emphasized the significance of quality for Mandailing coffee from North Sumatra, while A. Wahyudi et al. (2020a) highlighted the growing demand for certified coffee and the benefits of sustainable practices for smallholders. Darmi et al. (2020) examined price transmission patterns between Sumatera Utara coffee and international markets, revealing both symmetric and asymmetric pricing influences. Sihombing et al. (2020) analyzed factors affecting North Sumatran coffee exports to key markets like the U.S., Malaysia, and Japan. Sutarmin et al., (2022) focused on the importance of the roasting process in Brebes Regency, and Lucik et al., (2022) identified asymmetric price transmission between Indonesian and U.S. coffee prices, suggesting potential market power issues. Suryana et al. (2023) applied the Global Value Chain framework to show Indonesia's emphasis on upstream coffee stages, while Gois et al. (2023) noted Indonesia's strong Revealed Symmetric Comparative Advantage (RSCA) in the global coffee market. Lastly, Ashadi et al. (2023) addressed the low adoption of innovative technology among Indonesian coffee farmers, linking it to social capital and information networks.

This study aims to address a crucial gap in the literature by focusing specifically on the competitiveness and export performance of Indonesian coffee within the OIC market—a key area that has not been extensively explored despite its strategic importance. By examining Indonesia's coffee sector within the OIC, this study seeks to provide insights that can enhance export strategies, strengthen market presence, and leverage Indonesia's strategic position to improve its coffee trade performance.

## 2. Literature Review



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International trade activities relate to buying and selling or exchange activities carried out between two or more countries based on two reasons: when each country is fundamentally different from the others and each country aims to achieve economics of scale in production (Li, Liu, Wang, & Wang, 2022). The international trade theory as a concept in economics began when the invisible hand was coined by Adam Smith and became known as the precursor to the theory of absolute advantage. Some references say that the theory does not reflect the original thinking of its originator. However, the theory has inspired many learners to interpret the efficiency achieved in perfect competition markets (Dupont & Durham, 2021). As time has progressed, some classical economists argue that economic growth depends not only on main inputs (land, labor, capital, and technology) but also on social, economic, and political structures (Ucak, 2015). This thinking laid the groundwork for the emergence of a new theory of international trade introduced by David Ricardo called comparative advantage, with the general interpretation being that comparative advantage is a major analytical step up from absolute advantage (Machado & Trigg, 2021). Mamina et al., (2020) explain that the theory of comparative advantage is a concept where countries with more efficient production factors for a product tend to export it, and vice versa, they will import products that do not have efficient production factors.

In simple terms, David Ricardo simplifies the law of comparative advantage into a basic assumption, they are trade is free, production costs are constant, there are no transportation costs, and there is no technological change, using labor theory, there are only two countries and two commodities, and there is perfect labor mobility within a country but no mobility between two countries (Crespo, Dvoskin, & Ianni, 2021; Marjit & Das, 2021). The Ricardian trade theory ultimately gave rise to the concept of RCA (revealed comparative advantage) (Ahmad, Anwar, Badar, Mehdi, & Tanwir, 2021). The RCA concept was initially used by Liesner in 1958, but the most frequently used RCA index is the Balassa index after its use was popularized by Balassa in 1965 and 1989 (Stellian & Danna-Buitrago, 2022). Balassa argues that for a given country, the revealed comparative advantage of a product is defined as the ratio of that product's share in world trade. If this index is greater than one, the country is considered to have a comparative advantage in its products, while a value below one indicates a comparative disadvantage (Rashid, Maqbool, Shafiq, & Afzal, 2022).

Coffee is an internationally traded agricultural commodity produced in more than 70 countries throughout the world (Tadesse & Abafita, 2021a). International coffee trade involves developed countries which are generally coffee consumers with developing countries being coffee producers (Sujaritpong, Yoo-Kong, & Bhadola, 2021). Developing countries that are the largest coffee producers in the world include Brazil, Vietnam and Colombia which control around 55 percent of the world market share (Kangile et al., 2021; Tadesse & Abafita, 2021b). Indonesia is one of the world's coffee producers which is involved in international coffee trade and is considered to have a comparative advantage on the world coffee trade map (see (Apriani, Marissa, & Mahdi Igamo, 2022; Baroh, Hanani, Setiawan, & Koestiono, 2014; Rahardjo, Akbar, Iskandar, & Shalehah, 2020; Tampubolon, Ginting, Nainggolan, & Tarigan, 2023). The ten main coffee-producing countries are considered to still have a comparative advantage in international trade with the largest average RCA growth belonging to Ethiopia, Indonesia and Honduras with respective values of 19.62 percent/year, 6.25 percent/year and 4.84 percent/year (Rosiana, Nurmalina, Winandi, & Rifin, 2017).



Previous research apart from analyzing the competitiveness of Indonesian coffee in the international market, has several studies that measure the competitiveness of Indonesian coffee in certain destination countries or regions. Research (Novariani, Muchtolifah, & Sishadiyati, 2021; Syahputri, Hasnah, & Khairati, 2023a) shows that Indonesian coffee has strong competitiveness in Japan. In the United States market, Indonesian coffee also has strong competitiveness in meeting coffee demand and competing with Vietnam (Pratita & Budiarto, 2021a). Coffee, as one of Indonesia's main plantation products, also still has strong competitiveness in the ASEAN region (Aklimawati, 2016). However, in the German market, Indonesian coffee is considered uncompetitive (Zuhdi & Yusuf, 2021).

Although there has been a lot of research analyzing the competitiveness of Indonesian coffee with various regional coverage, including its competitiveness in international markets, regions and certain destination countries, there is still little research on the competitiveness of coffee in OIC member countries, both specifically to certain member countries and in aggregate. This is novel in this research because it aims to analyze the competitiveness of Indonesian coffee in the OKI market which has 57 countries from the African, Asian and European continents, thereby filling the current literature gap. The results of this analysis are certainly very useful for the development and diversification of the Indonesian coffee export market. Diversifying the export market is important because even though Indonesia's competitiveness is still considered strong in international markets, in some conventional markets Indonesia's competitiveness is lower than other coffee-producing countries such as Japan, whose competitiveness is below that of Colombia, Brazil and Vietnam (Syahputri, Hasnah, & Khairati, 2023b) and in the United States which is unable to compete with Vietnamese coffee which has better export performance (Pratita & Budiarto, 2021b).

### 3. Research Methods

This research uses time series data over a 12-year period (2010-2022) gathered from various sources such as the International Trade Centre, FAOSTAT, and the United Nations Comtrade Database (UN Comtrade). The object of this research is coffee commodity with HS (Harmonized System) code 0901, with Indonesia as the subject of the study and the OIC as well as several countries within the OIC such as Egypt, Morocco, Iran, and Algeria (hereinafter referred to as sample countries) as the objects of the study, as these countries are the largest importers of coffee commodities from Indonesia. This study uses the Revealed Comparative Advantage (RCA) analysis tool to measure export competitiveness and the Constant Market Share (CMS) to measure export performance.

Revealed Comparative Advantage (RCA) is used to measure the export competitiveness of Indonesian coffee in the OIC and several OIC countries. RCA has been used in many studies to measure international competitiveness because it is a dynamic analysis tool capable of measuring competitiveness in various sectors, especially the agricultural sector (Benesova, Maitah, Smutka, Tomsik, & Ishchukova, 2017; Bojnec & Fertó, 2017; Granabetter, 2016; Kuldilok, Dawson, & Lingard, 2013). RCA is a superior analytical tool due to its simplicity, requiring minimal data for its calculation. However, on the other hand, RCA sometimes overestimates a country's comparative advantage. Another weakness of this analysis is the significant asymmetry, as the resulting index ranges from 0 to infinity (Podoba, Gorshkov, &



Ozerova, 2021). The concept of RCA is the ratio of a country's market share of a product in the world to its export share of the total world exports. Mathematically, the RCA value can be calculated using the following formula (Frija, Dhehibi, Salah, & Aw-Hassan, 2017)

$$RCA = \frac{\left(\frac{Xki}{Xti}\right)}{\left(\frac{Wk}{Wt}\right)}$$

Where:  $Xki$  is export of country  $k$  in product  $i$ ;  $Xti$  is total world export of product  $i$ ;  $Wk$  is total export of country  $k$ ; and  $Wt$  is total world export.

The RCA index ranges from 0 to infinity. If the RCA value is  $> 1$ , it indicates competitiveness in the export product, while if the RCA value is  $< 1$ , it indicates lack of competitiveness in the export product. The higher the RCA value, the greater the competitiveness of the export product.

Constant Market Share (CMS) is an empirical analysis widely used to measure the performance of a product's exports and changes in the international trade structure (Batista, 2008; Capobianco-Uriarte, Aparicio, & De Pablo-Valenciano, 2017; Fontoura & Serôdio, 2017). Although widely used by many researchers, CMS unfortunately still has a drawback known as the 'CMS index number problem' This issue arises because a country's exports and world exports continue to evolve over time, while the CMS index is only applicable in a limited (discrete) manner (Nuddin, Azhar, Gan, & Khalifah, 2018). In this study, CMS is used to measure the source of export growth for Indonesian coffee to the world. The growth of Indonesian coffee exports can be described by dividing it into four influences: World Demand Effect, Commodity Composition, Market Distribution Effect, and Competitiveness Effect. The export growth in CMS can be decomposed with the following formula (Kamal, Khan, & Gohar, 2020):

$$\Delta X = \sum_{i=1}^n rXi + \sum_{i=1}^n riXi - \sum_{i=1}^n rXi + \sum_{i=1}^n \sum_{j=1}^n rijXij - \sum_{i=1}^n riXi + \Delta X - \sum_{i=1}^n \sum_{j=1}^n rijXij \quad (2)$$

World Demand

Commodity Composition Effect

Market Distribution Effect

Competitiveness Effect

Where:  $\Delta X$  represents the actual change in a country's exports,  $r$  represents the percentage increase in total world exports,  $ri$  represents the percentage increase in exports of commodity  $i$  in the world,  $rij$  represents the percentage change in world exports of commodity  $i$  in region  $j$ ,  $Xi$  represents the export of commodity  $i$  from Indonesia to the world, and  $Xij$  represents the export of commodity  $i$  from Indonesia to region  $j$ .

These effects can be interpreted as follows:

- a. World demand effect reflects the impact of world demand growth on the export growth of exporting countries.
- b. Commodity composition effect reflects the contribution of a country's exports of a commodity to importing countries.



- c. Market distribution effect reflects the export response of exporting countries to increased demand from importing countries.
- d. Competitiveness effect reflects the impact of other factors on export growth such as changes in relative prices, government policies, and non-price factors.

## 4. Results

### Overview of Indonesian Coffee Export Development

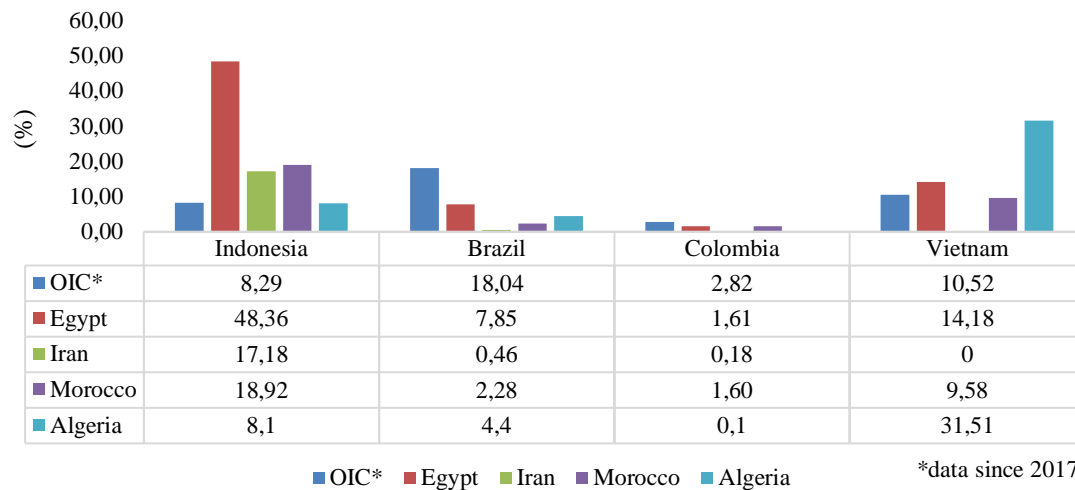
Between 2010 and 2022, Indonesian coffee exports to the OIC and selected sample countries demonstrated variable growth patterns with an overall upward trend. According to data from the International Trade Centre (2024c), the export value of Indonesian coffee to the OIC reached USD 209 million in 2022, reflecting an average growth rate of 9.14 percent. This aligns with the general positive export growth observed in the sample countries. Notably, Algeria exhibited the highest growth rate at 34.71 percent, followed by Egypt (15.22 percent), Iran (14.45 percent), and Morocco (5.97 percent).

While the overall upward trend is promising, it is important to recognize that the varying growth rates reflect different market dynamics and competitive pressures. The high growth rate in Algeria might indicate a rapidly evolving market or strategic shifts by competitors. This variation underscores the need for a nuanced understanding of each market's unique conditions rather than assuming uniform growth patterns across all regions.

This growth in export value has positively impacted Indonesia's market share within the OIC countries. For instance, Indonesia's coffee export market share in Egypt averaged 48.36 percent, surpassing Morocco (18.92 percent), Iran (17.18 percent), and Algeria (8.10 percent). The Chairman of the Coffee Division at the Egyptian Chamber of Commerce reported that approximately 70 percent of Egypt's coffee imports are from Indonesia, attributed to its competitive pricing and high quality (Samir, 2019). Despite these positive indicators, Indonesia's coffee export market share in Algeria remains below that of Vietnam, which holds a significant 31.51 percent share (Figure 1). The Vietnamese Trade Office in Algeria noted that Algerian consumers generally prefer affordable, mid-grade coffee products with diverse packaging, which could explain Vietnam's stronger performance in that market (Trang, 2022).

The disparity in market share between Indonesia and Vietnam in Algeria highlights the importance of aligning product offerings with local consumer preferences. Indonesia's strong presence in Egypt suggests effective market penetration there, but the lower share in Algeria compared to Vietnam points to a need for strategic adjustments. Tailoring product attributes and marketing strategies to meet specific consumer demands in each market can help improve competitive positioning and market share.





Source: (International Trade Centre, 2024a)

**Figure 1.** Market Share of Indonesian Coffee Exports and Other Exporting Countries to the OIC and Sample Countries from 2010 to 2022

### Market Share Analysis and Competitive Landscape

Figure 1 illustrates Indonesia’s dominant position in the coffee market across most sample countries. According to the International Trade Centre 2024b), the only exception is Algeria, where Vietnam’s coffee exports lead. The variation in market shares is attributed to differing market orientations among exporting countries. Research indicates that market orientation is closely linked to business performance and innovation (Jaworski & Kohli, 2012; Kirca, Jayachandran, & Bearden, 2005; Slater & Narver, 2016), suggesting that a focus on consumer needs can drive innovation and reduce market saturation of similar products (Lukas & Ferrell, 2000).

The dominance of Indonesian coffee in most markets except Algeria reflects strategic market orientation and effective brand positioning. However, the exception of Algeria, where Vietnam leads, suggests that market saturation and consumer preferences play crucial roles. While Indonesia has managed to capture significant market share in various regions, the variance in Algeria underscores the importance of continuous market research and adaptation to local preferences. The observed market orientation effects suggest that Indonesia may need to innovate or adjust its strategies to compete more effectively in Algeria.

Brazil, for example, allocates 74.65 percent of its coffee exports to Turkey, whereas Indonesian coffee exports to Turkey are minimal at just 0.12 percent. In contrast, Vietnam’s market share is more evenly distributed, reflecting a broader market strategy across Egypt (14.18 percent), Morocco (9.58 percent), and Algeria (31.51 percent). This suggests that Brazil’s concentrated approach to Turkey contrasts with Vietnam’s diversified strategy, highlighting differing market strategies among major coffee producers.

The stark contrast between Brazil’s concentrated export strategy to Turkey and Vietnam’s more diversified approach reveals the impact of market strategies on international trade performance.





Brazil's focus on a single market, while potentially beneficial in the short term, limits its exposure and flexibility. Conversely, Vietnam's broader strategy across multiple markets, including higher shares in diverse regions, indicates a more resilient approach to market fluctuations and competitive pressures. This diversification likely provides Vietnam with a competitive edge by reducing dependency on any single market and addressing a wider array of consumer preferences.

### **Potential and Market Dynamics of the OIC**

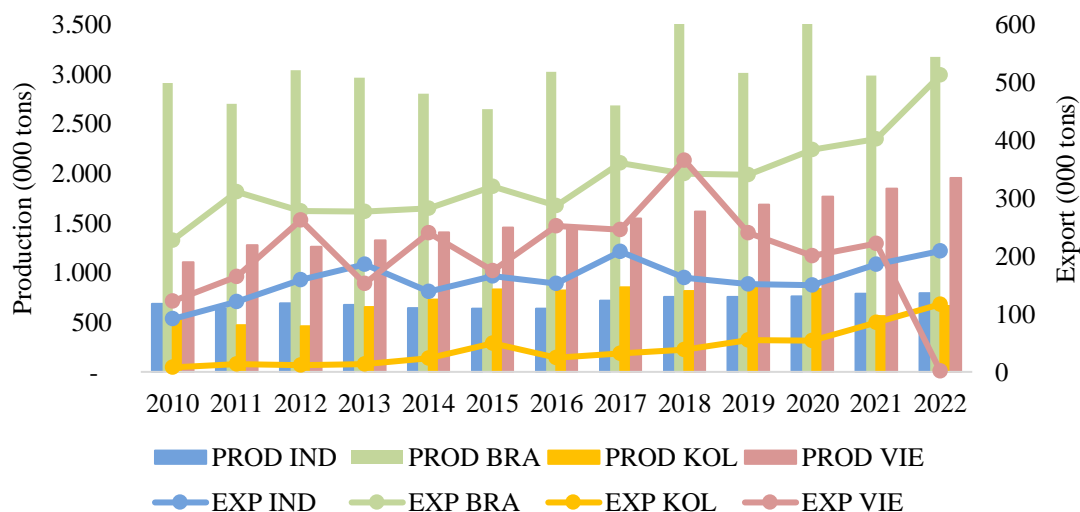
The OIC's potential as a coffee export destination is evident from the average annual growth rate of OIC coffee imports, which stands at 10.29 percent. Despite not being a primary market, the OIC accounts for 5.49 percent of global coffee imports, indicating future growth potential. Nevertheless, Indonesia's average coffee production growth from 2010 to 2022 is relatively modest at 1.38 percent, lagging behind Brazil (1.83 percent), Colombia (3.3 percent), and Vietnam (4.93 percent) (Food and Agriculture Organization, 2024). This disparity in production growth may stem from limitations in production efficiency, resource management, or technological advancements compared to competitors.

The relatively low production growth rate in Indonesia highlights potential areas for improvement in efficiency and technology. While Indonesia's coffee exports to the OIC have increased, the modest growth in production suggests that other factors, such as market demand or strategic pricing, may be driving export performance rather than production capacity alone. The slower growth compared to Brazil, Colombia, and Vietnam could indicate challenges in scaling production or adopting new technologies. Addressing these issues could enhance Indonesia's competitiveness and better align its production growth with export opportunities in the OIC.

Despite modest growth in coffee production in Indonesia, the country's coffee exports to the Organization of Islamic Cooperation (OIC) have not been significantly impacted. In fact, Indonesia has seen a notable increase in its coffee exports to the OIC, with a growth rate of 9.14 percent. Similarly, other major coffee-exporting countries, including Brazil, Colombia, and Vietnam, have also experienced increases in their coffee exports to the OIC, with growth rates of 7.98 percent, 33.15 percent, and 2.77 percent, respectively. For a detailed analysis of the trends in coffee production and export volumes from Indonesia and other exporting countries to the OIC, please refer to Figure 2.

The growth in coffee exports from Indonesia to the OIC, despite modest production increases, suggests that Indonesia may be effectively leveraging its existing production capacity or employing successful marketing and distribution strategies. This trend contrasts with the varying growth rates among other major exporters, where significant disparities exist. The notable export growth for Indonesia could reflect its strategic positioning within the OIC market or a favorable trade environment. However, the lower production growth relative to competitors could be a concern if demand continues to rise, potentially leading to future supply constraints or increased competition.

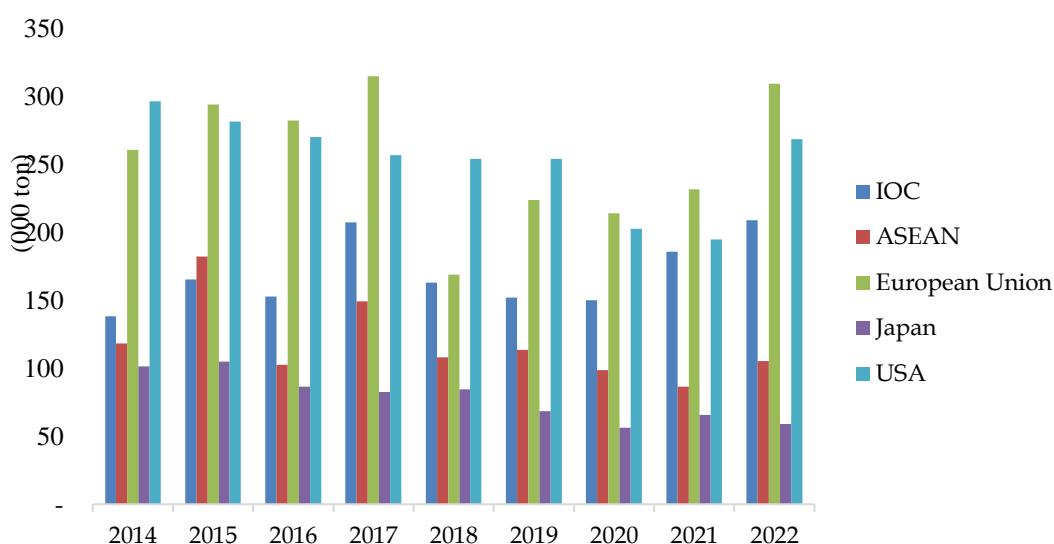




Source: (Food and Agriculture Organization, 2023; International Trade Centre, 2024b)

**Figure 2.** Development of Coffee Production (PROD) and The Amount of Coffee Exports (EXP) from Indonesia and Exporting Countries to The OIC (IND - Indonesia; BRA - Brazil; COL - Colombia; VIE - Vietnam) from 2010 to 2022.

Figure 2 reveals a fluctuating yet upward trend in Indonesia’s coffee exports to the OIC, with a growth rate that surpasses the rate of coffee production growth. This indicates a notable increase in Indonesia’s coffee exports to the OIC during the analysis period. However, this positive trend contrasts with the decline in Indonesia’s coffee exports to other major markets, including the European Union, Japan, and the United States, as shown in Figure 3.



Source: (International Trade Centre, 2024c)

**Figure 3.** Average Development of Indonesia’s Total Coffee Exports to Export Destination Countries from 2014 to 2022.



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Figure 3 illustrates the fluctuating trends in Indonesia’s coffee exports to various destinations from 2014 to 2022. During this period, coffee exports to the OIC, ASEAN, and the European Union demonstrated growth, with rates of 6.81 percent, 3.69 percent, and 5.46 percent, respectively. In contrast, Indonesia’s coffee exports to Japan and the United States declined, with negative growth rates of -5.78 percent and -0.16 percent, respectively. This decline can be critically examined in light of recent changes in food policies. The European Union’s stringent limits on Ochratoxin A (OTA) and Japan’s restrictions on certain pesticides have had a profound impact on Indonesia’s coffee export industry (Nugroho, 2014). These regulatory measures, driven by heightened global concerns over food safety and quality, disproportionately affect exporters from developing countries like Indonesia. The stringent standards imposed by these major markets highlight the challenges Indonesian coffee producers face in meeting international requirements, underscoring the need for adaptation and compliance to maintain market access.

The data presented in Table 1 highlights a significant shift in Indonesia’s export market orientation towards the OIC, ASEAN, and the European Union. This shift suggests that these regions are increasingly becoming focal points for Indonesian coffee exports. The growth in exports to the OIC and ASEAN reflects a strategic realignment, potentially driven by rising demand in these markets and the opportunities they present. However, the decline in exports to Japan and the United States warrants critical examination. This reduction could be attributed to various factors, including changing market preferences, stricter quality standards, and increased competition from other coffee-exporting countries.

To address these challenges, Indonesia must enhance product quality, align with international standards, and diversify its market strategies. The ongoing trade cooperation agreements with several OIC member countries—such as the Indonesia-Iran Preferential Trade Agreement, Indonesia-Turkey Comprehensive Economic Partnership Agreement, Indonesia-Tunisia Preferential Trade Agreement, Indonesia-Pakistan Trade in Goods Agreement, and Indonesia-Morocco Preferential Trade Agreement—offer significant opportunities. These agreements are expected to provide preferential access, reduce trade barriers, and strengthen Indonesia’s position as a leading coffee supplier in emerging markets.

**Table 1.** Average Growth Rate of Coffee Export Volumes from Exporting Countries to Major Destination Countries from 2010 to 2022 (%)

Importer	Exporter			
	Indonesia	Brazil	Colombia	Vietnam
IOC	9.14	7.98	33.15	2.77
ASEAN	10.97	19.72	52.99	3.16
European Union	3.87	6.77	9.40	-3.43
Japan	-3.90	2.54	-0.79	0.44
United States	6.71	8.26	9.11	-5.49

Source: (International Trade Centre, 2024c)



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### Revealed Comparative Advantage (RCA)

The competitiveness of Indonesia's coffee exports to the OIC can be assessed using the RCA method. The RCA results demonstrate that Indonesia has maintained a competitive edge in coffee exports to the OIC, with an average RCA value of 6.54 during the analysis period. However, a closer inspection reveals a notable decline in the growth rate of Indonesia's RCA value, which decreased by 10.66 percent (see Table 2). This trend of diminishing RCA values is not isolated but reflects a broader pattern observed across various sample countries. Although Indonesia's coffee exports exhibit competitiveness overall, the decline in RCA values suggests a weakening competitive position. Specifically, while Algeria remains a notable exception with a positive growth trend in Indonesia's coffee exports, other markets show varying degrees of decline.

The erosion of Indonesia's RCA index in both the OIC and other sample countries indicates that the country's competitive advantage in these markets is diminishing. This decline signals a pressing need for strategic improvements in Indonesia's coffee export strategy to restore and enhance competitiveness. The OIC market, with its positive export growth rates from other exporting countries, represents a significant opportunity for Indonesia. To capitalize on this potential, Indonesia must address the factors contributing to its declining RCA values, such as enhancing product quality, improving supply chain efficiencies, and adopting more aggressive market penetration strategies.

**Table 2.** RCA Values of Indonesia's Coffee Exports to the OIC and Sample Countries

Year	RCA Value*									
	IOC	Growth (%)	Egypt	Growth (%)	Iran	Growth (%)	Morocco	Growth (%)	Algeria	Growth (%)
2017	8.85		27.59		24.47		116.09		25.93	
2018	6.79	-23.24	37.74	36.76	16.65	-31.94	104.61	-9.89	9.74	-62.45
2019	6.55	-3.51	37.83	0.24	20.74	24.52	96.40	-7.85	10.30	5.83
2020	6.31	-3.63	27.18	-28.15	11.61	-44.03	90.58	-6.04	10.48	1.76
2021	5.79	-8.39	25.70	-5.46	9.02	-22.33	94.63	4.47	4.01	-61.71
2022	4.94	-14.54	24.73	-3.78	11.87	31.70	44.27	-53.21	27.83	593.27
Average	6.54	-10.66	30.13	-0.08	15.73	-8.42	91.09	-14.50	14.72	95.34

Source: Processed by secondary data

\*Data available since 2017

While previous studies have underscored Indonesia's notable competitiveness in the international market (Apriani et al., 2022; Aurelia, Syaukat, & Falatehan, 2022; Narulita, Winandi, & Jahroh, 2014), it remains positioned behind leading producers such as Brazil, Colombia, and Vietnam (Rahardjo et al., 2020). The gap is increasingly evident in European markets, where Indonesian coffee often fails to meet the stringent standards set by the European Union (Putri & Salam, 2019). Addressing these challenges requires a strategic focus on enhancing product quality, particularly through technical improvements and advancements in cultivation practices (Narulita et al., 2014).

Even though previous literature still rarely discusses the competitiveness of Indonesian coffee in the IOC market, the analysis results show that competitive advantage in these markets is diminishing. In order to elevate this competitiveness, Indonesia should explore strategic



partnerships with other major coffee-producing nations. Countries like Vietnam, with its lower production costs, and Colombia, with its emphasis on quality, offer valuable insights and opportunities for collaboration. Such partnerships can enhance value throughout the coffee supply chain, paving the way for innovative blends and products that can capture international interest (Gonzalez-Perez & Gutierrez-Viana, 2012).

Moreover, the role of the government is pivotal in boosting competitiveness. This involves initiatives to improve productivity, establish rigorous coffee quality standards, and invest in human resource development. Effective collaboration with domestic businesses is also essential (Putri & Salam, 2019). Strengthening international marketing efforts through partnerships with trading allies can further bolster Indonesia's position in the global market (Baroh et al., 2014). Additionally, promoting Indonesian coffee by securing sustainability certifications, accessing premium markets, and enhancing overall competitiveness is crucial for establishing a strong international presence (Wahyudi et al., 2020). Brazil as the largest exporter of coffee is also doing the same thing by continuing to strive to increase farmer loyalty to produce quality coffee, minimize operational risks, design marketing plans that suit consumer desires, and even encourage environmentally friendly production (de Almeida & Zylbersztajn, 2017).

The burgeoning market potential within the OIC presents an opportunity for Indonesia to refine its strategies and boost coffee exports to member countries. Success will hinge on addressing existing weaknesses in comparison to competitors and committing to improvements in quality, efficiency, and marketing. By leveraging innovation, sustainability, and strategic partnerships, Indonesia has the potential to emerge as a leading player in the global coffee market, thereby solidifying its position in international trade.

### **Constant Market Share (CMS)**

The CMS analysis serves as a critical tool in this study to assess the performance of Indonesia's coffee exports to the OIC countries and selected sample countries. The CMS method decomposes changes in export performance into specific effects, allowing for a nuanced understanding of the factors contributing to these changes. The analysis reveals that Indonesia's coffee export performance to the OIC is positively influenced by two key effects: the World Demand Effect and the Market Distribution Effect (Table 3). The World Demand Effect, which shows a significant positive value, underscores that the growth in Indonesia's coffee exports is largely driven by robust global demand. This finding is particularly advantageous as it indicates that Indonesia is not merely relying on internal competitiveness or shifts in product composition to bolster export growth. Instead, the country is effectively capitalizing on the expansion of global coffee markets. This ability to leverage rising global demand positions Indonesia favorably within the international coffee trade, suggesting that the country's coffee sector is responsive to external market dynamics. This result is in line with a study (Oktaviani et al., 2016) which concluded that the dynamics of Indonesia's export growth to Middle Eastern countries and OIC members, namely Turkey, Tunisia and Morocco, are generally more influenced by the effects of import growth.

Similarly, the positive value of the Market Distribution Effect indicates that Indonesia has successfully broadened its export market coverage within the OIC and sample countries. This



success can be attributed to effective market penetration strategies, an increase in market share, and the diversification of export destinations. In fact (Sari & Tety, 2017) states that the Market Distribution Effect most influences the position of Indonesian coffee's coffee power in the world market. The redistribution of Indonesia's coffee exports from traditional European and American markets to the OIC aligns with the observed growth in coffee demand within these regions, as evidenced by the OIC's import growth rate of 9.14% during the analysis period. This finding also aligns with research by Hadi et al. (2019), which indicates that Indonesia's export market distribution outperforms competitors such as Brazil, Vietnam, and Colombia. Indonesia's ability to adapt to shifting market demands and strategically expand into new regions underscores its agility in the global coffee market. This adaptability, combined with the positive market distribution outcomes, strengthens Indonesia's potential to sustain and enhance its presence in these emerging markets.

However, the analysis also highlights significant challenges, particularly evident in the negative values of the Commodity Composition Effect and the Competitiveness Effect. The negative Commodity Composition Effect reflects a critical shortfall in the competitiveness of Indonesia's coffee exports. Despite Indonesia's rich variety of specialty coffee types, these products have not yet achieved the necessary level of international market competitiveness. This shortfall suggests that Indonesian coffee, while unique, may not be fully aligned with international standards and consumer preferences, particularly in highly competitive markets such as the United States, Japan, Germany, and Italy (Atmadji et al., 2019). The inability to meet these market standards hampers Indonesia's overall export performance and indicates a need for better alignment between product offerings and global market demands.

The negative value of the Competitiveness Effect also signals a concerning decline in the competitive strength of Indonesia's coffee export performance to the OIC and selected countries. This decline is particularly evident in specific markets, such as Germany, where a negative Competitiveness Effect has been observed (Zuhdi & Yusuf, 2021). The implications of this trend are significant, as it suggests that Indonesian coffee faces substantial challenges, including higher production costs and lower product quality, which collectively contribute to a shrinking market share. The low Competitiveness Effect underscores that Indonesian coffee continues to underperform in both quality and pricing when compared to major competitors like Brazil, Colombia, and Vietnam. This weak competitiveness effect also occurs because Indonesian coffee production is dominated by robusta coffee, even though the world coffee trade is still dominated by arabica coffee (Atmadji et al., 2019).

Additionally, non-price factors, such as export policies, have also been identified as critical determinants affecting Indonesia's competitiveness in these markets. These factors can encompass a range of issues, including regulatory barriers, insufficient governmental support for exporters, and a lack of alignment between Indonesia's export strategies and the specific demands of international markets. The role of these non-price factors is particularly significant, as they highlight the complexity of maintaining and enhancing competitiveness in the global marketplace. It is clear that competitive pricing alone is insufficient; strategic policy alignment and a deep understanding of global market dynamics are equally vital.



These findings stand in stark contrast to the earlier conclusions drawn by Aklimawati (2016), which indicated that Indonesian coffee products exhibited strong competitiveness within the ASEAN market. This disparity suggests that while Indonesia may perform robustly on a regional level, its global competitiveness, particularly in the OIC and other key international markets, is markedly weaker. This variation in performance across different markets indicates the necessity for a more targeted and nuanced approach to improving competitiveness on a global scale.

Addressing these weaknesses requires a multifaceted strategy. Key measures could include initiatives to reduce production costs through increased efficiency, significant investments in enhancing product quality, and the development of export policies that are more responsive to the evolving demands of global markets. Such strategic interventions are essential if Indonesia is to bolster its position in the global coffee export industry and develop sustainable competitive advantages. Without these proactive efforts, Indonesia risks further erosion of its market share, as it continues to lag behind more competitive international counterparts.

**Table 3. CMS Values of Indonesia’s Coffee Exports to The OIC and Sample Countries**

CMS Indonesia	OKI	Mesir	Iran	Maroko	Aljazair
World Demand Effect	0.10643854	0.10643854	0.10643854	0.10643854	0.10643854
Commodity Composition Effect	-0.06670560	-0.06670560	-0.06670560	-0.06670560	-0.06670560
Market Distribution Effect	0.00003419	0.00003324	0.00000447	0.00000375	0.00001828
Competitiveness Effect	-0.00008204	-0.00001706	-0.00000530	-0.00001485	-0.00000454

Source: (Processed by secondary data, 2024)

## 5. Conclusion and Suggestion

The study reveals a consistent upward trend in Indonesia's coffee exports to OIC countries from 2010 to 2022, with an average annual growth rate of 9.14 percent. However, performance varies significantly across different markets. Indonesia has established a strong presence in Egypt, capturing 48.36 percent of the coffee import market, but faces stiff competition in Algeria where Vietnam's market-oriented strategies are more dominant. This highlights the need for Indonesia to tailor its approach to specific markets to sustain and enhance export growth. Improving product quality and aligning offerings with local consumer preferences are critical for maintaining a competitive edge, particularly in markets where Indonesia’s RCA is lower. Additionally, the CMS analysis indicates that while Indonesia’s export growth is driven by market dynamics, further growth could be achieved through diversification and innovation in product offerings.

To strengthen its competitive position in the OIC markets, Indonesia should focus on improving product quality and customizing market strategies to meet local demands. Tailoring marketing efforts to align with consumer preferences, especially in underperforming markets like Algeria, could significantly enhance market share. Leveraging trade agreements, such as the Indonesia-Iran Preferential Trade Agreement and the Indonesia-Turkey Comprehensive Economic Partnership Agreement, is crucial for improving market access and competitiveness.



Future research should explore specific consumer preferences and market dynamics in OIC countries where Indonesia's coffee exports are underperforming. Detailed studies on the impact of technological advancements and resource management on coffee production could provide insights into improving production efficiency. Additionally, examining the effectiveness of trade agreements in enhancing export performance could offer valuable perspectives on maximizing their benefits. Further research could also delve into the RCA and CMS metrics to identify specific factors that could further strengthen Indonesia's comparative advantage in the global coffee market.

For policymakers and coffee industry stakeholders in Indonesia and OIC countries, the findings highlight the importance of market-specific strategies and continuous innovation. Policymakers should develop supportive frameworks to encourage investment in production and marketing that meets international standards. Understanding local consumer preferences can lead to more effective marketing strategies, which are essential for competing in diverse markets. Industry players should focus on improving production efficiency and utilizing trade agreements to overcome barriers and increase market access. By adopting these strategies, Indonesia can enhance its competitiveness in the global coffee market, drive sustainable growth, and contribute to the overall economic development of the sector.

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