

Coffee Trade Dynamics: The Impact of Tariff and Non-Tariff Policies in Japan and the United States

Bagus Abiyu Rahman

Development economics study program, Universitas Pembangunan Nasional Veteran Jawa Timur, Jl. Raya Rungkut Madya No.1, Surabaya, Jawa Timur 60294, Indonesia

DOI: <https://doi.org/10.61656/ijospat.v4i1.242>.

ABSTRACT

Purpose: This study aims to analyze the impact of tariff and non-tariff barriers on the government and export sectors, with a focus on coffee. Coffee was selected based on Indonesia's high coffee production, reaching 11.85 million bags in the 2022/2023 period, and its crucial role in international trade.

Method: The research method used panel data and tabular data over the past five years from previous research. The countries studied were Japan and the United States, which are Indonesia's largest coffee importers. The analysis was conducted to examine trends in Indonesian coffee exports to these two countries in relation to applicable tariff policies.

Findings: Research results show that Indonesian coffee exports to Japan and the United States have declined year over year. The primary factor contributing to this decline is the tariff policies, both tariff barriers and non-tariff barriers, imposed by the export destination countries.

Implication: These findings imply that tariff policies significantly impact the competitiveness of Indonesian coffee exports. The government needs to consider trade diplomacy strategies and export market diversification to prevent dependence on a particular country from significantly endangering the sustainability of coffee exports.

Originality: The uniqueness of this research lies in its focus on coffee, with case studies of exports to Japan and the United States. Using panel data from the past five years, this study provides an empirical overview of how tariff policies may influence Indonesian coffee export trends, while also opening up opportunities for further research on international trade strategies.

Keywords: exports, coffee, tariffs barrier, trade, policies.

Article info: Received: 9 December 2025; Revised: 15 May 2026; Accepted: 20 May 2026

Correspondence:

Bagus Abiyu Rahman and Email: bagusrahman012@gmail.com

Recommended citation:

Rahman, B. A. (2026). Coffee Trade Dynamics: The Impact of Tariff and Non-Tariff Policies in Japan and the United States, *Indonesian Journal of Sustainability, Policy, and Technology*, 4(1), pp 39-47.

1. INTRODUCTION

Indonesia is one of the world's largest coffee producers, with production reaching 11.85 million bags in the 2022/2023 period ([International Coffee Organization, 2023](#)). Coffee is not only a leading commodity in the plantation subsector but also contributes significantly to the country's foreign exchange. However, in recent years, Indonesian coffee exports have shown a downward trend, particularly to major importing countries such as Japan and the United States. This decline is not solely due to production fluctuations, but also to international trade policies in the form of tariff and non-tariff barriers imposed by destination countries ([Handoyo et al., 2019](#)).

Tariff barriers refer to import duties imposed on imported products, while non-tariff barriers include technical policies such as Sanitary and Phytosanitary (SPS) and Technical Barriers to Trade (TBT). SPS aims to ensure product safety for consumers and prevent the spread of pests or diseases, while TBT relates to quality standards and product conformity assessment procedures. Both policies often pose obstacles for exporting countries, including Indonesia, by increasing compliance costs and slowing trade flows ([Suherman et al., 2023](#)).



Japan and the United States are strategic markets for Indonesian coffee. America is known as one of the world's largest coffee consumers, while Japan has a thriving coffee consumption culture. Both countries offer significant opportunities for Indonesian coffee exports, but also demand high quality standards. Tariff and non-tariff policies implemented in these two countries are a determining factor in the success of Indonesian coffee exports (Handoyo et al., 2019).

Previous research has shown that SPS and TBT policies can have both negative and positive impacts on international trade. In the context of Indonesian coffee, these policies tend to suppress export volumes due to the high cost of complying with established standards. Furthermore, economic factors such as exchange rates, economic distance, and the GDP of importing countries also influence coffee export performance (Shabrina, 2020; Suherman et al., 2023). This explains why, despite Indonesia's high coffee production, exports to Japan and the United States have continued to decline.

Research on the impact of tariff and non-tariff barriers on Indonesian coffee exports is highly significant. First, this study provides an empirical overview of the challenges Indonesia faces in international trade. Second, the research findings can serve as a basis for the government in formulating more adaptive trade policies. Third, this research also provides insights for coffee industry players to improve the competitiveness of their products in the global market (Handoyo et al., 2019).

The primary objective of this study is to analyze how tariff and non-tariff policies affect Indonesian coffee exports to Japan and the United States. Using panel data from the past five years, this study aims to provide a deeper understanding of the relationship between international trade policies and coffee export performance. Furthermore, this study seeks to identify other factors contributing to the decline in exports, thereby providing relevant policy recommendations for the government and coffee industry players (International Coffee Organization, 2023).

2. LITERATURE REVIEW

2.1. Coffee

Coffee is a beverage made from roasted and ground coffee beans. Coffee beans come from coffee trees that grow in various regions around the world, particularly in tropical and subtropical regions. The coffee-making process begins with the harvest of coffee cherries, which are then processed to produce coffee beans. The beans are then roasted to produce a distinctive flavor and aroma before being ground into coffee powder. Economically, coffee can be defined as a commodity with significant economic value due to its high demand in the global market. Coffee is one of the most economically important agricultural products in many coffee-producing countries, including Indonesia. As a major export commodity, coffee contributes significantly to the economies of coffee-producing countries. Revenue from coffee exports not only affects the welfare of coffee farmers but also impacts related sectors such as processing, trade, and other industries.

Coffee is one of Indonesia's leading commodities, contributing significantly to agricultural exports. Indonesia ranks fourth as a global coffee producer, contributing approximately 2.7% of global coffee exports (Widyantini, 2018). However, Indonesia's coffee export trend declined by 5% between 2014 and 2018, in line with a 5.6% decline in production capacity. This indicates that despite Indonesia's significant potential, coffee competitiveness in the international market still faces challenges, particularly in terms of productivity and control of the global value chain, which is dominated by foreign companies.

An analysis of Indonesian coffee competitiveness using Revealed Comparative Advantage (RCA) showed an index value of 2.8 in 2018, indicating Indonesia has a comparative advantage in the global market (Widyantini, 2018). However, other studies highlight that trade barriers in the form of tariff barriers and non-tariff barriers such as quality standards, SPS regulations, and TBT are factors that suppress Indonesian coffee exports (Zuhdia et al., 2024). These barriers increase compliance costs and slow trade flows, thereby reducing the competitiveness of Indonesian coffee compared to competitors such as Vietnam and Brazil.

In addition to external factors, internal challenges also arise from limited access to financing, low technology adoption, and difficulties meeting international market standards, especially for MSMEs in the coffee sector. Literature studies show that sustainability-based empowerment models through training, digitization of export processes, and access to inclusive financing can increase the competitiveness of Indonesian coffee MSMEs (Veronica, Ramanda, & Perdhana, 2025). With a Resource-Based View (RBV) strategy (Suryaningrum, 2024), MSMEs can develop valuable, rare, and difficult-to-imitate resources, thereby strengthening the position of Indonesian coffee in the global market.

2.2. Tariff Barrier Policy

A tariff barrier is an international trade policy in the form of a levy or import duty imposed on imported goods. The primary purpose of this tariff is to protect domestic industries from competition from foreign products by increasing the price of imported goods, making them less competitive than local products (Krugman, Obstfeld, & Melitz, 2018). In the context of global trade, tariffs are a classic instrument used by countries to regulate the flow of goods and maintain domestic economic stability.

The implementation of tariff policies is driven by several reasons. First, to protect developing domestic industries from being unable to compete with cheaper imported products. Second, as a source of state revenue through import duties. Third, as a tool of political policy and trade diplomacy in dealing with partner countries. Studies show that tariffs are often used as a form of protectionism to maintain jobs and economic stability, although in the long term they can cause market distortions (Salvatore, 2019).

Tariff policies have a complex impact on international trade. On the one hand, tariffs can increase the competitiveness of domestic products and protect local producers. However, on the other hand, tariffs can also reduce trade volume, increase prices for consumers, and trigger retaliation from trading partner countries (Irwin, 1996). In the case of Indonesian coffee exports, tariffs imposed by importing countries such as the United States and Japan have been shown to suppress export volume, thereby reducing the coffee commodity's contribution to the country's foreign exchange. This demonstrates that tariff policies impact not only the economy but also diplomatic relations between countries.

2.3. Non-Tariff Barrier Policy

A non-tariff barrier is an international trade policy that does not take the form of a direct levy, but rather technical regulations, quality standards, quotas, or administrative requirements that imported products must meet. The most common examples are Sanitary and Phytosanitary (SPS) measures, which relate to food safety and health, and Technical Barriers to Trade (TBT) measures, which relate to technical standards and product conformity assessment procedures (World Trade Organization, 2020). Unlike tariffs, non-tariff barriers are more difficult to identify because they are often linked to health, safety, or environmental concerns.

The implementation of non-tariff barriers is driven by a country's need to protect consumers, maintain product quality standards, and protect the environment. Furthermore, these policies are also used as an instrument of covert protectionism, where importing countries restrict the entry of foreign products for technical reasons. Studies show that developed countries tend to use non-tariff measures more than tariffs because they are considered more in line with modern international trade rules (Beghin, 2017).

Non-tariff policies have a dual impact on trade. On the one hand, these policies can increase consumer confidence in product quality and safety. However, on the other hand, non-tariff barriers often increase compliance costs for exporters, slow trade flows, and reduce the competitiveness of developing country products (Disdier & Van Tongeren, 2010). In the context of Indonesian coffee, non-tariff barriers imposed by importing countries such as Japan and the United States have proven to be a factor suppressing exports, even though national coffee production remains high.

3. RESEARCH METHOD

3.1. Research Design

This research uses a literature review as its primary approach. The literature review was conducted by reviewing relevant previous research findings on Indonesian coffee exports, tariff policies, and non-tariff barriers. The analysis focused on the application of the Revealed Comparative Advantage (RCA) method, used in various studies to measure the competitiveness of Indonesian coffee commodities in the international market. This approach was chosen because it provides a comprehensive picture of Indonesian coffee's position compared to competing countries without the need to collect new primary data (Widyantini, 2018; Zuhdia et al., 2024).

3.2. Data Sources and Literature

The data analyzed came from academic publications, reports from international institutions, and scientific articles discussing Indonesian coffee trade. The literature used included research on coffee competitiveness using RCA, the impact of tariff and non-tariff policies on exports, and other factors influencing coffee trade performance. By reviewing various sources, this study sought to synthesize trends in Indonesian coffee competitiveness in the Japanese and United States markets.

3.3. Data Analysis

The analysis was conducted by identifying RCA values from previous studies and then comparing the results to determine the consistency of trends in Indonesian coffee competitiveness. RCA is calculated using the formula:

$$RCA = \frac{X_{ij}/X_{it}}{X_{wj}/X_{wt}} \dots\dots\dots (1)$$

where X_{ij} is Indonesian coffee exports, X_{it} is total Indonesian exports, X_{wj} is world coffee exports, and X_{wt} is total world exports (Balassa, 1965; Purwono et al., 2022). An RCA value > 1 indicates that Indonesia has a comparative advantage in coffee exports. By comparing RCA results from various studies, this study can assess whether tariff and non-tariff policies affect Indonesian coffee competitiveness in the global market.

4. RESULTS AND DISCUSSION

4.1. Analysis of Indonesian Coffee Competitiveness in America and Japan Using RCA

Based on the analysis using RCA on coffee products with HS code 090111 (coffee, not roasted, not decaffeinated) shows that Indonesian coffee in the global market has competitiveness indicated by the RCA value > 1 every year. It can be further explained that this competitiveness fluctuated during the 2007-2017 period as shown in Figure 1. Fluctuations occurred in the three export destination countries, namely the USA, Germany and Japan. The highest to lowest fluctuations in RCA values occurred in the American and Japanese markets, respectively.



Figure 1. Fluctuations in RCA USA, Germany and Japan
 Source: Data processed from previous research

The diagram in Figure 1 shows that between 2007 and 2017, there were fluctuations in the competitiveness of Indonesian coffee in the global market. This fluctuation can be attributed to several factors, including inadequate and substandard plantation management, harvesting, and post-harvest handling. Almost all coffee in Indonesia is produced by smallholder plantations, resulting in low-quality coffee produced by farmers. Furthermore, coffee cultivation in Indonesia is still managed traditionally, with the most common fatal errors made by farmers during the picking and post-harvest handling phases. In almost all coffee production centers in Indonesia, it is known that farmers largely harvest coffee cherries before they reach harvest age (green picking), resulting in low-quality coffee.

In addition to fluctuations in coffee competitiveness, low coffee quality also contributes to the imbalance in Indonesian coffee exports. Keil (2024) indicated that a country's competitiveness can change due to price and non-price factors. Therefore, fluctuations in competitiveness in the global market are inextricably linked to the price factor, which is caused by low-quality coffee produced. To address problems in the coffee production sector in Indonesia, the government continues to make efforts such as providing education and assistance to the community (Rahmah et al., 2023; Gabriel & Lubis, 2025). Indonesia can take advantage of all available opportunities and facilities, expand and strengthen the market share of Indonesian products or commodities to the Japanese market through IJEPA (Indonesia-Japan Economic Partnership Agreement) (Wati et al., 2023).

4.2. Indonesian Coffee Price Elasticity

Based on Table 1, the price elasticity of Indonesian coffee in the United States market is -1.7631, indicating that demand for Indonesian coffee is elastic. This condition indicates that changes in the price of Indonesian coffee will be significantly responded to by American consumers. For example, if the price of imported coffee increases by 10%, demand for Indonesian coffee will decrease by 17.631%. This situation is unfavorable because it indicates a high dependence on price, making Indonesian coffee's competitiveness in the American market vulnerable to price fluctuations (Varian, 2010).

Table 1. Indonesian Coffee Price Elasticity

Negara Eksportir	Negara Importir		
	Amerika Serikat	Jepang	Jerman
Indonesia	-1,7631	-0,6945	-2,9310
Kolombia	-1,1943	-0,3619	-1,8082
Vietnam	-0,8674	-0,9913	-1,3325
Brazil	-1,0900	-0,7786	-1,2640

Source: Data processed from previous research

High elasticity requires a special strategy to maintain the stability of Indonesian coffee exports. When coffee prices rise, American consumers tend to switch to products from other countries that are cheaper or of perceived better quality (Manalu et al., 2019; 2022). Table 1 shows that although Indonesia has a large market share, this position is not completely secure. Therefore, price control and increasing production efficiency are crucial factors in maintaining Indonesian coffee's competitiveness (Krugman, Obstfeld, & Melitz, 2018).

Besides price, quality standards set by importing countries such as the United States, Japan, and Germany also determine the success of Indonesian coffee exports. Consumers in developed countries have high preferences for quality, food safety, and product sustainability. Therefore, Indonesian coffee must meet international quality standards to be accepted in the global market. Research shows that quality standards are often a key differentiating factor in agricultural commodity trade (Beghin, 2017).

One form of policy that impacts coffee exports is non-tariff barriers, specifically Sanitary and Phytosanitary (SPS) and Technical Barriers to Trade (TBT). SPS relate to food safety and consumer health, while TBT relates to technical standards and product conformity assessment procedures. These policies are often considered trade barriers, but they also serve to protect consumers and maintain the quality of products entering the domestic market (World Trade Organization, 2020).

In the context of Indonesian coffee, the implementation of SPS and TBT by importing countries can increase compliance costs for exporters. For example, exporters must undergo additional certification, laboratory testing, and meet sustainability standards. This increases production and distribution costs, making Indonesian coffee less competitive. However, on the other hand, compliance with these standards can enhance Indonesian coffee's reputation as a high-quality product in the international market (Disdier & Van Tongeren, 2010).

Facing conditions of high demand elasticity and stringent quality standards, Indonesia needs to anticipate with a long-term strategy. This strategy includes increasing productivity, cost efficiency, diversifying export markets, and meeting international standards. Therefore, although Indonesian coffee faces challenges in terms of price elasticity and non-tariff barriers, opportunities to strengthen competitiveness remain open if trade policies and industrial strategies are appropriately directed (Shabrina, 2020).

5. CONCLUSION

Indonesian coffee faces serious challenges in its exports to the United States, primarily due to tariffs and non-tariff barriers that reduce its competitiveness. Tariffs increase export costs, while sanitation requirements and other non-tariff barriers complicate the export process. The impact of this situation is a decline in exports, potentially threatening the income of coffee farmers and the economic stability of coffee-producing regions in Indonesia. To overcome these challenges, trade diplomacy, export market diversification, and increased value-added coffee products are needed. These steps are crucial in maintaining the sustainability of the Indonesian coffee industry in global markets, including the United States and Japan. Furthermore, an analysis of the competitiveness of Indonesian coffee in the United States and Japan markets shows significant fluctuations, which can be caused by various factors, including low coffee production quality, errors in plantation management, and improper picking practices. Furthermore, the high price elasticity of Indonesian coffee in the United States market indicates that price changes can significantly impact demand. Therefore, serious efforts are needed to improve quality standards, improve production practices, and anticipate price changes to maintain the competitiveness and sustainability of the Indonesian coffee industry in the global market.

3.1. Limitations

This study has several limitations that should be noted. First, the analysis relies on secondary data from international institutions and academic publications, so the validity of the results is greatly influenced by the quality and completeness of the available data. Second, this study focuses only on major markets such as the United States and Japan, thus excluding other countries that are also destinations for Indonesian coffee exports. Third, the variables used are limited to tariff and non-tariff policies, while other factors such as consumer preferences, sustainability trends, and product innovation have not been analyzed in depth.

Furthermore, methodological limitations arise from the use of Revealed Comparative Advantage (RCA) analysis, which only emphasizes comparative competitiveness based on export data. RCA is not fully capable of capturing the dynamics of product quality, marketing strategies, or institutional factors that influence coffee trade. This makes the research results more descriptive than predictive, requiring complementation with other methods such as trade gravity analysis or more complex panel econometric models.

3.2. Recommendation

Based on these limitations, several suggestions can be put forward for future research and policy. First, future research should expand the scope of Indonesian coffee export destinations, including potential markets in Europe and the Middle East, to provide a more comprehensive picture of Indonesian coffee competitiveness. Second, the use of more diverse analytical methods, such as the trade gravity model or econometric panel data, can provide more accurate results in explaining the factors influencing coffee exports.

Furthermore, the government and coffee industry players need to pay attention to international quality standards, particularly those related to Sanitary and Phytosanitary (SPS) and Technical Barriers to Trade (TBT). Compliance with these standards not only reduces trade barriers but also enhances the reputation of Indonesian coffee in the global market. Furthermore, market diversification strategies and the development of value-added coffee products, such as organic coffee or coffee with sustainability certification, can be a solution to reduce dependence on specific markets. Thus, although this research has limitations, the suggestions put forward are expected to help strengthen the competitiveness of Indonesian coffee in the international market, while also providing direction for further, more in-depth and comprehensive research.

Practically, Indonesian coffee industry players need to improve production efficiency to maintain competitive coffee prices in the international market. This can be achieved through modernizing post-harvest technology, improving the distribution chain, and strengthening the capacity of coffee farmers. Furthermore, exporters must be more proactive in meeting international quality standards, particularly those related to Sanitary and Phytosanitary (SPS) and Technical Barriers to Trade (TBT), through product certification, laboratory testing, and implementing sustainable practices. A market diversification strategy is also crucial, ensuring Indonesia's reduced reliance on the United

States and Japan and instead expands exports to other potential markets such as the Middle East and Europe.

To address the challenges facing Indonesian coffee exports caused by tariff and non-tariff policies and to increase competitiveness in the international market, several strategic steps need to be taken. First, improving production quality and efficiency through farmer training and the adoption of modern technology is crucial. This will help produce higher-quality coffee. Export market diversification should be undertaken by researching new markets and increasing international promotion through trade shows and digital marketing campaigns. This will reduce dependence on the Japanese and United States markets and minimize the risk of declining demand. Trade diplomacy also needs to be intensified. The government should negotiate to lower tariffs and eliminate non-tariff barriers, as well as seek favorable trade agreements to open broader market access. The implementation of international quality standards and certification is crucial to boosting international consumer confidence. The government and relevant organizations need to facilitate the certification process for coffee farmers and producers.

From a policy perspective, the Indonesian government needs to strengthen trade diplomacy with partner countries to reduce tariff and non-tariff barriers that disadvantage coffee exporters. Bilateral and multilateral negotiations through forums such as the WTO and ASEAN can be used to advocate for fairer market access. Furthermore, the government needs to provide fiscal incentives and financing for coffee MSMEs to enable them to meet international standards. The policy of developing value-added coffee products such as organic coffee, coffee with fair trade certification, or specialty coffee can also increase competitiveness in the global market.

This study confirms that Indonesian coffee exports face significant challenges in the form of high demand elasticity in key markets such as the United States and the implementation of strict tariff and non-tariff barrier policies in destination countries. This situation demands a comprehensive strategy that combines production efficiency, compliance with international quality standards, market diversification, and government policy support through trade diplomacy and incentives for industry players. With synergy between public policy and practical strategies, Indonesian coffee has the opportunity to strengthen its competitiveness in the global market while maintaining its sustainable contribution to the national economy.

Generative AI statement

The author declared that Generative AI was used in the creation of this manuscript. The author affirms that, while generative AI (Copilot) was used to support the drafting process, all intellectual contributions, data interpretation, and final revisions were undertaken by the author. Responsibility for the accuracy, originality, and integrity of the content rests solely with the author.

Abbreviations

SPS – Sanitary and Phytosanitary
TBT – Technical Barriers to Trade
RCA – Revealed Comparative Advantage
MSMEs – Micro, Small, Medium Enterprises
RBV – Resource-Based View
IJEPA – Indonesia-Japan Economic Partnership Agreement

Funding

This research received no external funding.

Availability of data and materials

Data is available from reports listed in the bibliography of this research..

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