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ANALYSIS OF THE COMPETITIVENESS OF INDONESIAN COFFEE EXPORTS TO MAJOR DESTINATION COUNTRIES

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Abstract. Coffee is a leading Indonesian plantation commodity vital to international trade. However, export performance to major destinations fluctuates due to global market dynamics and rising competition. This study aims to describe Indonesian coffee export volume trends to major destination countries and to analyze their competitiveness. The analyzed markets include the United States, Malaysia, Egypt, India, Italy, and Japan. The study employs Revealed Comparative Advantage (RCA), Export Competitiveness Index (ECI), Trade Specialization Index (TSI), and Constant Market Share (CMS) using secondary data (1991–2024) under HS Code 0901 from the UN Comtrade database. Results indicate that export volumes fluctuate with varying trends across markets. RCA findings show that Indonesian coffee generally maintains a comparative advantage in most destinations. However, ECI results reveal weak competitive performance in Italy and Japan, reflecting declining competitiveness. Furthermore, CMS analysis shows that Indonesian coffee exhibits competitive performance only in the Egyptian market. Conversely, export growth in the United States, Malaysia, Italy, Japan, and India remains below global trade growth, characterized by weak competitive effects. These findings suggest the necessity of market-specific strategies to strengthen Indonesia's coffee export competitiveness globally.

Keywords: Coffee exports, Comparative advantage, Competitive advantage, Indonesian coffee, International trade

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INTRODUCTION

Globalization is a process of international integration across various sectors, and the global market increasingly impacts various of life as the number of participating countries increases. International trade is the process by which goods and services are exchanged between economic units of one country and those of another (Wulandari et al., 2023). Export and import transactions benefit each country, particularly in generating foreign exchange for the national economy. Coffee (Coffea canephora) is an important export product for Indonesia in the plantation subsector (Adetya et al., 2025).

Indonesia is the world's fourth-largest coffee producer, with a total production of 10.7 million 60-kg bags, ranking behind Brazil, Vietnam, and Colombia (USDA, 2025). A portion of Indonesia's coffee

production is marketed domestically, while the remainder is exported to international markets. There are 13 HS codes for coffee exports and imports. The largest exports are from HS code 09011130 (Robusta OIB (unroasted, with caffeine) 58.53%, Arabica WIB (unroasted with caffeine) 38.88%, Other coffee derivatives 1.42%, and other coffee beans 1.17% (Direktorat Jenderal Perkebunan, 2024).

The global coffee market is dominated by producing and exporting countries. In 2024, Indonesia ranked sixth among the world's coffee exporting countries, with an export volume of 316,720,677 kg. This position is below Brazil, Vietnam, Colombia, Uganda, and Germany (UN Comtrade, 2025). Despite being one of the world's largest coffee producers, Indonesia's coffee export volume does not fully reflect its potential. This export performance is influenced by various factors, both global demand and domestic supply. Factors affecting the amount of coffee available for export include national coffee production levels, exchange rates, domestic coffee prices, agricultural land area, and domestic consumption levels (Fitriani et al., 2023). Furthermore, intense competition with major exporting countries such as Brazil, Vietnam, and Colombia also poses a challenge for Indonesia in strengthening its export position.

As one of the world's leading coffee producers, Indonesia actively distributes its coffee products to various countries. However, Indonesian coffee exports are not evenly distributed across all destination countries, but rather concentrated in a few key markets that consistently absorb the majority of Indonesian coffee exports. These main markets include the United States, Egypt, Malaysia, India, Italy, and Japan. Although these six countries are all major destinations for Indonesian coffee exports, export performance varies from country to country (UN Comtrade, 2025). This difference is reflected in the uneven development of export volumes, both across countries and over time. Some countries show relatively stable export performance, while others experience significant fluctuations. This indicates that each destination country has different market characteristics, levels of competition, and demand dynamics for Indonesian coffee (Syahputri et al., 2023).

These conditions highlight the urgency of assessing the competitiveness of Indonesian coffee exports. Measuring competitiveness is essential not only to identify whether Indonesia possesses a comparative advantage, but also to evaluate its ability to sustain and improve export performance amid increasing global competition. Competitiveness analysis provides important insights into how Indonesian coffee performs relative to competing exporter countries in each destination market. Policy formulation and export development strategies may fail to address market-specific challenges without a clear measurement of export competitiveness, particularly in destination countries where Indonesian coffee exports exhibit volatile trends.

The rise in global coffee exports is driven by rising global consumption demand. Data published by the International Coffee Organization shows that coffee consumption will reach 177 million 60-kilogram bags in 2023, representing a 1.3% increase compared to 2022's 173.1 million bags (ICO, 2024). The rise in global coffee demand presents significant opportunities for Indonesia, a major producer. However, Indonesian coffee exports remain volatile and have yet to reach their full potential, primarily due to strong competition from major exporters such as Brazil, Vietnam, and Colombia. Indonesian coffee faces various challenges in competing in the global market, particularly as each of its major destination countries, such as the United States, Egypt, Malaysia, India, Italy, and Japan, has distinct market characteristics. These six countries represent both potential markets and challenges for Indonesia in maintaining its position. Despite Indonesia being one of the world’s leading coffee producers, the performance of its coffee exports to major destination countries shows considerable variation and volatility over time. Differences in export trends across destination markets indicate that strong production capacity does not always translate into consistent export competitiveness. This condition raises an important research problem regarding how competitive Indonesian coffee exports are in each major destination country and whether Indonesia is able to maintain its competitive position amid increasing global competition. Therefore, a systematic analysis of export competitiveness is required to explain the variation in export performance across destination markets.

Several previous studies have analyzed the competitiveness of Indonesian coffee exports using indicators such as RCA, ECI, or TSI. However, most of these studies focus only on specific countries or use limited analytical approaches. This research, conducted by Muhlis & Sulistyaningsih (2023), aimed to examine the comparative advantage of coffee, its export performance, and the dynamics of international trade in this commodity. Further analysis used RCA, Acceleration Ratio, and TSI. Based on the results, Indonesian coffee commodities were proven to have a comparative advantage, as seen from the average RCA value of 1.86 in the 2017–2021 period, which exceeded the threshold of 1. This figure indicates Indonesia's ability to strengthen its position in the global coffee market, especially in 2017 and 2019. In addition, in the 2017–2021 period, Indonesian coffee's competitiveness was strong, as seen from the positive average ISP value of 0.879, thus placing Indonesia as a coffee exporting country.

Further research was conducted by Kusuma & Budiningsih (2025), this study aims to assess the comparative advantage, competitive advantage, and level of trade specialization in Indonesian coffee exports to the United States in the period 2008–2022. The analysis was conducted using descriptive methods and measurements through Revealed Comparative Advantage (RCA), Export Competitiveness Index (ECI), and Trade Specialization Index (TSI). The research findings indicate that Indonesia has significant comparative and competitive advantages, supported by a high level of trade specialization, thus placing this country as one of the main coffee exporters to the United States market.

The novelty of this study is the use of a combined analytical approach (RCA, ECI, TSI, and CMS) to evaluate not only comparative and competitive advantages but also the dynamics of export growth and market distribution across six major destination countries over the period 1991–2024. This approach provides a more comprehensive understanding of Indonesia’s coffee export competitiveness compared to previous studies. This study aims to describe the development of Indonesian coffee export volume to the main destination countries and to analyze the competitiveness of Indonesian coffee exports to the main destination countries.

METHOD

This study employs quantitative descriptive analysis. The data analyzed consist of secondary panel data on Indonesian coffee trade under HS Code 0901 (coffee products, whether roasted or not, decaffeinated or not, as well as coffee skins, coffee hulls and coffee substitutes containing coffee) for the period 1991–2024 (Flexport, 2025). The panel data comprise observations across six major destination countries over time. The variables analyzed include the value of Indonesian coffee exports, the value of Indonesian coffee imports, the volume of Indonesian coffee exports, and the volume of Indonesian coffee imports to major destination countries.

All data used for competitiveness analysis were obtained from the United Nations Comtrade Database (UN Comtrade). The unit of analysis in this study is Indonesian coffee trade performance with six major destination countries, namely the United States, Egypt, Malaysia, India, Italy, and Japan. Export and import values are used to measure competitiveness indicators, while export and import volumes are used to analyze trade trends and export growth dynamics. The competitiveness of Indonesian coffee exports is measured using Revealed Comparative Advantage (RCA), Export Competitiveness Index (ECI), Trade Specialization Index (TSI), and Constant Market Share (CMS).

Revealed Comparative Advantage (RCA)

Revealed Comparative Advantage (RCA) assesses a product's comparative advantage by comparing a country's share of its exports to total global exports of similar products. If a country's RCA value exceeds 1, it indicates a high level of competitiveness and a comparative advantage in that product. Conversely, an RCA value below 1 indicates a comparative disadvantage and low competitiveness (Yuliansyah et al., 2023). RCA (Revealed Comparative Advantage) analysis is formulated in equation (1).

$$RCA = \frac{X_{ij}/X_t}{W_{ij}/W_t} \quad (1)$$

Where X_{ij} = Value of Indonesian coffee exports to major export destination countries; X_t =Total value of Indonesian exports to major export destination countries; W_{ij} = Value of world coffee exports to major export destination countries; and W_t = Total value of world exports to major export destination countries.

Export Competitiveness Index (ECI)

The Export Competitiveness Index (ECI) is used as a tool to assess the competitiveness of Indonesian coffee, while also evaluating factors influencing competitive advantage that are difficult to identify through qualitative methods. The ECI is used to assess a country's level of competitiveness in a particular commodity compared to other countries. A value greater than 1 indicates increased competitiveness, while a value below 1 indicates decreased competitiveness (Sitepu et al., 2024). The ECI (Export Competitiveness Index) analysis is formulated in equation (2).

$$ECI_{ki} = \frac{(X_{ij}/X_w)t}{(X_{ij}/X_w)t-1} \quad (2)$$

Where X_{ij} = Value of Indonesian exports to major export destination countries; X_w = Value of world coffee exports to major export destination countries; t = Current period; and t-1= Previous period.

Trade Specialization Index (TSI)

The Trade Specialization Index (TSI) is an indicator that calculates the difference between a country's exports and imports relative to its total trade value (Oktari et al., 2023). In TSI-based decision-making, a positive value between 0 and 1 indicates that coffee is highly competitive and Indonesia plays a more active role as an exporting country. Conversely, a negative TSI value in the range of 0 to -1 indicates low competitiveness, so Indonesia tends to be an importer for this commodity. Based on the (Kementerian Perdagangan, 2020) classification, the TSI is divided into five stages: the Introduction Stage ($-1.00 \leq TSI \leq -0.50$), the Import Substitution Stage ($-0.51 \leq TSI \leq 0.00$), the Growth Stage ($0.01 \leq TSI \leq 0.80$), the Maturity Stage ($0.81 \leq TSI \leq 1.00$), and the Return to Importing Stage, which occurs when the TSI value decreases from 1 to 0. The TSI (Trade Specialization Index) analysis is formulated in equation (3).

$$TSI = \frac{(X_{ij}-M_{ij})}{(X_{ij}+M_{ij})} \quad (3)$$

Where TSI_{ij} = Indonesia's coffee trade specialization index to destination countries; X_{ij} = Value of coffee commodity exports from Indonesia to destination countries; and M_{ij} = Value of coffee commodity imports from Indonesia to destination countries.

Constant Market Share (CMS)

Constant Market Share (CMS) is used based on the understanding that a country's export growth rate can be lower or higher than the global export growth rate. A country's export growth can be broken down into three effects: commodity composition, market distribution, and competitiveness. These three effects are then incorporated into a single equation that describes a country's export growth (Carolina & Aminata, 2019).

The CMS analysis decomposes export performance into four main components. First, the standard export growth effect reflects the extent to which a country's export growth follows the overall growth of world exports for the same commodity. If the export growth of commodity *i* from country *a* exceeds the standard world export growth, the export performance of country *a* can be considered relatively better than that of other exporting countries, and vice versa. Second, the commodity composition effect indicates whether the exported commodity is concentrated in products with

relatively high demand. A positive value suggests that commodity *i* has favorable demand in the destination market, while a negative value indicates the opposite. Third, the market distribution effect measures the ability of a country to allocate its exports to dynamic or growing markets. A positive value implies that the country is able to distribute its exports to markets with strong demand growth. Fourth, the competitiveness effect captures changes in export performance that cannot be explained by world export growth, commodity composition, or market distribution. A positive competitiveness effect indicates that country *a* has stronger export competitiveness than its competitors, whereas a negative value suggests declining competitiveness. The CMS analysis is presented in Equation (4).

$$PEN_{ij}(t) = EKK\ (t) + EDP\ (t) + EDS\ (t) \quad (4)$$

Where PENij(t) = Export growth of commodity j in country i; EKK(t) = Commodity composition effect in year t; EDP(t) = Market distribution effect in year t; and EDS(t) = Competitiveness effect in year t.

Each component in Equation (4) is derived from the following formulas. The standard export growth rate (r) in Equation (5) serves as the overall benchmark. The commodity-specific growth rate (r_i) and market-specific growth rate (r_{ij}) follow the same structure as Equation (5) and are used as reference values in Equations (6), (7), and (8), respectively.

$$\text{Standard Growth: } r = \frac{W(t)-W(t-1)}{W\ (t-1)} \quad (5)$$

$$\text{Commodity Composition Effect: } \frac{\sum i(ri-r)Ei(t-1)}{E(t-1)} \quad (6)$$

$$\text{Market Distribution Effect: } \frac{\sum i \sum j(rij-ri)Eij\ (t-1)}{E(t-1)} \quad (7)$$

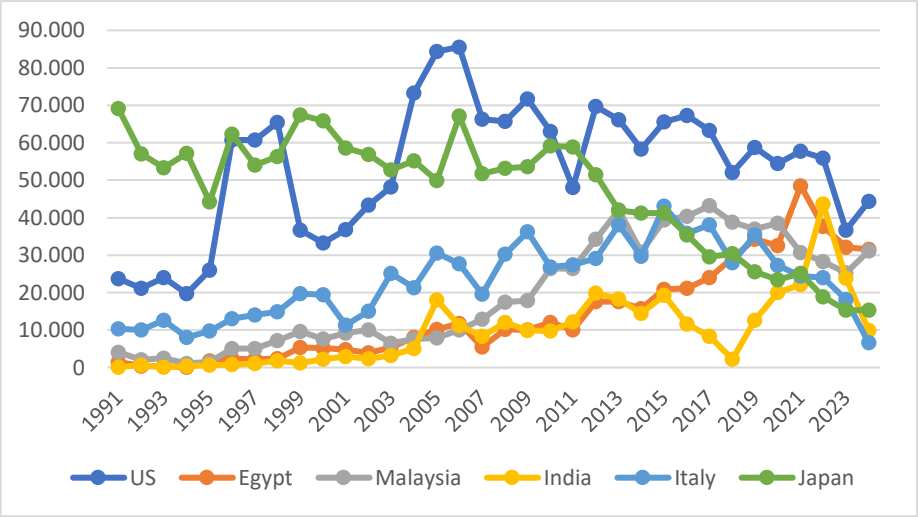
$$\text{Competitiveness Effect: } \frac{\sum i \sum j\ Eij\ (t)-Eij(t-1)-rij\ Eij\ (t-1)}{E(t-1)} \quad (8)$$

Where E = Total exports of country a in year t; E(t-1) = Total exports of country a in the previous year; E = Exports of country a (commodity); Ei (t-1) = Exports of commodity i to country a in the previous year; Eij = Exports of country a to country j; Eij (t-1) = Exports of country a to country j in the previous year; r = Total standard (world) export growth rate; ri = Standard (world) export growth rate; rij = Export growth rate to country j; W(t) = Standard (world) exports in year t; W(t-1) = Standard (world) exports in the previous year; Wi(t) = Standard (world) exports of commodity i in year t; Wi(t-1) = Standard (world) exports of commodity i in the previous year; Wij(t) = Standard (world) exports of commodity i to country j in year t; and Wij(t-1) = Standard (world) exports of commodity i to country j in the previous year

RESULT AND DISCUSSION

Development of Indonesian Coffee Export Volumes to Major Destination Countries

Coffee is one of Indonesia's leading export commodities, contributing to increased foreign exchange earnings. Indonesia's coffee plantations cover 1.273.918 hectares and produced 813.345 tons in 2024 (BPS, 2025). Indonesia is the world's sixth-largest coffee exporter, exporting to six main destinations: the United States, Egypt, Malaysia, India, Italy, and Japan. A graph of the development of Indonesian coffee export volume to these main destinations can be seen in Figure 1.



Source: Data Processed, 2025

Figure 1. Graph of Development of Indonesian Coffee Export Volume to Main Destination Countries (Tons)

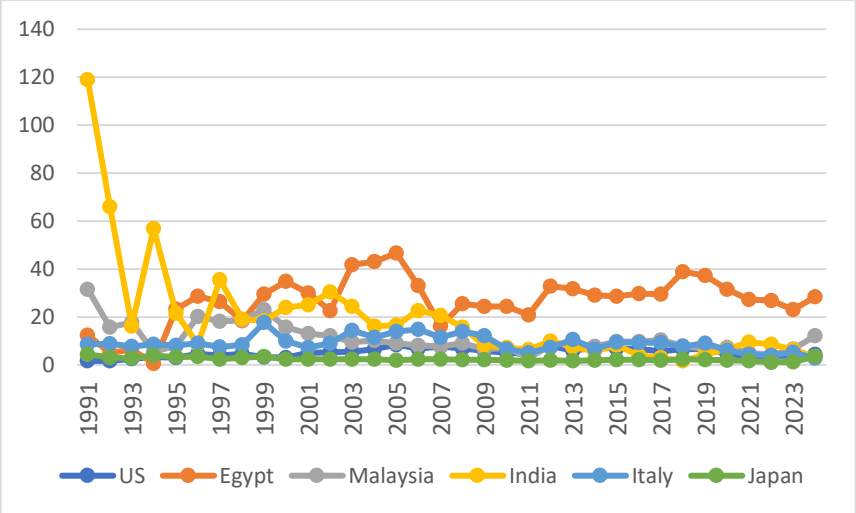
Based on Figure 1, the development of Indonesian coffee export volume to each major destination country, it can be concluded that Indonesian coffee export volume fluctuated from 1991 to 2024, but generally showed an increasing trend in most destination countries. Despite year-to-year fluctuations, the average growth of Indonesian coffee exports showed a positive trend, except for Japan, which experienced a decline. The average growth of Indonesian coffee exports to the highest major destination country was Egypt, at 160.6%, indicating rapid growth in Indonesian coffee exports there. India followed closely behind, at 54.3%, indicating a strong increase in coffee demand during the study period. The next country was Malaysia, at 13.2%, which also showed positive and relatively stable growth. Indonesian coffee exports to the United States showed growth of 5.3%. Meanwhile, the average growth of Indonesian coffee exports to Italy was 3.34%, indicating relatively small growth and a tendency to slow in recent years. The country with the lowest average growth rate was Japan, at -3.41%. This means that Indonesian coffee exports to Japan declined year-on-year during the study period. This decline was influenced by various factors, such as moderate competitiveness and regulatory challenges and non-tariff barriers, such as the Japanese government's Carbaryl residue limit policy (T. W. Wulandari & Daspar, 2025).

The decline in Indonesian coffee exports to Japan is influenced by stringent regulations and non-tariff barriers, particularly related to quality standards and food safety requirements imposed by the Japanese government. Therefore, the implementation of Good Agricultural Practices (GAP) represents a relevant strategic response to these regulatory challenges, as GAP improves product quality, traceability, and compliance with residue limits required in the Japanese market. Through the adoption of GAP, Indonesian coffee producers are better positioned to meet market regulations and enhance export competitiveness in Japan (Ananta, 2025; Hanan et al., 2025; T. W. Wulandari & Daspar, 2025).

Competitiveness of Indonesian Coffee Exports

Comparative Advantage

Coffee export competitiveness can be seen from its comparative advantage. The comparative advantage of coffee from six primary destination countries (the United States, Egypt, Malaysia, India, Italy, and Japan) can be analyzed using Revealed Comparative Advantage (RCA), which aims to assess the competitiveness of Indonesian coffee in these six primary destination countries. The results of the RCA analysis of Indonesian coffee to 6 main destination countries (United States, Egypt, Malaysia, India, Italy, and Japan) can be seen in Figure 2.



Source: Data Processed, 2025

Figure 2. Indonesia's Revealed Comparative Advantage (RCA) to the United States, Egypt, Malaysia, India, Italy, and Japan 1991-2024

Based on Figure 2, the comparative advantage of Indonesian coffee exports was analyzed using the Revealed Comparative Advantage (RCA) index for six major destination countries. According to the RCA results, Indonesian coffee consistently shows comparative advantages in all analyzed markets during the period 1991–2024, indicating strong export specialization. On average, Egypt records the highest RCA value at 26.69, accounting for approximately 36.43% of the total comparative advantage among destination countries. This result indicates a strong comparative advantage of Indonesian coffee in the Egyptian market, supported by stable household consumption and food and beverage industry demand. This finding is consistent with Putra et al. (2025), who report that Indonesia maintains strong comparative advantages in the Egyptian market.

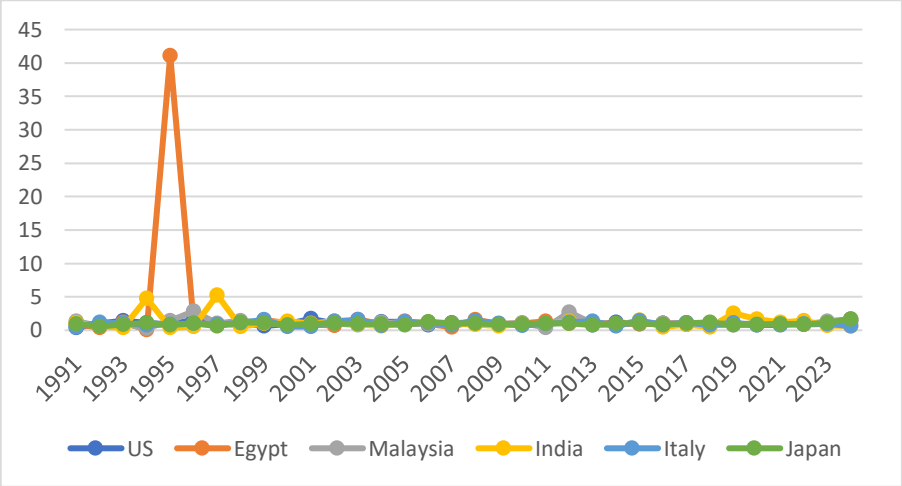
India ranks second with an average RCA value of 19.29, reflecting high demand and consistent import patterns. This result is in line with Samosir (2020), which finds that Indonesia possesses strong comparative advantages in the Indian coffee market. Malaysia shows an average RCA value of 10.98, indicating a relatively strong comparative advantage, supported by geographical proximity, lower logistics costs, and close economic relations. Similar results are reported by Putra et al. (2025) where as one of the largest coffee exporting countries in the world, Indonesia has a comparative advantage over Malaysia with an average RCA of 1.0842 in the period 2018 to 2023, which shows that Indonesian coffee has a comparative advantage or strong competitiveness in the Malaysian market..

In contrast, Italy records an average RCA value of 8.92, suggesting that Indonesian coffee maintains comparative advantages despite strict quality standards in the Italian market. This finding is consistent with Fathany & Purnomo (2022). The United States shows an average RCA value of 5.04, indicating a comparative advantage, although relatively lower than other destination countries. This result aligns with Kusuma & Budiningsih (2025) where as one of the largest coffee exporting countries in the world, Indonesia has a comparative advantage over the United States with an average of 5.7701 in the period 2008 to 2022, which shows that Indonesian coffee has a comparative advantage or strong competitiveness in the United States market. Meanwhile, Japan records the lowest average RCA value at 2.37, reflecting comparatively weaker but still positive comparative advantage. This result is consistent with Putra et al. (2025), who find that Indonesia retains comparative advantages in the Japanese market despite stringent quality and safety standards. Overall, the RCA results indicate that Indonesian coffee possesses strong comparative advantages across major destination countries. However, variations in average RCA values

suggest differences in market characteristics and competitiveness, implying that comparative advantage alone does not fully translate into higher export performance in all markets (Izzatin et al., 2023).

Competitive Advantage

The competitiveness of Indonesian coffee exports is measured through competitive advantage using the Export Competitiveness Index (ECI) analysis. The results of the ECI analysis of Indonesian coffee exports to six major destination countries (the United States, Egypt, Malaysia, India, Italy, and Japan) are shown in Figure 3.



Source: Data Processed, 2025

Figure 3. Indonesia's Export Competitiveness Index (ECI) to the United States, Egypt, Malaysia, India, Italy, and Japan 1991-2024

Based on the average ECI value, Egypt is the market with the highest competitiveness for Indonesian coffee. Its ECI value of 2.18 contributes approximately 29.24% to Indonesia's total competitiveness across all major destination countries. India ranks second with an average ECI value of 1.19, contributing 15.95% to total competitiveness. The United States contributes approximately 13.80% of total competitiveness, with an average ECI value of 1.03. Despite intense competition from major producing countries like Brazil and Colombia, Indonesia has maintained its competitiveness. Meanwhile, Italy and Japan contribute 13.30% and 12.99%, respectively, with average ECI values of 0.98 and 0.97. These two markets exhibit weak competitiveness compared to other destination countries. This condition is influenced by strict market preferences regarding coffee quality and specifications, resulting in Indonesian coffee products not being able to fully comply with these regulations (Handoyo et al., 2025).

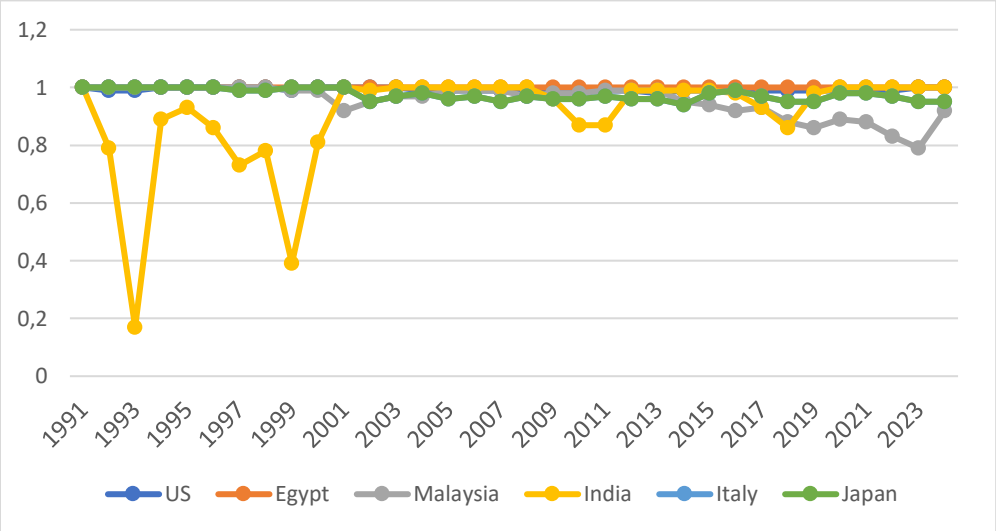
The decline in Indonesian coffee exports' competitiveness is also influenced by low quality and productivity. This occurs because almost all Indonesian coffee production comes from smallholder plantations (99.32%), which still use traditional cultivation methods and substandard seeds (Manalu et al., 2022). Furthermore, most coffee farmers in Indonesia manage small plots of land with inefficient plantation management practices and do not meet sanitation standards. Furthermore, Indonesian coffee exports are still dominated by green coffee (90%), of low quality, namely grade 4, because the moisture content of the beans does not meet the requirements (12.5%). This condition arises from suboptimal post-harvest management at the farmer level, thus reducing the selling price of coffee received by Indonesia Putro et al. (2024). This is in line with the downward trend in export volumes, particularly to Japan.

Overall, this analysis shows that Egypt, India, Malaysia, and the United States are the markets that provide the largest contribution to the competitive advantage of Indonesian coffee. Meanwhile, Italy and

Japan still require strategies to improve product quality and differentiation to increase competitiveness. This research is in line with the research of Fathany & Purnomo (2022), where the results of the calculation of the ECI for Indonesian coffee exports in the United States market have an average value of 1.0193, which indicates that Indonesia has strong competitiveness in the United States market. Research by Subhani et al. (2018) shows that the ECI results are >1 for Indonesian coffee exports in the international market in the period 1996-2016, which indicates that Indonesia is strongly competitive and has a competitive advantage in the international market.

Competitive Position

The Trade Specialization Index (TSI) is the indicator used to measure the competitiveness of Indonesian coffee. The results of the TSI analysis of Indonesian coffee in six major destination countries (the United States, Egypt, Malaysia, India, Italy, and Japan) can be seen in Figure 4.



Source: Data Processed, 2025

Figure 4. Indonesia's Trade Specialization Index (TSI) to the United States, Egypt, Malaysia, India, Italy, and Japan 1991-2024

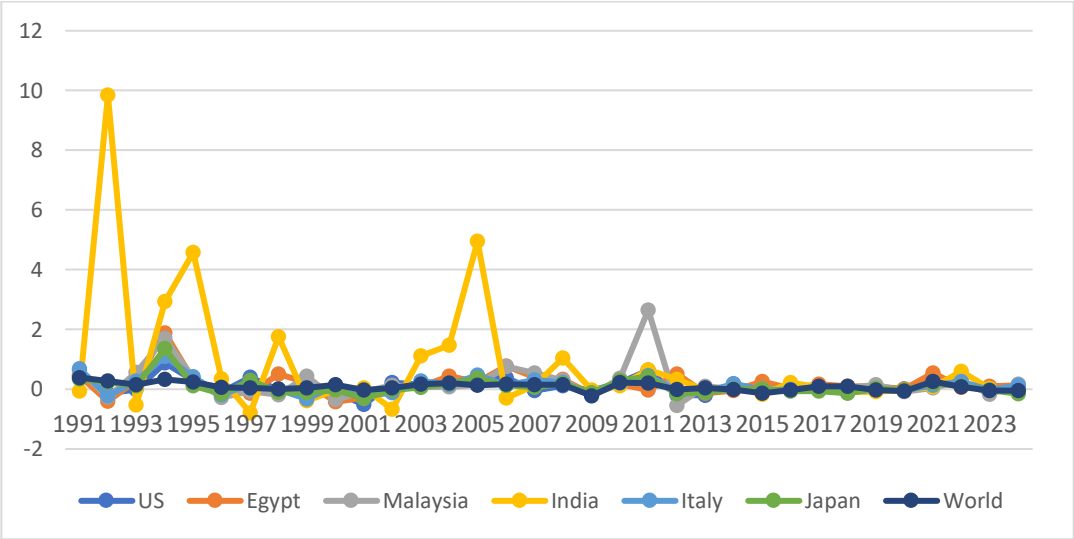
The average TSI for Indonesian coffee to six major destination countries from 1991 to 2024 was positive, or above zero, ranging from 0.90 to 1.00. Based on the Kementerian Perdagangan (2020) an average value of 0.90-1.00 places Indonesia in the maturity stage ($0.81 \leq TSI \leq 1.00$), indicating that Indonesian coffee has achieved high competitiveness and is increasingly playing a role as a major exporter.

Egypt had the highest average TSI of 1.00, indicating that Indonesia is a dominant coffee exporter to Egypt and has virtually no import dependence. The TSI to the United States of 0.99 also reflects Indonesia's position as a strong exporter capable of maintaining a long-term coffee trade surplus. Malaysia achieved an average TSI of 0.95, indicating that Indonesia tends to be an exporter. Meanwhile, India has an average TSI of 0.90, indicating stable market potential but not as dominant as other countries. Meanwhile, Italy and Japan each have an average TSI of 0.98, indicating that Indonesia is a consistent coffee supplier to both countries. Overall, this consistently high ISP value demonstrates Indonesia's strong competitiveness and its role as a net exporter to six destination countries from 1991 to 2024. This confirms that Indonesian coffee is at a stage of export maturity and holds a stable position in international trade. Indonesia is a net exporter, meaning the value of coffee exports is greater than the value of coffee imports themselves. This shows that Indonesia sells more coffee abroad than it buys from other countries (Anggraini et al., 2022). This research aligns with Sulistiyo et al. (2023) who stated that the average TSI for Indonesian coffee in

the international market from 2015 to 2020 was 0.85. This indicates that Indonesia has strong coffee export competitiveness and tends to be an exporting country in the international market.

Competitiveness Dynamics

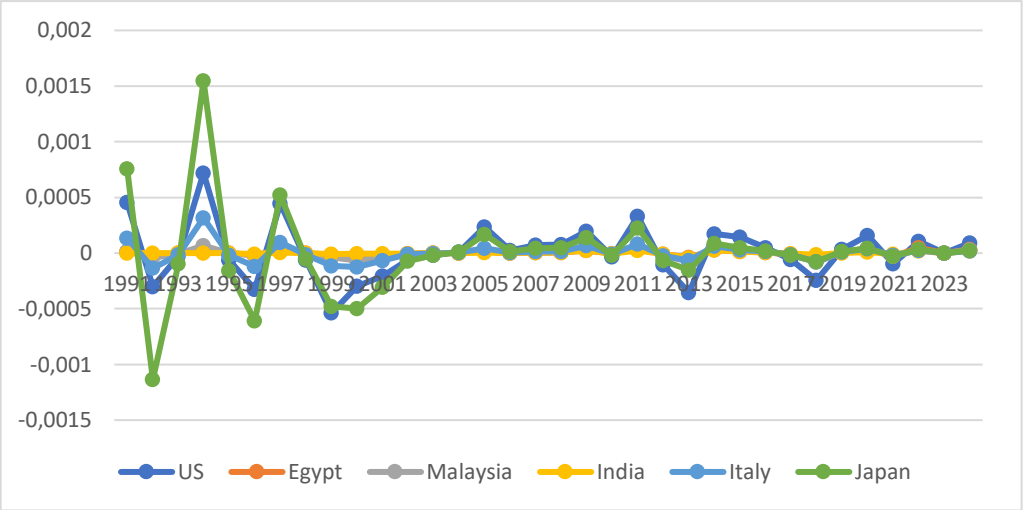
In this study, the dynamics of Indonesian coffee export competitiveness were analyzed using the Constant Market Share (CMS) method. A country's export growth can be broken down into three effects: commodity composition, market distribution, and competitiveness. The time period used was 1991 to 2024. The growth of Indonesian coffee exports to destination countries can be seen in Figure 5.



Source: Data Processed, 2025

Figure 5. Growth of Indonesian Coffee Exports to the United States, Egypt, Malaysia, India, Italy, Japan and Growth of World Standards

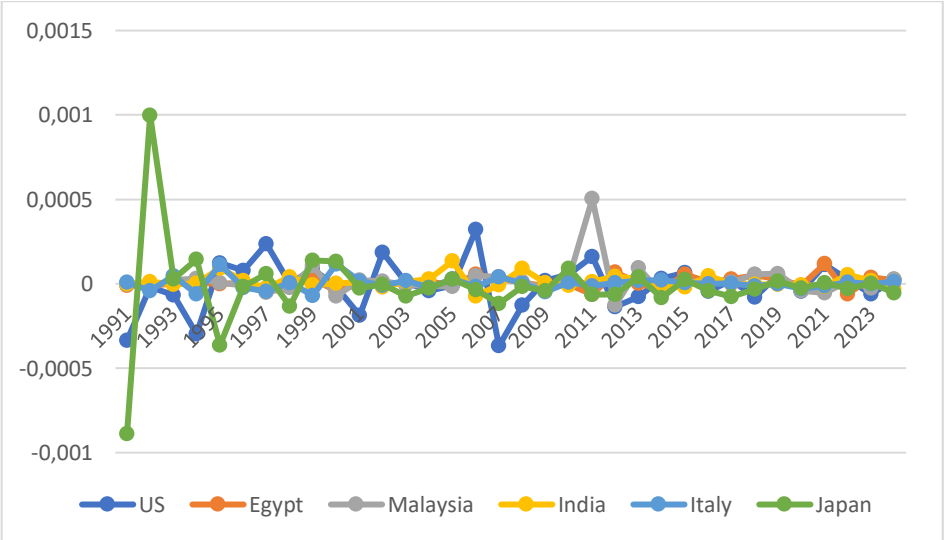
Based on Figure 5, Indonesian coffee export growth and global standard growth, it can be seen that most major destination countries experienced export growth that was in line with or above global standard growth. This indicates that, in general, Indonesian coffee export performance to major destination countries is able to keep pace with global coffee export growth. However, Japan is the only major destination country whose Indonesian coffee export growth is below global standard growth. This indicates that Indonesian coffee export performance to Japan is relatively weaker than other destination countries and has not been able to keep up with the growth rate of global coffee trade. This situation reflects the challenges in maintaining Indonesian coffee export performance in the Japanese market, which can be attributed to strict quality standards and consumer preferences (Putro et al., 2024). When compared to global standard growth, all global standard growth values are positive (0.09233), indicating a general upward trend in global coffee exports. However, some of Indonesia's export destination countries have not consistently matched or exceeded this global standard growth per year. Based on the average growth of exports to the United States (0.10012), Egypt (0.19098), Malaysia (0.21859), India (0.79967), and Italy (0.12240), they exceeded the global average growth standard. However, the average export growth to Japan (0.08662) remained below the global standard. This is in line with the downward trend in Indonesian coffee export volume to Japan.



Source: Data Processed, 2025

Figure 6. The Effect of the Composition of Indonesian Coffee Exports to the United States, Egypt, Malaysia, India, Italy, and Japan

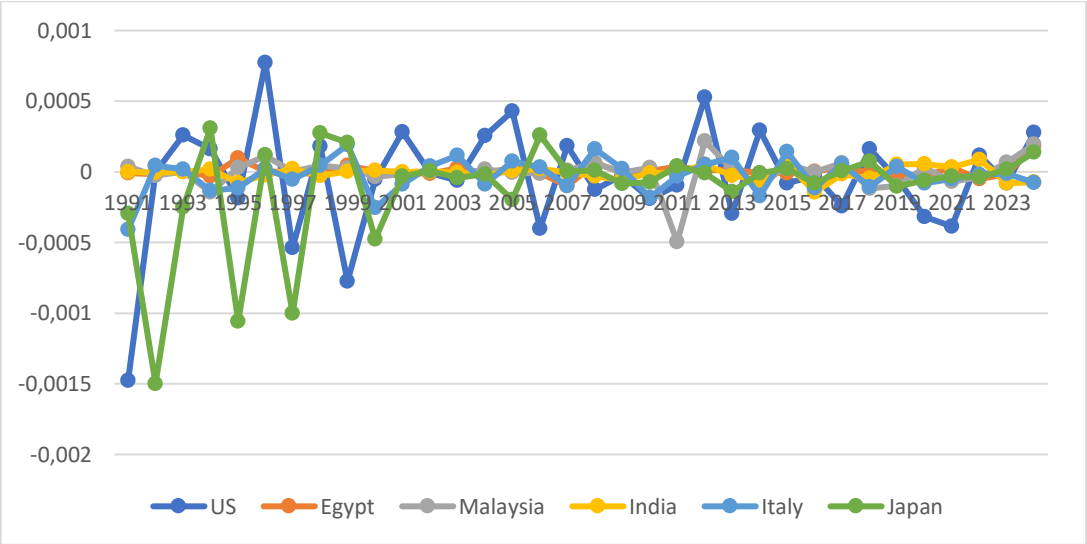
Figure 6 shows that the average effect of Indonesian coffee commodity composition varies across countries. Countries with positive average values are Italy (0.0000039), the United States (0.0000151), India (0.00000150), Malaysia (0.0000008), and Egypt (0.00000162). These positive values indicate that Indonesian coffee exports to these countries are still in the commodity group whose growth is in line with global coffee commodity trends. In other words, Indonesia's commodity structure remains aligned with global market demand. Conversely, Japan (-0.000002) is the only country with a negative average value, indicating that Indonesian coffee exports to the Japanese market are not in the high-growth commodity group. This situation indicates that Indonesia faces a mismatch in its commodity structure with the Japanese market, potentially hampering its export performance compared to other destination countries. This is in line with the downward trend in export volume growth to Japan (Putro et al., 2024).



Source: Data Processed, 2025

Figure 7. Distribution Effects of Indonesian Coffee Export Markets to the United States, Egypt, Malaysia, India, and Japan

Based on Figure 7, The market distribution effect of Indonesian coffee exports shows variations across major destination countries. The highest average market distribution effect value is found in Malaysia at 0.0000096, indicating that increasing market demand in that country supports the growth of Indonesian coffee exports to Malaysia. Egypt also recorded a positive average value of 0.0000170, although lower than Malaysia, indicating that coffee demand in the Egyptian market moves relatively in line with global demand dynamics (Sylvanie et al., 2025). Meanwhile, India (0.0000126) and Italy (0.0000024) have very small average values approaching zero, indicating that changes in global market distribution do not have a significant impact on the performance of Indonesian coffee exports to these two countries. In contrast, the United States (−0.000009) and Japan (−0.000015) show negative average values, reflecting that the growth of demand for Indonesian coffee in these two markets is slower than the growth of world trade. In general, these results indicate that the market distribution effect made the largest contribution to the growth of Indonesian coffee exports to Malaysia and Egypt, while the impact was limited to India and Italy, and relatively less favorable to the United States and Japan.



Source: Data Processed, 2025

Figure 8. The Effect of Competitiveness on Indonesian Coffee Exports to the United States, Egypt, Malaysia, India, and Japan

Based on Figure 8, it can be seen that the average value of the competitiveness effect of Indonesian coffee exports tends to be negative in almost all destination countries. This indicates that Indonesia's coffee export performance does not yet have a strong competitive advantage in most trading partner countries, with average values for Japan (-0.0001118), India (-0.00000864), Malaysia (-0.0000058), the United States (-0.000045), Italy (-0.0000275) and only Egypt (0.000007) providing a positive competitive signal for Indonesian coffee exports, while other countries have not shown a competitive advantage. Thus, the competitiveness factor remains a major challenge in strengthening Indonesia's position in the international coffee market.

The CMS analysis results indicate that Indonesian coffee export growth has not fully aligned with global standards, resulting in a relatively limited contribution from external factors in the global market to export growth. Overall, the CMS results demonstrate that, despite a favorable commodity structure and market distribution in some countries, Indonesia's export performance remains constrained by less-than-favorable global growth and a need for improved competitiveness (Sudjarmoko et al., 2021).

These results align with research by Atmadji et al. (2019) using the CMS method, which found that Indonesian coffee lacks strong competitiveness in the US, Japan, Germany, and Italy, as evidenced by

a trending negative competitiveness effect. Export growth is largely driven by commodity composition and global market growth. This study confirms that, although coffee remains a product group with increasing demand, Indonesia's ability to maintain its competitive position remains limited due to the dominance of other major producing countries. Therefore, the dynamics of Indonesian coffee competitiveness are more influenced by external conditions in the global market than by domestic competitiveness.

The analysis of Indonesian coffee export competitiveness shows that the Egyptian market is the most superior destination country compared to other destination countries, reviewed by the RCA, ECI, TSI, and CMS indicators. This superiority indicates that Indonesian coffee not only has a comparative advantage, but also is able to maintain dynamic competitiveness and increase market share in Egypt. Therefore, the strategy for developing Indonesian coffee exports should be more focused on the Egyptian market as a priority market. Strengthening exports is not only directed at increasing export volume, but also at expanding market segments, increasing product added value, and diversifying the types of coffee exported according to the needs of the Egyptian market. One important strategy that can be implemented is through promotional activities or active participation of Indonesia in exhibitions (expos), coffee festivals, and promotional activities involving business actors and the government to increase the visibility of Indonesian coffee in the Egyptian market (Abbas et al., 2023). In addition, increased bilateral cooperation between Indonesia and Egypt needs to be continuously encouraged, both through trade facilitation and strengthening long-term trade relations. This approach is expected to strengthen Indonesia's position in the Egyptian market in a sustainable manner and maintain the stability of national coffee exports (Pratama, 2014).

CONCLUSION

The development of Indonesian coffee export volumes to six major destination countries (United States, Egypt, Malaysia, India, Italy, and Japan) showed fluctuations during the period 1991-2024. Most destination countries exhibited a trend of fluctuating export volumes, with the exception of Japan, which experienced a decline. Based on the results of the overall competitiveness analysis using the RCA, ECI, TSI, and CMS indicators, it can be concluded that Indonesian coffee has strong comparative and structural competitiveness, but has not been fully able to maintain dynamic competitiveness in all destination countries. The RCA and TSI values indicate that Indonesian coffee has a comparative advantage and a position as an exporting country in all destination countries. However, the ECI results indicate a weak competitive advantage in Italy and Japan. Meanwhile, the CMS results show that only the Egyptian market shows strong competitiveness. This indicates that not all markets with high comparative advantages automatically become the most potential and dynamic markets. It can be concluded that Egypt is the destination country with the most superior competitive performance compared to other destination countries from the RCA, ECI, TSI, and CMS values which consistently show strong competitiveness.

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