FRESH BANANA EXPORT PERFORMANCE: A COMPARATIVE ANALYSIS BETWEEN THE PHILIPPINES AND THAILAND

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ABSTRACT

Despite the Philippines' historical leadership in global banana exports, recent trends suggest its declining competitiveness, while Thailand has steadily been gaining market share. This study, conducted at the University of the Philippines Los Baños in 2024, examined the export competitiveness of fresh bananas from the Philippines and Thailand, two major players in Asia's tropical fruit trade. A multi-index framework was applied to address gaps in comparative trade analysis, using the Revealed Comparative Advantage (RCA), Trade Intensity Index (TII), and Trade Complementarity Index (TCI) to evaluate performance across key markets based on trade data covering 1990–2022. The study also assessed export stringency and policy environments to contextualize the indices. Findings revealed that Thailand consistently recorded higher TCI in major markets, reflecting stronger alignment with its importing country standards made possible by government support. In contrast, the Philippines has struggled to adapt its exports to meet diverse market quality standards and residue limits. Recommendations for the Philippines include: aligning quality standards with export market requirements; diversifying export markets and enhancing trade partnerships; and improving governance and infrastructure to support export competitiveness.

Key words: comparative advantage, trade indices, stringency

INTRODUCTION

Bananas are among the most commercially traded fruits worldwide and serve as a significant source of income for many tropical economies. In Asia, the Philippines has historically been the leading exporter of fresh bananas, especially the Cavendish variety, supplying high-demand markets such as Japan, China, and South Korea (OECD/FAO 2025). However, this dominance has been increasingly threatened by production challenges, including disease outbreaks like Fusarium wilt, climate-related disruptions, trade tensions, and growing competition from neighboring exporters (OECD/FAO 2025; Rivera 2023; Arcalas 2019).

Thailand is not among the world's largest banana exporters by volume but it has strengthened its foothold in major Asian markets such as China and Japan (Suvittawatt 2014) and has also expanded shipments to other destinations in the region, including Hong Kong (OOSGA 2023). Suvittawatt (2014) attributed this progress to the improvements in banana supply chain management, including enhanced

post-harvest handling, more efficient distribution systems, and government-backed farmer support programs (e.g., low-interest credit) that help maintain product quality and competitiveness. While the OOSGA (2023) report does not specifically mention bananas, it provides broader context on Thailand's trade policy environment such as the establishment of Export Processing Zones, Special Economic Zones, and participation in multiple Free Trade Agreements—that facilitates agricultural exports, including bananas. These factors collectively underscore Thailand's emerging competitiveness in the regional banana trade, particularly within the context of ASEAN integration and shifting global market dynamic (OOSGA 2023). These developments highlight an evolving competitive landscape in the regional banana trade, particularly in the context of ASEAN integration and global market diversification.

It is strategic to compare the Philippines and Thailand not only due to their similar agro-climatic conditions but also because of their contrasting trade trajectories and policy environments (Larson et al. 2004; Dy 2014). The Philippines remains heavily dependent on banana exports for agricultural income (TradeImeX 2025; PSA 2025) whereas Thailand has diversified its fruit export portfolio and increasingly competes in markets once dominated by the Philippines (Dy 2014). This context provides a unique opportunity to examine how differences in trade policy, quality compliance, and market access strategies influence export competitiveness.

Despite the shifting dynamics, limited research exists that directly compares the export competitiveness of the Philippines and Thailand using standardized trade indices. Most studies focus either on national production trends or use broader agricultural trade indicators without isolating the banana sector. This study fills this gap by applying a multi-index approach to assess banana export performance of the two countries using the Revealed Comparative Advantage (RCA), Trade Intensity Index (TII), and Trade Complementarity Index (TCI), taking off from the methodologies of the World Bank (2010) and Balassa (1989) to a commodity-specific, long-term (1990–2022) assessment. . These indices provide a comprehensive view of each country's export specialization, trade intensity with key partners, and the alignment between export supply and market demand.

Specifically, the study aimed to analyze the trends in banana exports of the Philippines and Thailand, evaluate the competitiveness of the Philippines and Thailand in major banana-importing markets, and draw implications based on the results of the trade indices to inform evidence-based policy recommendations.

In this study, import competitiveness refers to the ability of Philippine and Thai bananas to penetrate and compete within the importing markets of their trading partners (e.g., Japan, China, Singapore). This was assessed through the TII, which measures the strength of bilateral trade with each partner, and the TCI, which measures how well the countries' export structures align with the import demand of those partners.

RESEARCH METHODOLOGY

Type and sources of data. This study applied a combination of descriptive and comparative research designs to analyze the performance of the Philippines and Thailand in the export of fresh bananas (HS Code 0803.90) using FAOSTAT data on production, area harvested, and trade volume and values from 1990-2022. The 33-year data range was chosen to capture long-term export trends, structural shifts, and competitiveness patterns across changing policy and trade environments. The study also incorporated a document review approach to evaluate the stringency of import requirements of trade partners affecting banana exports from the Philippines and Thailand. Relevant technical regulations, food safety standards such as Maximum Residue Limits (MRLs) and import protocols were examined using official documents from the Codex Alimentarius, national sanitary and phytosanitary (SPS) authorities of

Japan, China, Singapore, and Hong Kong, as well as the Philippine National Standards (PNS) and Thailand Agricultural Standards (TAS).

Methods. The Spearman Rank Correlation was used to assess the association between RCA values of Philippines and Thailand. The TII and TCI were also calculated to measure the depth of bilateral trade and how well a country's export composition matches the import demand of its trading partners, respectively, thus serving as indicators of import competitiveness in those markets. All three indices were computed using standard formulas as follows:

$$\textbf{RCA} = \frac{\frac{x_{ij}}{X_{it}}}{\frac{x_{wj}}{X_{wt}}} \qquad \textbf{TII} = \frac{\frac{x_{ij}}{X_{it}}}{\frac{x_{wj}}{X_{wt}}} \qquad \textit{TCI} = \left(1 - \sum \frac{|m_{ik} - x_{ij}|}{2}\right) x\ 100$$

Where x refers to exports, m to imports of banana; X represents total exports; the subscript t denotes the total value of exports, such that X_{it} and X_{wt} represent the total exports of country i and of the world, respectively; and the subscripts i, j, and w represent the reporting country, trading partner, and world totals, respectively.

RESULTS AND DISCUSSIONS

Global overview of fresh banana production and trade. Global banana production in 2022 reached approximately 127 million metric tons (mt), growing at an average annual rate of 4.6% since 1990 despite frequent disruptions from climate events and disease outbreaks. Of this total, only an average of 14.5% entered international trade over the 33-year period, generating approximately US $237.76 billion in export revenues (FAOSTAT 2024). The combined upward trends in both area planted, and total output led to an average yield of 12.1 tons per hectare. However, production growth has fluctuated over the years. Notable surges occurred in 1992 (6.12%), 1997 (5.8%), 2007 (5.56%), 2014 (5.15%) and 2020 (5.7%) largely driven by rising global demand for fresh bananas. In contrast, significant declines were recorded in 1996 (-0.26%), 2000 (-1.6%), 2008 (-0.53%), and 2016 (-2.92%) (FAOSTAT 2024) (Fig. 1), mostly associated with adverse weather events (Voora et al. 2023), disease outbreaks such as Fusarium wilt TR4 and Black Sigatoka and macroeconomic disruptions like inflation in major producing countries (FAO 2021). The Cavendish variety represents nearly half of global production and remains the most traded banana type due to its longer shelf life and transport resilience (FAO 2025).

The global banana production is heavily concentrated in ten countries: India, Uganda, Mainland China, the Philippines, Ecuador, Brazil, Indonesia, Colombia, Cameroon, and the Republic of Congo. These countries collectively contributed approximately 76% of the world's total fresh banana output, (author's calculations using the 33-year data from FAOSTAT 2024). However, high production does not always equate to export strength. Of the top world producers, only Ecuador and the Philippines are major exporters with the top three producers (India, Uganda, and Mainland China) participating minimally in global banana trade since their production primarily satisfies domestic demand (OECD/FAO 2025).

According to Dodo (2014), the global banana production follows two main systems: family farming and plantation production. Family farms are small-scale, use traditional methods, and yield less, mainly serving local and regional markets. In contrast, plantation systems, common in countries like Costa Rica, Honduras, and Mexico, are large-scale, capital-intensive, and geared toward high-yield export production, often managed by multinational corporations.

On the other hand, global banana export volumes have been at a generally increasing trend although some fluctuations are notable such as in 2015 where it dipped from 10.7 million mt in 2014 to 9.6 million mt. In 2022, total exports were reported at 24.37 million mt, representing a 4% decline from 2021, largely attributed to adverse weather conditions in Latin America and Asia. In terms of export value, global banana shipments generated approximately US $13.06 billion in 2020, with a slight

decline to US $13.02 billion by 2022 due to falling unit prices (FAOSTAT 2024). Meanwhile, the global net banana imports fell by about 1.94% in 2022, amounting to a drop of nearly 1.1 M mt, resulting to a reduction of US $376 million in total import value (FAOSTAT 2024).

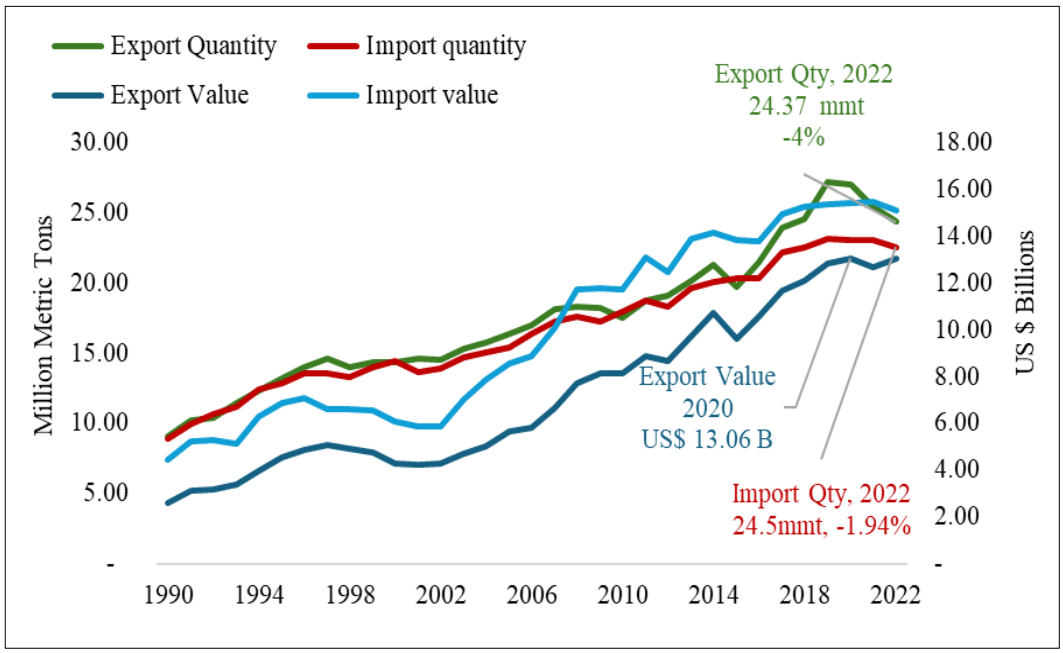

Figure 1. Global banana export and import volume and value trends, 1990-2022
Source of basic data: FAOSTAT 2024

Fresh banana production and exports (Philippines and Thailand*).* The Philippines has consistently ranked among the top global producers of fresh bananas, with production averaging 5.9 million mt annually from 1990 to 2022 (FAOSTAT, 2024). Major production areas include Davao Region, Northern Mindanao, and SOCCSKSARGEN, where large-scale plantations and corporate growers are concentrated (PCAARRD 2023). The country's export-oriented production model has enabled it to supply major Asian markets, particularly China, Japan, and South Korea (Dodo 2014). Its production volumes have been almost steadily increasing (except for a dip in 1998), until 2012 (9.23 M mt) and had an unprecedented decline for the next couple of years, to stabilize at only more than 5.9 million mt in 2022. Such declines were attributed to Fusarium wilt outbreaks, erratic weather, and increasing compliance requirements in importing countries (Arcalas 2019; FAO 2021). In 2020, a marked drop in export-quality bananas coincided with China's tightened import scrutiny characterized by increased rejections and reduced orders from Chinese importers. These disruptions underscored the vulnerability of the Philippine banana sector to phytosanitary and quality-control failures, intensifying the need for stronger regulatory compliance and logistical support (Henry 2020; Ochave 2020; Miraflor 2020).

In contrast, Thailand has historically been a domestically-oriented banana producer, with smaller-scale farms spread across multiple provinces. From 1990 to 2004, its production volumes were stable but relatively low. Beginning 2005, production has been fluctuating along with area planted but it reached approximately 1.2 million metric tons in 2022 (FAOSTAT 2024). Supported by investments in GAP certification and postharvest handling improvements (JETRO 2011; OOSGA 2023), especially in 2012 to 2014, yield has surged to a maximum of 379,730 100g per hectare or 37.97 tons per hectare surpassing that of the Philippines. However, beginning 2015, the Philippines regained its lead in yield

performance. For the last 33 years, the Philippines had an average yield of 194,906 100g per hectare or 19.49 mt per hectare while Thailand had 162,979 100g per hectare or 16.30 tons per hectare (Fig. 2).

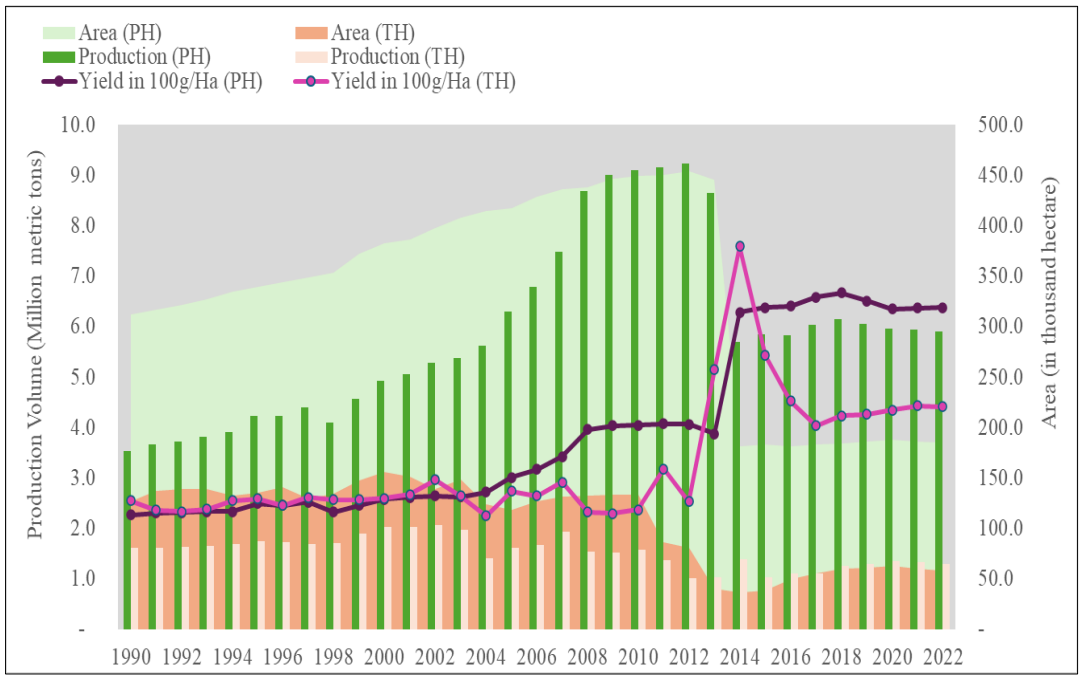

Figure 2. Philippines and Thailand banana area planted, production and yield, 1990-2022
Source of basic data: FAOSTAT 2024

In both countries, Cavendish remains the primary export variety. In the Philippines, it accounts for 50% of total banana output, followed by Saba (29%) and Lakatan (11%) (PCAARRD 2023). Thailand also exports Cavendish, but its domestic markets favor varieties like Kluai Namwa (Musa ABB), particularly the *Mali Ong* variety, prized for sun-dried banana production due to its sweetness and texture (Wongwaiwech et al. 2022). However, recent supply instability has led producers to shift to alternatives like *Nuanchan*.

The Philippine Banana Growers and Exporters Association (PBGEA) plays a central role in coordinating the export sector, comprising 22 companies across 15 provinces in Mindanao, including multinational firms like Del Monte and Dole (PBGEA n.d.). In Thailand, major exporters include Plaengyai Kluay Hom Thong Sukpaiboon Co., Ltd (Freshdi 2025), Chiquita Thailand, Dole Thailand, Del Monte Thailand, Golden Banana Co., Ltd.(ESSFeed 2025), among others

In recent years, the Philippines has continued with a large-scale, vertically integrated model vulnerable to shocks, while Thailand has advanced through product differentiation and gradual integration into regional value chains. Figure 3 illustrates the changes in the shares of the Philippines and Thailand over the past 33 years (Fig. 3). The chart highlights the dominant share of the Philippines as one of the key contributors and Thailand having a relatively smaller participation. These contrasting approaches reflect key factors underlying their divergent export performance, which are further analyzed using the RCA, TII, and TCI indices in the following sections.

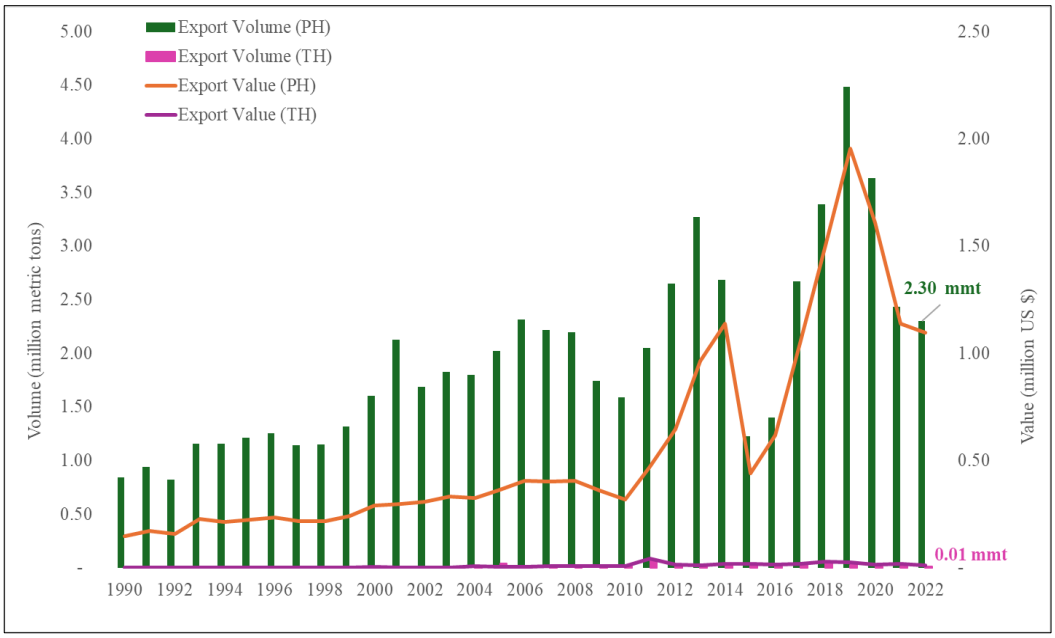

Figure 3. Philippines and Thailand banana exports volume and exports value, 1990-2022
Source of basic data: FAOSTAT 2024

Export policies and stringency measures of the Philippines and Thailand. In order to fully understand what could have possibly caused the variabilities in the banana exportation of both countries, stringency analysis was performed, comparing regulatory frameworks governing the export and import of bananas among their importing partners (Japan, China, Singapore, and Hong Kong). In this context, stringency refers to how strict importing countries are in imposing requirements for incoming products which may include, among others, pesticide residue limits, shape and size standards, labeling, and inspections and how exporting countries rigorously conform to these requirements before products are shipped. It reflects how "picky" buyers are and how "strict" sellers must be to gain and maintain market access (Hejazi et al. 2022; Engemann et al. 2024).

A related study by Fiankor et al. (2021) utilized residue level data as continuous indicators of relative stringency for specific products, allowing direct comparison across standards applied by different countries. For instance, a Maximum Residue Limit (MRL) of 0.01 ppm for a particular pesticide reflects a stricter standard than an MRL of 0.50 ppm established for the same pesticide elsewhere.

Data gathered for this study revealed that the Philippines' PNS/BAFPS 64:2008 – Banana: Grading and Classification contains provisions covering minimum quality requirements, size and class specifications, tolerances, sampling, packaging, labeling, hygiene, and other aspects of product quality. Information on contaminants and pesticide residues, including MRLs and heavy metals, is addressed in separate PNS document. In contrast, Thailand's TAS 136-2008 – Banana outlines key provisions, which include maturity, appearance, defects, size, color, trimming standards, and explicitly incorporate contaminants and pesticide residues. Both standards set quality requirements emphasizing fruit shape, cleanliness, and freedom from decay, bruises, blemishes, or latex burns. The Philippine PNS defines "Extra Class" bananas as those of superior quality with only slight superficial defects permitted, while Thailand's TAS provides the same technical parameters but supplements them with photo documentation showing acceptable and unacceptable fruit conditions. This visual feature promotes consistency in interpretation and enforcement of standards, which is not yet incorporated in the

Philippine PNS documentation (BAFPS 2008; National Bureau of Agricultural Commodity and Food Standards 2005).

In terms of MRLs, the Philippines has more MRLs for bananas (75), reflecting also the standards required by Australia, Canada, Japan, Korea, the European Union, and the Codex Alimentarius (BAFPS 2021). In contrast, Thailand listed 34 MRLs, adopting those established by the Codex and other international benchmarks (National Bureau of Agricultural Commodity and Food Standards 2005). For their major partner countries, Japan enforces MRLs for 189 pesticide active substances in bananas, China includes 69 substances (Zou et al. 2015), Hong Kong has 70 (Center for Food Safety 2025), and Singapore has 24 (Singapore Food Agency 2020).

While the Philippines listed more pesticide active ingredients with established MRL for bananas than Thailand, this alone does not imply greater regulatory stringency. It is emphasized that meaningful comparison requires evaluating the specific residue limits and concentrations of each chemical used (Fiankor et al. 2021). Based on the respective standards, only a limited number of active ingredients are common between the two countries (6 chemicals with MRLs) (Table 1).

A comparison reveals that Thailand applied a lower standard than the Philippines for certain pesticides, such as chlorothalonil (0.01 ppm versus 2.00 ppm). However, for other commonly used pesticides such as bitertanol, cadusafos, and chlorpyrifos, both countries adopt identical limits, while variations with importing partners like Japan or Singapore are often more pronounced. This suggests that regulatory stringency varies by active ingredient. Both the Philippines and Thailand demonstrate conformity and alignment depending on the pesticides and MRLs whether based on the Codex Alimentarius, data from local residue studies, or the importing country's specific regulations.

Table 1. Comparison of Maximum Residue Limits (MRLs) for selected pesticides in bananas across the Philippines, Thailand, CODEX, and major trading partners.

Common Pesticide Residue Limits	Thailand[1]	Philippines[3]	Japan[4]	China[5]	Hongkong[6]	Singapore[7]	CODEX Alimentarius (FI 0327)
Bitertanol	0.50	0.50	0.50	-	0.5	-	0.50
Cadusafos	0.01	0.01	0.01	-	0.01	-	0.01
Carbofuran	0.01	0.01	-	0.02	0.10	0.10	0.01[8]
Chlorothalonil	**0.01**	**2.00**	0.20	-	0.01	0.20	15.00
Chlorpyrifos	2.00	2.00	2.00	-	2.00	-	T 0.50[8]
Ethephon	2.00[2]	2.00	2.00	2.00	2.00	-	T 0.05[8]

Sources:

(1) Thai Agricultural Standard 6-2005 Bananas
(2) Thai Agricultural Standard 9002-2013 Pesticide Residues: Maximum Residue Limits
(3) PNS/BAFS 160:2021 Banana – Product Standard – Maximum Residue Limits (MRLs) of Pesticides
(4) The Japan Food Chemical Research Foundation
(5) Zou et al. 2015
(6) Centre for Food Safety - Hong Kong Pesticide MRL Database
(7) Singapore Food Agency
(8) Agricultural and Veterinary Chemicals Code (MRL Standard) Instrument 2019
a. A 'T' denotes that the MRL use is temporary

It is important to note that Thailand's standards cannot be considered less stringent or of lower safety simply because it has fewer imposed MRLs. This is mainly due to the fact that fewer pesticides are registered for use on bananas in Thailand. Conversely, the Philippines has more registered pesticides in banana means that there are more pesticides registered for use in banana. However, the number of MRLs does not reflect the actual level of pesticide use. Instead, it indicates a broader range of approved crop protection products available to growers, allowing flexibility in pest management strategies and supporting resistance management over time.

In terms of regulation, the Philippine banana industry has pursued a range of institutional and policy-based strategies to remain competitive. One of the key approaches is sectoral diversification, including intercropping Cavendish with Saba bananas to cater to rising global demand for frozen bananas and banana chips. This strategy, backed by the Philippine Chamber of Commerce and Industry (PCCI), promotes product diversification and expands market access (Mangarin 2023).

In the Philippines, quality assurance initiatives such as farm registration, irrigation upgrades, and control of stray animals are in place, while outreach programs provide growers with technical training, although limited in scale and impact. These limitations stem from the fact that many smallholders are outside the coverage of large associations, like PBGEA and have less access to sustained support (PBGEA n.d.; PCAARRD 2023). For instance, while GAP training modules are available, only a small proportion of banana farms are formally registered and certified. In contrast, Thailand provides wider-reaching support through structured GAP certification programs, subsidies, and SEZ/EPZ incentives, enabling more consistent compliance at the smallholder level (OOSGA 2023). Long-term competitiveness will depend on sustained public investment in research, disease control, and environmental resilience (Mangarin 2023).

Thailand promotes fruits (including bananas) export competitiveness through strict phytosanitary measures under the Hazardous Substances Act, backed by incentives such as duty exemptions in Export Processing Zones (EPZs) and logistical support in Special Economic Zones (SEZs). Trade liberalization under AFTA and other agreements has further enhanced access to key markets. Aside from these incentives, Thailand also provides extensive government support for compliance with international SPS requirements and quality standards, including a structured farm-to-export traceability system and expanded MRL testing capacity through public–private collaboration (OOSGA 2023). In contrast, while the Philippines also participates in AFTA and bilateral agreements such as the Japan–Philippines Economic Partnership Agreement (Lima and Bathan 2016), government facilitation for banana exports is more limited, with tariff negotiations and compliance responsibilities largely carried out by private industry groups such as PBGEA (BAFPS 2013; PCAARRD 2023). The Philippines regulates SPS measures through its National Plant Quarantine Services and Bureau of Agriculture and Fisheries Product Standards, but enforcement capacity at the smallholder level remains weak. These differences help explain why Thailand has been more effective in ensuring compliance, resulting in fewer SPS-related rejections and stronger positioning in high-value markets (JETRO 2011; OOSGA 2023). These regulatory and policy dimensions provide essential context for interpreting the comparative trade indicators (TCI, RCA, TII) discussed in the following section.

Comparative analysis of Philippines and Thailand export competitiveness and trade performance. Each index used in this study has inherent strengths and limitations. The RCA (Balassa) index captures export specialization and offers a clear, consistent, and historically comparable measure of comparative advantage, making it widely applied in long-term, cross-country trade analysis due to its simplicity and interpretability (Hoen and Oosterhaven 2006; Cai et al. 2009). However, it does not account for economy size and may overstate competitiveness when exports are highly concentrated. The TII reflects the strength of bilateral trade relationships but may be influenced by market size or historical trade ties rather than pure competitiveness. Meanwhile, the TCI measures how well a country's exports align with partner-country import demand but does not capture price competitiveness

or non-tariff barriers. Despite these limitations, combining RCA, TII, and TCI provides a more holistic perspective on export performance by integrating insights on specialization, trade intensity, and market alignment across the 33-year period analyzed in this study.

The Philippines maintained a strong comparative advantage in fresh banana exports from 1990 to 2022, with RCA values consistently above 1 (20.73), reaffirming its global competitiveness, particularly in markets like Japan and China (FAOSTAT 2024). In contrast, Thailand's RCA remained below 1 (0.04) for most of the period but has steadily increased since the early 2010s, indicating growing regional presence (Fig. 4). The Philippines' edge is attributed to its large-scale production, established export infrastructure, and contract farming models linking small growers to multinational firms like Del Monte and Dole (PBGEA n.d.; BAFS 2013). The suitable agro-climatic conditions of the country and its strategic location relative to trading partners are adding to these advantages. Contrastingly, Thailand's lower RCA reflects limited prioritization of bananas, which rank only 16th among its fruit exports in 2022 (FAOSTAT 2024). Prioritization of the other top export earners over bananas in the use of resources might have contributed to the comparative disadvantage of the latter relative to the Philippines.

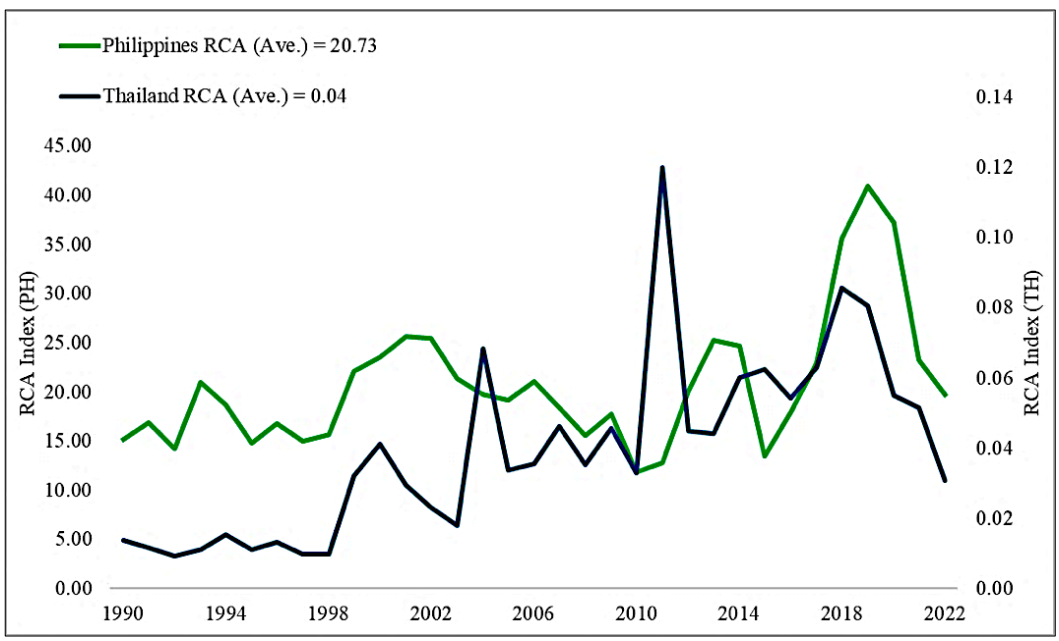

Figure 4. Revealed comparative advantage and growth rates, Philippines and Thailand banana industry, 1990-2022
Source of basic data: FAOSTAT, 2024

The Spearman rank correlation ($\rho = 0.364$, $p < 0.05$) suggests a moderate positive relationship between the RCA rankings of both countries, implying shared responses to regional and global market dynamics while also reflecting country-specific differences in production scale, policies, and export capacity. The low correlation coefficient could be due to the low export volume of Thailand but nevertheless could be reflective of its movement toward the export trajectory of the Philippines as bolstered by the computed TII and TCI.

In the determination of the TII and TCI of both countries, focus was on four major trading partners: Japan, China, Singapore, and Hongkong. These markets were selected due to their established roles as consistent importers and conduits of banana trade in the Asia-Pacific region. While both TII

and TCI are commonly used for multi-product analysis, this study, however, applied them specifically to fresh bananas, a commodity in which both the Philippines and Thailand hold significant export specialization to provide an illustrative assessment of bilateral trade strength (TII) and market demand alignment (TCI). This approach is intended to complement, not replace, aggregate-level analyses, and highlights specific dynamics in a key export sector.

Following this approach, the Philippines shows historically strong TII with Japan and later with Singapore, although it declined after 2012 as Philippine exporters shifted trade routes following the ASEAN–China FTA and stricter Chinese import rules (Lima and Bathan 2016; Higgins 2012) (Fig. 5). Thailand, however, demonstrates high TII values with China, Hong Kong, and Singapore, bolstered by the Thailand–China FTA, growing demand, and improved logistics like the China–Laos railway (Wei and Sukhotu 2022; OOSGA 2023). Proximity, trade hubs, and product quality contribute to Thailand's growing integration into these markets (Yu 2024; Ploetz 2015).

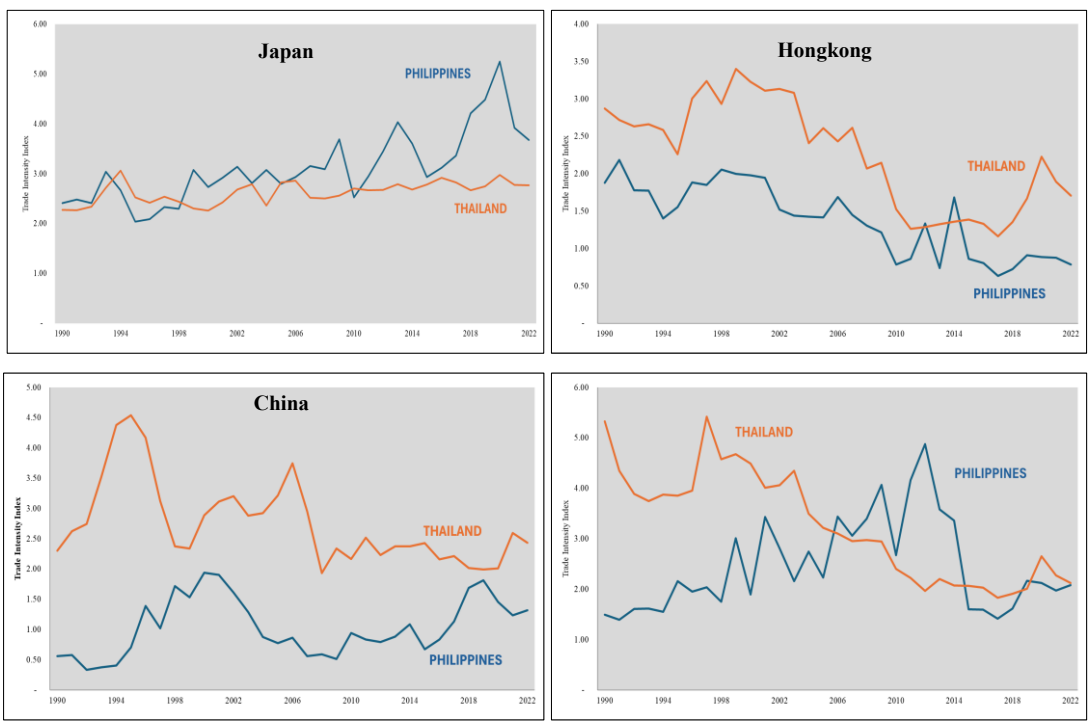

Figure 5. Trade intensity index of Philippines and Thailand to Japan, Hongkong, China, and Singapore, 1990-2022
Source of basic data: FAOSTAT, 2024

TCI results further reinforce Thailand's increasing competitive edge, averaging 99.70 across the four trading partners indicating near-perfect alignment with import demands. The Philippines, while still competitive, recorded a lower average TCI of 91.93, suggesting some misalignment in product-market fit. Thailand's higher TCI may have stemmed from superior quality, pricing, and trade facilitation, while the Philippines faces constraints related to supply chain inefficiencies and stricter compliance issues in key markets.

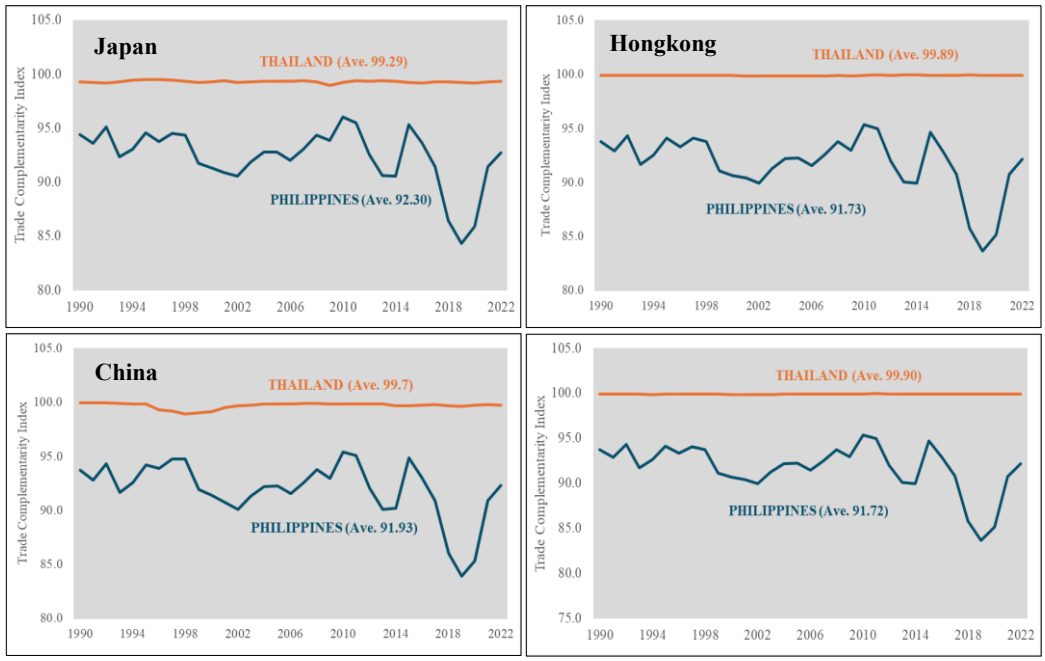

Figure 6. Trade complementarity index of Philippines and Thailand to Japan, Hongkong, China, and Singapore, 1990-2022
Source of basic data: FAOSTAT, 2024

These results highlight strategic contrasts: the Philippines excels in scale and infrastructure but faces growing risks from disease outbreaks, climate disruptions, and tightening importing country SPS standards. Thailand, meanwhile, leverages product differentiation, trade agreements, and logistics to penetrate regional markets more effectively (Ploetz 2015; Ministry of Foreign Affairs of the People's Republic of China 2018; Yu 2024). These patterns are synthesized in Table 2, which presents a comparative summary of RCA, TII, and TCI values for the Philippines and Thailand averaged over the 33-year period (Table 2).

Table 2. Comparative summary table of export competitiveness based on indicators (computed as average of 33-year data).

Indicator	Market	Philippines	Thailand
RCA	All Markets	**20.73**	**0.04**
> 1 = Strong comparative advantage		Strong comparative advantage across markets, especially with Japan and China	Modest to moderate advantage; rising; reflecting improving export capability
TII	Japan	**3.11**	**2.63**
>1 = intense trade relationship		Very strong trade ties; reflects large volume	Strong; reflects limited but stable trade relationship

Indicator	Market	Philippines	Thailand
	China	**1.04**	**2.75**
		Strong, but declining post-2020 due to phytosanitary issues	Growing intensity due to increasing exports since 2010
	Hongkong	**1.38**	**2.26**
		Moderate and declining	High and rising, likely due to proximity and quality differentiation
	Singapore	**2.46**	**3.24**
		Low and declining	Moderate and stable, supported by geographic proximity
TCI	Japan	**92.30**	**99.29**
Closer to 100 = high trade complementarity		High but modest decline (96.01 in 2010 → 84.32 in 2019 → 92.73 in 2022) Slight weakening, with recovery in recent years; competitiveness remains strong but should be reinforced	Exceptionally high and stable; indicating better structural match with Japan's import needs
	China	**91.93**	**99.70**
		Declining (95.41 in 2010 → 83.92 in 2019 → 92.32 in 2022); Weakened complementarity, indicating need to align exports with China's import needs	Exceptionally high and stable; High complementarity due to increased export diversity
	Hongkong	**91.73**	**99.89**
		Downward trend 95.34 in 2010 → 83.63 in 2019 → 92.17 in 2022; Needs improved alignment with Hongkong import demand	Exceptionally high; near perfect stability likely due to Thailand's product match and quality standards
	Singapore	**91.72**	**99.90**
		Declining 95.34 in 2010 → 83.63 in 2019 → 92.17 in 2022; Needs improved alignment with Singaporean import demand	Exceptionally high near perfect stability; reflecting both direct demand and re-export role

Source of basic data: FAOSTAT, 2024

CONCLUSIONS AND RECOMMENDATIONS

This study examined the export competitiveness of the Philippines and Thailand in the fresh banana trade, highlighting how production capacity, SPS measures, and trade partnerships shape their

performance. The Philippines maintains a strong production base and historical comparative advantage but faces declining export competitiveness due to disease outbreaks, climate disturbances, rising costs, and trade tensions. Thailand, though lacking a similar production advantage, has gained ground through strict quality enforcement, trade agreements, and improved logistics, enabling access to high-value markets such as Japan and China. Both countries share vulnerabilities to pests and climate variability, yet Thailand's proactive standardization and market strategies have strengthened its position. If structural and policy gaps in the Philippines remain unaddressed, Thailand may eventually overtake it in the regional banana trade.

To sustain and strengthen its competitiveness, the Philippines should align its national standards with importing-country requirements while continuing to base its MRLs on locally generated residue data that reflect actual production conditions. Establishing standardized testing facilities near production hubs will enhance compliance and product consistency to meet global market demand, while promoting organic and climate-resilient farming practices will support sustainable market access. Expanding trade partnerships beyond traditional markets such as Japan, China, South Korea, and Europe, can help reduce vulnerability to global market shifts. In parallel, the government should foster stronger governance and infrastructure support through public–private partnerships, empower industry organizations such as PBGEA, and invest in cold storage, transport, and export facilities. Learning from Thaland's use of export processing zones and strategic branding could help Philippines create a premium banana niche and enhance export competitiveness taking advantage of its high RCA. These measures will enable smallholders to participate more effectively in export chains, enhance quality assurance, and ensure long-term resilience of the Philippine banana industry.

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