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印尼咖啡在台灣: 貿易移轉與市場偏好

Indonesian Coffee in Taiwan: Trade Diversion and Market Preferences

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Trade Diversion and Market Preferences

本論文係黃瀧琛(學號 R11627029) 在國立臺灣大學農業經濟學研究所完成之碩士學位論文，於民國 113 年 7 月 15 承下列考試委員審查通過及口試及格，特此證明。

The undersigned, appointed by the Department of Agricultural Economics on July 15, 2024, have examined a Master's Thesis entitled above presented by JANETTE WILLIAMS (student ID R11627029) candidate and hereby certify that it is worthy of acceptance.

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Abstract

Taiwan's coffee consumption ranking has been climbing up to its highest level in history, with coffee shops available around every nook and cranny of the streets. Despite Indonesia being the world's fourth-largest coffee producer and top 13th of Taiwan's trade partners, Indonesian coffee remains scarce in Taiwan. This study aims to treat this diminishingIndonesian coffee existence in Taiwan as an explanatory study case to be investigated by providing different reasoning.

The initial hypothesis refers to the ASEAN-China Free Trade Agreement (ACFTA) signed in 2002, which may have redirected Indonesian coffee exports from Taiwan to China. However, the lack of immediate impact from ACFTA suggest other factors influencing this situation, such as changing market preferences in both Taiwan and Indonesia. Taiwan's coffee culture evolved significantly in the 21st century, influenced heavily by Western chains like Starbucks, which popularized Arabica coffee. This could have shifted local distributors' attention to other producing countries with more Arabica beans at a cheaper price. Meanwhile,in Indonesia, rising domestic demand and unstable supply due to extreme weather have affected coffee production. The expansion of local grab-and-go coffee chains increased domestic consumption, reducing the availability for export.

The study is concluded with policy discussions for Indonesia government to help smallholder farmers get Fairtrade certification. Additionally, both countries could renew a bilateral agreement to strengthen coffee trade, with Taiwan offering agricultural technologies in exchange for a stable supply of high-quality Arabica coffee from Indonesia.

Keywords: Taiwan coffee market, Indonesian coffee exports, Taiwan's coffee imports,ASEAN-China Free Trade Agreement (ACFTA), market preferences

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1. Introduction

In Taiwan, a fast-paced developed country, everyone could be seen rushing to their work and school in the morning, but many of them would stop in the convenience stores or nearest coffee shops before they arrived at their destination. That is just to get a cup of coffee before their long day. Many Taiwanese believe that they cannot function without coffee, explaining the thousands of coffee shops and convenience stores spread across the nation. Taiwanese coffee shops often offer various coffee beans and beverages, from ice coffee latte or hot manual brew single-origin Yirgacheffe. With an annual coffee consumption per capita of approximately 1.8 kg, Taiwan is the 41st largest coffee consumer globally, surpassing tea consumption by 2021. This growing preference is supported by the increasing number of coffeechains stores, local roasters, and artisanal coffee shops, signifying a contemporary Taiwanese lifestyle that integrates coffee as an essential part of daily intake.

With tons of options and ways of making it available, Taiwanese have built their own preference for drinking coffee in their own way. Some love to drink it black and some love it blended. Others love it hot or cold. When asked about what type of coffee they like, each person may have their own preference in getting their coffee based on the way it is processed or mixed with other add-ons. However, when it comes to a question: Do you like Arabica or Robusta more? There could be a chance that the common coffee drinkers do not really understand whatthese types of coffee are. Most Taiwanese buy coffee from huge supermarkets like Costco or PX Mart, where Brazil and Colombia are the most common sources. Despite being major coffee producers, Brazil, Colombia and Ethiopia are considerably far from Taiwn. Conversely,Taiwan is closer to Vietnam and Indonesia, which are Asia's major coffee producers. In the early 2000s, Indonesia was Taiwan's biggest coffee importer, but by 2024, Indonesian coffee is rarely seen on

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menus. Despite the close trade relationship, Indonesian coffee has become less desirable in Taiwan and more popular in China, considering factors like the ASEAN Free Trade Area (ACFTA) agreement. To understand this dynamic, it is essential to explore the types of coffee beans, the history of Indonesian coffee, Taiwanese consumption habits, and theimpact of free trade agreements. These aspects are crucial and will serve as the foundation forthe progression of this research.

1.1 The Colonization Drink Transformation to World's Most Beloved Beverage

Coffee has a history that goes a long way back to 800 AD when it was first discoveredin the land of Kaffa, Ethiopia by Kaldi, an Ethiopian goat herder who realized that his goats became energetic after eating coffee berries. Some historical stories also claim that coffee wasfirst discovered in Yemen, but it seems that Yemen traders had brought coffee plants early to their country and cultivated them there. This story was forgotten for centuries, until in the 15th century, people realized that there was coffee grown in Yemen, and the word spread to Egypt,Syria, and Turkey in the 16th century. In this era, people drank coffee to help them stay more awake and devote their time to building their spiritual consciousness and praying. It soon became a drink that people enjoy at home as a daily routine or present to guests as a token of hospitality (Nestlé Indonesia, 2022).

In the 17th century, this history changed its direction when European travelers discovered this beverage when it was first introduced by the Ottoman Empire to Italy. Due to its uniqueness and rarity, only the wealthy in European countries could enjoy this "magical beverage". European countries are areas that are not suitable to grow this plant due to their coldclimates. Therefore, they opted to introduce this plant to the countries they were colonizing, explaining how Indonesia's first coffee record was tracked in Java

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in the 17th century. For manyyears, the Dutch cultivated coffee plants all over Indonesia. However, this exotic beverage soonbecame more popular not only in Europe but was introduced to the American colonies too. This movement inspired the French government to introduce coffee plants to the areas they colonized to expand supply, which are Central and South American areas (Neill, 2023). The 'colonized' places then have become the world's largest coffee-producing area, called 'The Coffee Belt' in the modern day, which includes Brazil, Vietnam, Colombia, Indonesia, Ethiopia,Honduras, Peru, India, Uganda, and Guatemala.

The past few centuries have let coffee transform from the luxury drink introduced by colonies into a fast-paced drink that everyone desires to drink every day around the world. It isestimated that the market year (MY) 2023/24 for coffee is going to consume approximately 177 million 60kg bags, which equals to around 10.62 billion kgs of coffee (Datagro, 2024). The top 10 countries that drink coffee the most in the world rank from the United States, Brazil,Japan, Indonesia, Russia, Canada, Ethiopia, Philippines, and South Korea (World Population Review, 2024). The United States, Japan, Russia, Canada, and South Korea, are not even coffee-producing countries, meanwhile, they are only importing countries and still manage to rank very high in this commodities' consumption. This means they have to import from all theworld's coffee-producer countries to get their daily coffee intake every day.

1.2 Getting to Know Arabica and Robusta Coffee

The two most common coffee bean types in the world are Arabica and Robusta. Arabica,believed to be descendants of original coffee trees from Ethiopia, accounts for 60-70% of the world's coffee production (ICO, 2021). Arabica trees produce fine, fragrant, and mild coffee with varying taste notes like sweet, fruity, or floral, depending

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on their growing location. They are considered higher quality due to their flavor complexity and sensitivity to weather. Arabica trees thrive in temperatures between 15°C - 25°, commonly in mountainous areas at altitudes of 410 to 1830 meters above sea level, with 60 inches of annual rainfall (NCA, 2024). Ideal growing regions include Ethiopia, Colombia, Brazil, India, and Guatemala due to their geographical terrains.

In contrast, Robusta beans are known for their stronger, more bitter taste and higher caffeine content, making them popular for blends and coffee packets. Oftentimes, they also give a sense of a distinct woody and nutty taste that fewer people may enjoy. Nonetheless, Robusta's popularity has increased these years due to its more robust characteristics that are more disease-prone and heat-resistant. *Coffea canephora*, Robusta's coffee tree, can grow in lower altitudes areas between 200 - 800 meters above sea level and is often seen surviving in hotter and more humid temperature ranges. This makes tropical countries around the equator, such as Vietnam and Indonesia, have decent locations to grow this type of coffee bean (Slipchenko, 2021).

These two coffee beans could be differentiated by their look, as Arabica looks more ovular, flat, and oily than Robusta. These features are the reason why they taste sweeter or fruitier. Meanwhile, Robusta beans are rounder and slightly smaller. Their taste is more bitter due to the less oil they have. The nutrition content between the two beans is quite different, especially the amount of caffeine. Robusta has twice as much percentage of caffeine content as Arabica beans, which are 2.7% and 1.5% respectively. On the opposite, Arabica contains 60% more lipids and sugar concentration than Robusta (LavAzza, 2022).

1.3 Coffee in Indonesia

Indonesia's coffee industry has a rich history dating back to the Dutch colonial

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period,with ideal growing conditions in regions such as Sumatra, Java, and Sulawesi. The country produces both Arabica and Robusta beans, with Arabica grown in highland areas and Robustain the lowlands. In recent years, production has shown variability due to climate change and market fluctuations but remain significant in the global market. In 2019, production was 752.51thousand tons, rising to 786.19 thousand tons by 2021. Most plantations are smallholder farms, contributing 99.32% of production. Key coffee-producing provinces include South Sumatra, North Sumatra, Lampung, Bengkulu, and Aceh. Improved agricultural practices could help stabilize and increase future production (BPS-Statistics Indonesia, 2022).

Even though Indonesia is often known to produce more Robusta coffee beans, the country also produces quite a decent amount of Arabica beans that are cultivated in different regions. Some regions could grow both types of coffee beans, and some others may focus on just one type of coffee bean. Sumatra Mandheling is the most popular coffee bean that is oftenused by Starbucks and different brands all around the world because it is one of the best Indonesian Arabica coffee beans. They have floral, fruity, and a bit spicy taste notes with lessacidity level. Mandheling coffee offers a unique aroma with a bitter smell of spice, chocolate,flowers, and fruits. The plantations are located in the area of Leuser volcano, which explains the high quality of the plants and coffee bean production (Nestlé Indonesia, 2022). Therefore,they could be produced in a bigger amount and could be enjoyed by a lot of people worldwide.

Other than this popular type, there are some other delicate and unique coffee beans offered from other locations. Aceh Gayo Arabica coffee from Aceh province has a very strong aromabut does not leave a bitter aftertaste like most coffee. Lampung Robusta coffee from Lampungprovince breaks the stereotype of Robusta coffee by becoming people’s favorite as they havea smooth texture with a strong taste. Toraja coffee from

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Sulawesi Island has a distinct aroma, floral and fruity taste, and a slightly sour aftertaste even though it has low acidity. There is alsoJava Arabica coffee from different provinces in Java that is known for its balanced taste as it has medium acidity with medium consistency and light spice aroma. The 'Island of the Gods',Bali, which is one of the world's most famous tourist locations also has its own coffee grown on the volcanic mountain, Mount Kintamani, and this Arabica coffee offers a light texture, butfresh almost orangy taste note. Other eastern areas like Flores Island have Flores Bajawa coffee with sweet, nutty, and herbal taste notes and Papua Island has Papua Wamena coffee that has a floral taste with a chocolaty and herbal smell (Nestlé Indonesia, 2022).

1.4 Indonesian Coffee in Taiwan

With the various coffee bean options and a huge amount of Indonesian coffee production, there are two types of Indonesian coffee most Taiwanese would be more familiar with and is often found among the coffee shops in Taiwan, which is Sumatra Mandheling Arabica coffee. In addition to Mandheling Arabica coffee, many Taiwanese often associate Indonesian coffee with Kopi Luwak, commonly known as civet coffee. This coffee is harvestedfrom the feces of civets after they have consumed coffee beans. Kopi Luwak is considered a premium coffee, highly sought after for its unique flavor profile. Native to Indonesia, civets make the country the leading producer of civet coffee.

The popularity trends of Indonesia's Sumatra Mandheling Arabica coffee and civet coffee in Taiwan are often perplexing. Despite Taiwan's increasing consumption, imports of Indonesian coffee remain infrequent, even though Indonesia is geographically closer and a viable import option. It is widely assumed that this anomaly may be linked to the free trade agreement signed between Indonesia and China in the early 21st century, which could influencetrade dynamics and import preferences.

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1.5 History of Free Trade Agreements Implementations among Asian Countries

The post-colonial Asia was considered an underdog after finally stating independence from the long history of European countries' colonization. The millennium marked an important period for Asia to finally rise and become the most important region in the world's economy now. The birth of free trade agreements (FTA) was soon born with the hope of pursuing investment and trade liberalization in the continent. Recorded in June 2010, East Asiahas successfully created 47 FTAs in the continent and the whole world with another 90 that were in preparation phases (Asian Development Bank, 2015).

"Association of Southeast Asian Nations" commonly known as ASEAN countries wasfirst formed on August 8, 1967, in the Bangkok Declaration by five founding father countries,namely Indonesia, Singapore, Malaysia, the Philippines, and Thailand. It was later joined by five other countries in the next 40 years, which are Brunei Darussalam, Vietnam, Laos, Myanmar, and Cambodia consequently, and formed the ten member states of ASEAN today (ASEAN, 2024). The ASEAN Free Trade Area (AFTA) soon entered the force in January 1992along with other political and economic commitments as a common external preferential tariffscheme aimed to promote a better flow of imports and exports within the ASEAN bloc and thefoundation of the ASEAN Economic Community (AEC). This free trade agreement successfully gathered a total aggregate nominal GDP of USD$1.8 trillion in 2010, making it the third-largest economic bloc in Asia and 9th largest in the world (WTO, 2012).

After ASEAN countries formed this economic bloc and signed AFTA, they embarked on the journey of signing many free trade agreements with their neighboring countries. They initiated the agreements named ASEAN Plus One FTA, which they signed with individual countries, such as China, India, Japan, South Korea, and

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Australia-New Zealand (ASEAN Briefing, 2023). Each country's FTA with ASEAN countries has different agreements on cutting certain percentage of export and import tariffs or some even tried to achieve zero tariffsafter a few years. To deepen economic ties among many countries at the same time, they also formed an ASEAN Plus Three FTA named as Regional Comprehensive Economic Partnership by including China, Japan, South Korea, Australia, and New Zealand. This FTA was marked as the largest FTA globally, covering 30% of the world's GDP, and aims to eliminate tariffs on 92% of goods in the bloc over the next 20 years (ASEAN Briefing, 2023).

1.6 Research Motivation

This research was initiated due to the observed rarity of Indonesian coffee in Taiwan despite the existence of trade agreements and a close bilateral relationship between the two countries. Indonesia, as one of the world's largest coffee producers, is geographically closer toTaiwan compared to other major coffee-producing countries such as Brazil, Colombia, and Ethiopia. However, Taiwanese markets feature more coffee from these distant countries than from Indonesia.

Understanding the coffee market trend in both countries between Taiwan and Indonesia is crucial for identifying the underlying reasons behind this discrepancy. Whether the cause isrelated to the effects of free trade agreements or shifting market preferences, there are potentialsolutions to promote Indonesian coffee beans in Taiwan or even worldwide. Indonesia predominantly produces Robusta coffee beans, and high-grade Robusta beans present a viablemarket opportunity that can compete with Arabica coffee.

By analyzing these trends, this research aims to encourage the promotion of IndonesianRobusta coffee beans and to encourage Indonesian government to enhance

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domestic Robusta coffee production with a focus on quality. This approach could serve Robusta coffee both the domestic and international markets more effectively, reaching a bigger market.

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2. Literature Review

Different studies have explored coffee economics and trade in the 21st century, highlighting the role of free trade agreements (FTAs) in facilitating global coffee imports and exports. FTAs eliminate taxes between member countries, settle disputes, and promote globaldistribution of goods and services (Yang et. al., 2014). These agreements lead to trade creationbetween member countries and trade diversion with non-member countries, concepts introduced by Jacob Viner in "The Customers Union Issue" (1950). Trade creation occurs when member countries reduce internal barriers to maximize resources, while trade diversion replaces low-cost imports from non-members with higher-cost imports from members, potentially causing welfare loss due to inefficient resource costs (Varma, 2015). This literaturereview would be focusing on two parts, one which literature are analyzing trade creation and diversion due to free trade agreements, and the other on study cases of coffee in other countries.

2.1 Trade Creation and Diversion after Free Trade Agreement Implementation

A research on the ASEAN-China Free Trade Area (ACFTA) agreement's impact on Indonesia's major export commodities, including coffee, cocoa, rubber, and palm oil, measuredtrade creation and diversion effects between Indonesia, ASEAN countries, China, and other major export destinations. Using the generalized method of moments (GMM) approach, whichaccurately responds to changes in global commodity prices and macroeconomic conditions, thestudy found that ACFTA, along with GDP, logistics performance index (LPI), export price index, and consumption, increased coffee exports between Indonesia and ASEAN-China countries by 1.349% on average. Notably coffee exports showed a significant negative coefficient for the exchange rate variable (-0.815), indicating a unique sensitivity to currency fluctuations, unlike rubber, cocoa, and palm

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oil, which showed insignificant impacts (Darmanto et al., 2021).

Darmanto et al., (2021) study focused on the impact of ACFTA on Indonesia's major commodities like coffee, rubber, palm oil, and cocoa, identifying trade creation and diversion effects. However, gap remain, such as understanding why certain variables, like exchange rates,affect some commodities and not others. It's crucial to consider the time-sensitive nature of exchange rates and specify the periods used. Additionally, Darmanto et al., (2021) lacked clarityon the specific ASEAN countries and major export destinations analyzed.

In the research "Trade Creation, Trade Diversion, and Consumer Surplus in ASEAN- India Free Trade Agreement: A Single Market Partial Equilibrium Approach" by Akram and Kashif (2021), they investigated the trade effects following the implementation of the ASEAN-India Free Trade Agreement (AIFTA) in 2010. They argued that trade diversion will always go side by side with trade creation. Their analysis focused on trade creation between India andthree key ASEAN countries –Indonesia, Singapore, and Vietnam– specifically examining black tea and coffee exports. It employed a Partial Equilibrium Model, a model initially introduced by Laird & Yeats (1986) and widely adopted by several researchers for studying economic integration's effects on global trade, which was processed by Software for Market Analysis and Restrictions on Trade (SMART) from the World Integrated Trade Solution (WITS) provided by the World Bank.

Akram and Kashif (2021) revealed that coffee exports showed the most significant results compared to black tea. Trade creation between India and Indonesia in coffee exports increased from US$1,333,954 in the base year to US$5,817,382 in 2017, a fourfold rise over ten years. Similarly, trade creation between India and Vietnam reached US$10,996,517. However, the study also noted substantial trade diversion

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effects on coffee exports from non- member countries, including Uganda, Cote d'Ivoire, Colombia, Brazil, Liberia, Italy, Jamaica,Costa Rica, Australia, and the United States, following the tariff liberalization under AIFTA.

This analysis underscores the dual impact of trade agreements, fostering increased trade amongmember countries while potentially disadvantaging non-members.

Akram and Kashif (2021) found that tariff reductions diverted black tea and coffee tradefrom non-member to member countries. However, as it implemented the idea of using partial equilibrium approach, the trade creation and diversion results may not be entirely accurate since it overlooked other potential market variables and interactions. It may have beentheoretically correct, but could not be the most accurate when implemented in a larger economy(Gilbert, 2017). Like Darmanto et al., (2021), this study did not explain why trade creation forcoffee was higher than for black tea, despite India being the world's second-largest tea producer(Vaidya, 2020). Given India's prominence in tea production, tea should have benefited more from AIFTA support.

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2.2 Study Cases of Coffee Markets

The literature, including "Cooperation in coffee markets: The case of Vietnam and Colombia" by Gonzalez-Perez and Gutierrez-Viana (2012) utilizes case studies to analyze coffee markets. This study conducts an in-depth cross-country analysis of the coffee industriesin Vietnam and Colombia, examining how these countries compete in the coffee markets through primary data collected in field trips and interviews with key industry players. Factors such as infrastructure, technology adoption at different stages of production, the impact of external shocks, market positioning (both domestic and global), internalization patterns, marketing and branding innovations, added value, regulatory frameworks, and policy environments are considered in their competitive analysis. The study also emphasizes the significant roles of production and marketing strategies in shaping the coffee market.

Gonzalez-Peres and Gutierrez-Viana (2012) employed Value Chain Analysis (VCA) toidentify links and dynamics of the influencing the coffee market. Their research, based on primary data collected from field trips and interviews with key industry players Colombia's Antioquia coffee region and Medellin, and Vietnam's Hanoi, Ho Chi Minh City, and Buonmenthuot was supplemented by secondary data from company and industry reports, academic papers, and databases. The study highlights significant differences and similarities between the coffee value chains of Colombia and Vietnam. For instance, Colombia primarily produces high-quality Arabica coffee and benefits from established institutions like the National Federation of Coffee Growers (NFC), whereas Vietnam focuses on lower-costRobusta coffee and has rapidly increases its production and export capacity. These structural differences have led to distinct competitive advantages for each country.

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2.3 Coffee Trade Creation and Diversion Treated as Study Case

These literature reviews inspire this research to delve deeper into the socio-economic factors influencing trade creation and diversion, beyond quantitative data. Applying the theoryof trade creation and diversion, the ACFTA irrefutably contributed to shifting of Indonesian coffee exports from Taiwan to China. Conversely, trade creations were found between other exporting countries and Taiwan, without any free trade agreement imposed, attributed to Taiwan's consistently high coffee consumption.

Research gaps in the literature on trade creation and diversion, such as those identifiedin Darmanto et al., and Akram and Kashif, lack explanations for why certain factors cause trade creation and diversion between countries. Addressing these gaps by treating Indonesia's coffee trade with Taiwan as a study case, similar to the approach of Gonzalez-Peres and Gutierrez- Viana (2012), will provide a more comprehensive understanding of trade dynamics and informfuture policy and trade agreements.

By focusing on these areas, the research aims to uncover the underlying factors driving trade patterns and offer explanations for observed trends, contributing to a more nuanced understanding of international trade in the coffee industry through study case analysis.

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3. Methodology

Prior to the trend analysis and finding out the reasonings for the trends' patterns, this study must gather export and import data of affiliated countries from some secondary resourcesbank. Combining export and import data taken from the World Bank, BPS-Statistics Indonesia(Badan Pusat Statistik Indonesia), and Taiwan CPT Single Window (台灣財政部關務署) was

a way to find out whether there are trade creation and diversion among the countries. In orderto keep the data integrity and consistency, data used to identify gross imports from Indonesia to Taiwan and China are carefully recorded only from the World Bank's data, while some othertables also feature data from the countries' statistical institutes when needed. The World Bank'sdata was mainly featured and used to work on this study to make sure that the data recorded were aligned and agreed on internationally.

The World Bank also categorized the products according to the harmonized system (HS)codes, which is a standardized numerical method for differentiating traded products. The HS code is usually a specific six-digit code that is differentiated based on the commodities and classifications (International Trade Administration, 2024). This research focuses on four categories, according to their HS 6-digit numbers, of coffee beans in order to focus on only green beans and roasted beans distributions. The types include 090111 – Coffee; not roasted or decaffeinated, 090112 – Coffee; decaffeinated, not roasted, 090121 – Coffee; roasted, not decaffeinated, 090122 – Coffee; roasted, decaffeinated (World Bank, 2024). Other categorizations of coffee products based on their HS 6-digit codes, such as 090140 -- Coffee; substitutes containing coffee, in any proportion or 210110 -- Extracts, essences, and concentrates; of coffee and preparations with a basis of these extracts, essences or concentrates or with a basis of coffee were

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omitted in this research to make sure that only real coffee beans distributions are measured. Extracts or coffee substitutes may sometimes not contain real coffee beans. Data recorded from the World Bank are specifically taken from 2000 - 2022 to give the latest relevant data in order to give a more relevant trend analysis because the 21st century was marking the beginning of coffee shops' entrance to Taiwan and ACFTA implementation between ASEAN countries and China. This is the era when there is a shift in consumer preference both in Taiwan and Indonesia. However, data from 2023 was not included since there are certain countries who had not submitted their import numbers to the World Bank yet,so to make sure there is a proper consistency with the time period, only data up until 2022 in World Bank records was considered.

Unlike other papers that use conventional economic models and regressions to identifyhow certain factors are affecting the trade creation and diversion of Indonesian coffee importsto Taiwan, this research uses the explanatory study case method to understand each of the different reasons why free trade agreements and consumer preferences affect Indonesian imports to Taiwan and China. In this study, the qualitative investigation to look at Indonesian coffee imports to Taiwan is by treating it as a case study. A case study is not just a data collection method but a research strategy used to deeply explore a specific event within a limited time and frame. It is empirical research that looks at a phenomenon in its real-life context (Yin, 2009), which in this case is the phenomenon of diminishing trade of Indonesian coffee beans imported to Taiwan. There are various types of case studies, including descriptive,explanatory, and exploratory. This research particularly focuses on the explanatory case study method.

An explanatory case study aims to identify factors that explain why a certain phenomenon occurs. Essentially, it explores the ‘why’ and ‘how’ of an event. In this case study, the focus is on understanding why Indonesian coffee imports are declining in

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Taiwan's modernsociety and how this decline continues. Hypotheses suggest this may be due to free trade agreements, market interference, or shifting consumer preferences both in Taiwan and in Indonesia. An explanatory case study is the ideal method for addressing these hypotheses, as it is specifically designed for situations where the boundaries between the phenomenon and its context are not clearly evident (Yin, 2017). In this case, it may be challenging to precisely measure the impact of the ACFTA free trade agreement or market preferences on the decliningnumber of Indonesian coffee imports in Taiwan.

Another part of the methodology would have to be referring to a research framework. A research framework was made prior to the whole process of explaining all the trends and reasons behind the Indonesian coffee import shift. This research framework is made with the purpose of laying out the foundation of possible reasonings for trade regressions, and what could be the process behind those reasonings. These reasonings would then be wrapped up witha policy recommendation for the Taiwanese or Indonesian governments to build a bilateral trade agreement for Indonesian coffee distribution in Taiwan.

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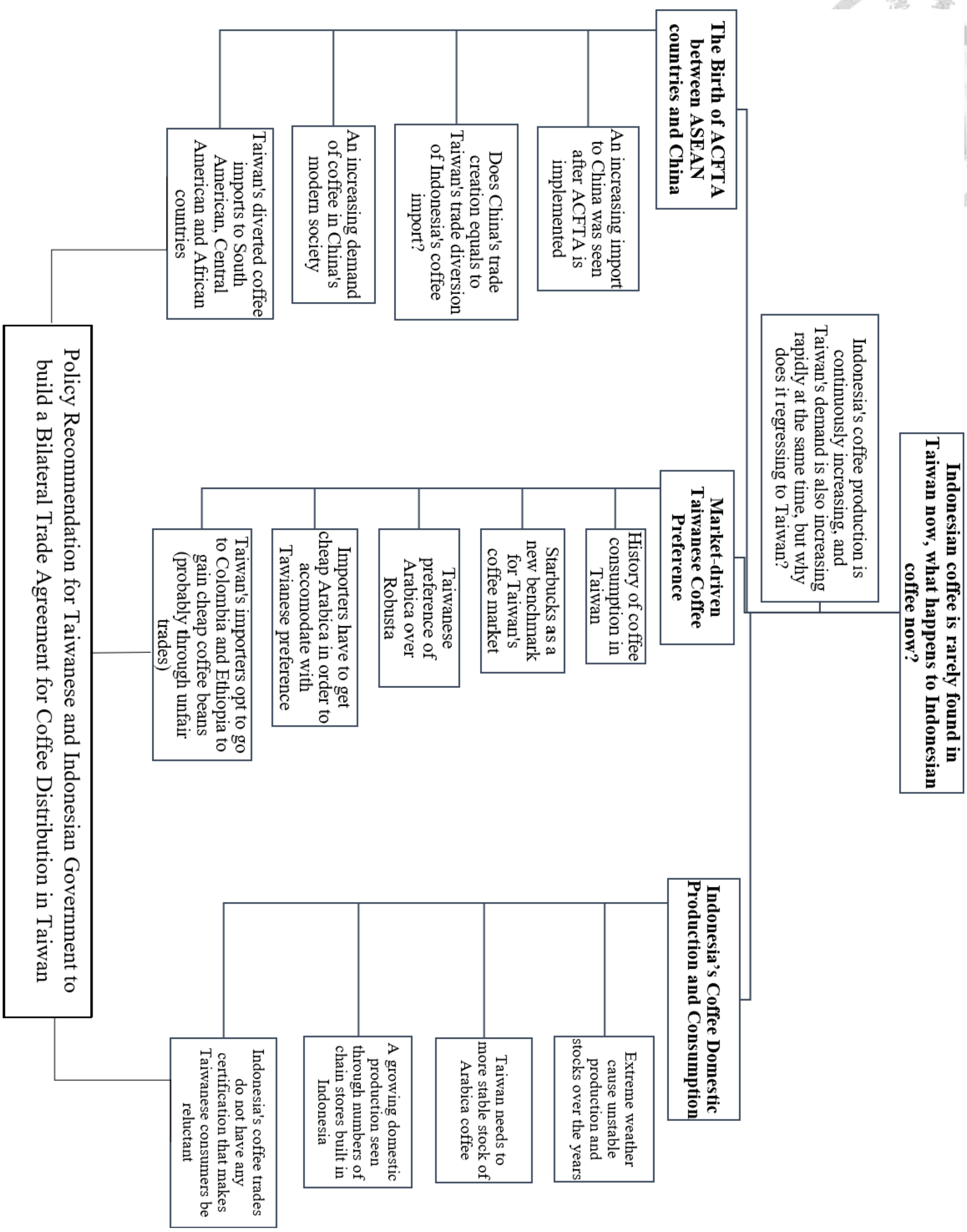

Figure 1. Research Framework

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4. The Birth of ASEAN-China Free Trade Area (ACFTA)

4.1 Indonesia's Coffee Exports Development

To investigate the trade creation and diversion of Indonesia's coffee with Taiwan and China, it is essential to examine the trade value of Indonesia's coffee exports to major coffee importers of the country before proceeding with China and Taiwan's coffee trade analysis. Asthe world's fourth largest coffee producer and exporter, Indonesia has been exporting to various coffee-consuming countries, including the United States, Japan, Germany, India and Egypt, which have been the top five largest importers of Indonesian coffee over the past two decades.

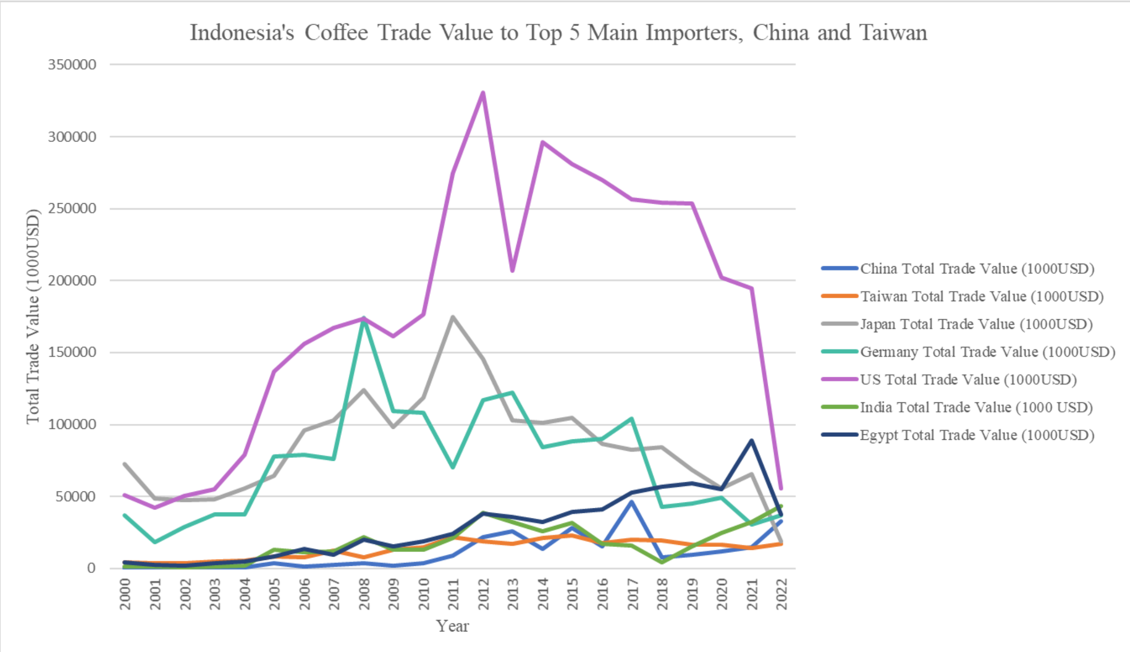

Figure 2. Indonesia's Coffee Trade Value to Top 5 Main Importers, China and Taiwan (Data Source: BPS-Statistics Indonesia; Organized and presented by the author)

The data presented in Figure 1 indicates that Indonesia's coffee exports to these countries have experienced fluctuation over the years, but the overall trend has been positivelyrising. There is a noticeable upward trend from 2000 – 2018 in the trade values for all these importing countries, although most countries experienced a decline

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during the COVID-19 period from 2019 to 2022. Compared to these top five Indonesian coffee importers, the trade values for China and Taiwan are lower, yet, the figure shows that both countries appear to be in competition with each other.

This research will examine at how trade diversion has occurred in Taiwan's Indonesiancoffee import by focusing on the import trade values of Indonesian coffee by China and Taiwanfrom 2000 to 2022. This timeframe provides a more accurate and consistent comparison throughout the 21st century when FTAs began to be widely implemented across Asia, allowingfor the assessment of trade patterns before and after the implementation of the ACFTA.

4.2 The Establishment of ASEAN-China Free Trade Area (ACFTA)

China opened its doors and embarked on economic liberalization in the late 1970s, andit soon became one of the fastest-growing countries in the world. China's nominal GDP reachedUS$17.52 trillion in 2023 (Liu, 2023), more than twice value recorded in the World Trade Report in 2011 when it first overtook Germany in terms of exports (WTO, 2012). This rapid progress was driven by China's active involvement in regional economic cooperation (Yang, et.al, 2014) and swift decisions to sign multiple free trade agreements, including with ASEANcountries in 2002. Before the 1990s, China had only bilateral relations with certain individualASEAN members. By the mid-1990s, substantial growth in economic relations with some ASEAN countries led to the discussion of the signing of the ASEAN-China Free Trade Agreement in 2002.

The ACFTA began with the 2002 Framework Agreement on Comprehensive EconomicCooperation, followed by the ASEAN-China Trade in Goods Agreement in 2004, the ASEAN-China Agreement on Trades in Services in 2007, and the ASEAN-China Investment Agreementin 2009. Most importantly, the ASEAN-China Framework

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Agreement featured an Early Harvest Programme (EHP), implemented on January 1, 2004, aimed to trim tariffs imposed on agricultural products, including vegetables and fruits, meat, fish, dairy products, and live animals (ASEAN, 2024). The agreement stated that 2002-2009 would be the transitional period before finalizing the entire ASEAN-China Free Trade Area. During this phase, tariffs on goods traded between ASEAN's six advanced countries (Singapore, Indonesia, Malaysia, Thailand, the Philippines, and Brunei) and China were reduced to zero, and to 5% by 2015 for other ASEAN members (Laos, Cambodia, Myanmar, and Vietnam) (ASEAN, 2021).

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4.3 The Analysis of Indonesian Coffee Import Trend between China and Taiwan

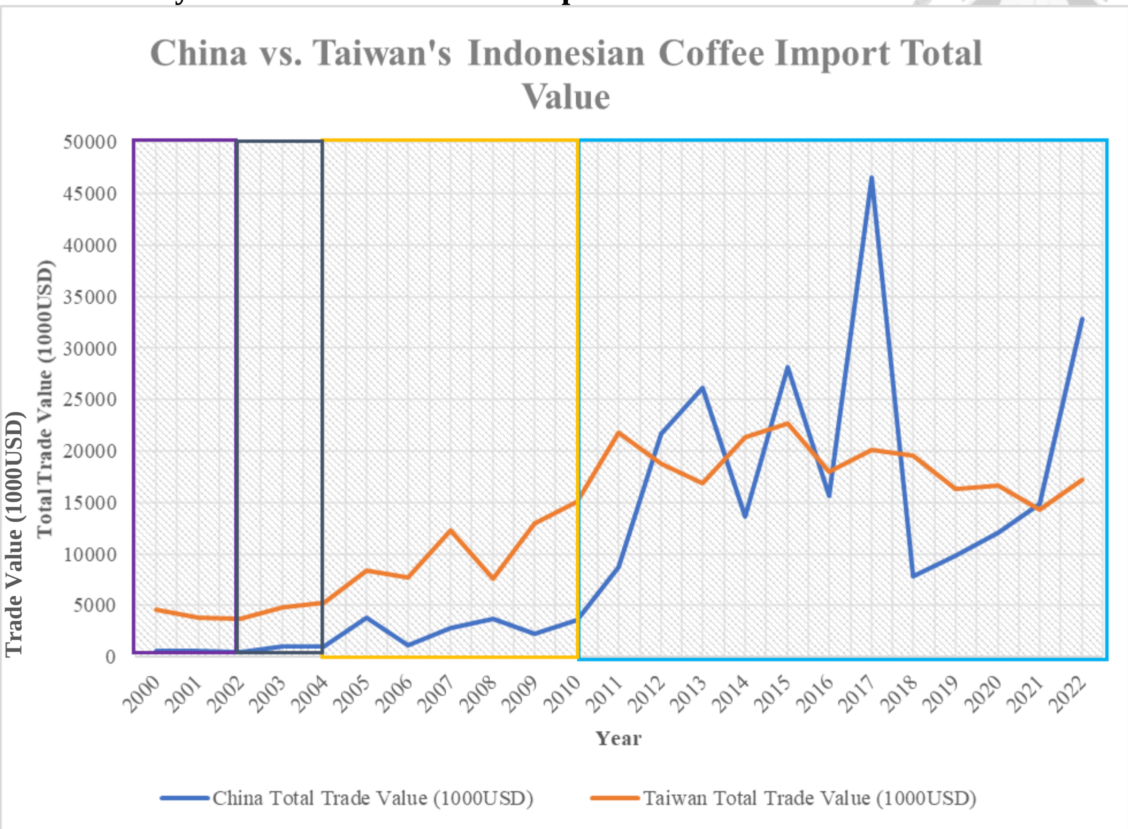

Figure 3. The Total Value of China vs. Taiwan's Indonesian Coffee Based on Four Coffee Bean TypesCategorized by their HS Codes (Coffee; not roasted, or decaffeinated (090111), Coffee; decaffeinated,not roasted (090112), Coffee; roasted, not decaffeinated (090122), and Coffee; roasted, decaffeinated (090122)) (Source: World Bank; Organized and presented by the author)

The graph presents the total value trade numbers of Indonesia's coffee imports to Chinaand Taiwan based on four coffee bean types categorized by their HS Codes, which are Coffee; not roasted, or decaffeinated (090111), Coffee; decaffeinated, not roasted (090112), Coffee; roasted, not decaffeinated (090122), and Coffee; roasted, decaffeinated (090122).

The colored boxes in the graph above represent four significant periods before, transitioning, and after the ACFTA implementation. The graph started with Taiwan having more Indonesian coffee in their market than China but ended up with a very huge gap in imports'difference at the end of 2022. Both countries' trade values still show an increasing import from Indonesia, and it may be arguable that Indonesia's imports to

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Taiwan, as a non-member of the ACFTA agreement, may not be having trade diversion. However, by examining each transitional period during the implementation of the ACFTA between Indonesia and China, it becomes apparent that this phenomenon represents a trade diversion affecting Indonesia and Taiwan's coffee imports. A further investigation of the trend of Taiwan's coffee imports from other countries would also indicate a trade diversion between Indonesia and Taiwan in the pasttwenty years.

The purple box (2000-2002) shows the period before ACFTA was signed between China and ASEAN countries, most importantly in this matter, Indonesia. In 2000, Taiwan imported US$4,571,350 worth of Indonesian coffee, compared to China's US$526,900, making Taiwan officially the leading coffee import country at start. Up until 2002, China's total value trade of Indonesian coffee was US$417,600, while Taiwan still led with US$3,715,600, despite the ACFTA agreement being signed. This number remained stagnant until 2002 - 2004, the early period after ACFTA was initiated, marked by the navy- blue box. During this time, Taiwan's imports were still higher Taiwan's imports were still higher than China's, ending 2004 with US$5,260,080 for Taiwan and US$1,004,880 for China.The implementation could have started with certain goods and business fields, and has not reached its full effectiveness. However, compared to the beginning of the millennium, this totaltrade value has already multiplied almost twice.

In 2004, the Early Harvest Programme (EHP) was signed. China started to increase itsimports, though still below Taiwan's trade value. By 2007, Taiwan received up to 5,285,453 kgs of Indonesia's coffee beans, while China imported 1,427,845 kgs of Indonesia's beans. This number was already tripled their initial coffee import quantity from Indonesia in 2000 but the full impact of ACFTA was not yet evident, as tariffs were only beginning to be reduced. Throughout the period of 2004-2010 (yellow box),

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the trade value was fluctuating and it showed Taiwan maintaining higher imports until a divergence in 2008 when China's imports increased while Taiwan's dropped. Yet, Taiwan remained in a higher position of having Indonesia's coffee import.

This position was finally taken over by China in 2012 when it achieved a total value ofUS$21,717,830 in Indonesian coffee imports, surpassing Taiwan's trade value number of US$18,819,040 for the first time in the century. Notably, 2012 falls within the light blue box area spanning 2010 - 2022. The year 2010 was pivotal, given it marked the formal start of ACFTA's official implementation, reducing the average tariff on ASEAN countries' exports to China from 9.8% to 0.1%. In contrast, China's export tariff to ASEAN's six founding members was lowered from 12.8% to 0.6% that year (Brooks and Hua, 2008).

The official implementation of ACFTA immediately showed a distinct change in the trends of Indonesian coffee imports for Taiwan and China, which were completely opposite to the trends observed before and during the transitional period of the agreement. China's total trade value experienced a significant and stable surge, reflecting a robust growth in coffee imports from Indonesia. In 2017, China's coffee imports from Indonesia peaked at US$46,553,910, which was 111 times higher than the US$417,630 recorded in the first year ofthe ACFTA agreement. Jason Yu, greater China managing director of market research firm Kantar Worldpanel, said this upward trend represents China's expanding coffee market and increasing demand for coffee from younger Chinese consumers adopting Western lifestyle (Hall and Teixeira, 2023). Although there was an extreme drop in 2018 and a slowdown during the COVID-19 era, China's post-pandemic coffee trade value remained higher than Taiwan's.

Analyzing data from World Bank on China's coffee imports from world's top five coffee producers, including Brazil, Colombia, Ethiopia, Indonesia, and Vietnam,

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suggests thatChina's increasing coffee demand has stimulated a significant rise in supply from these countries. This trend indicates a trade creation effect, where all major coffee-producing nations are expanding their exports to meet the growing Chinese market demand.

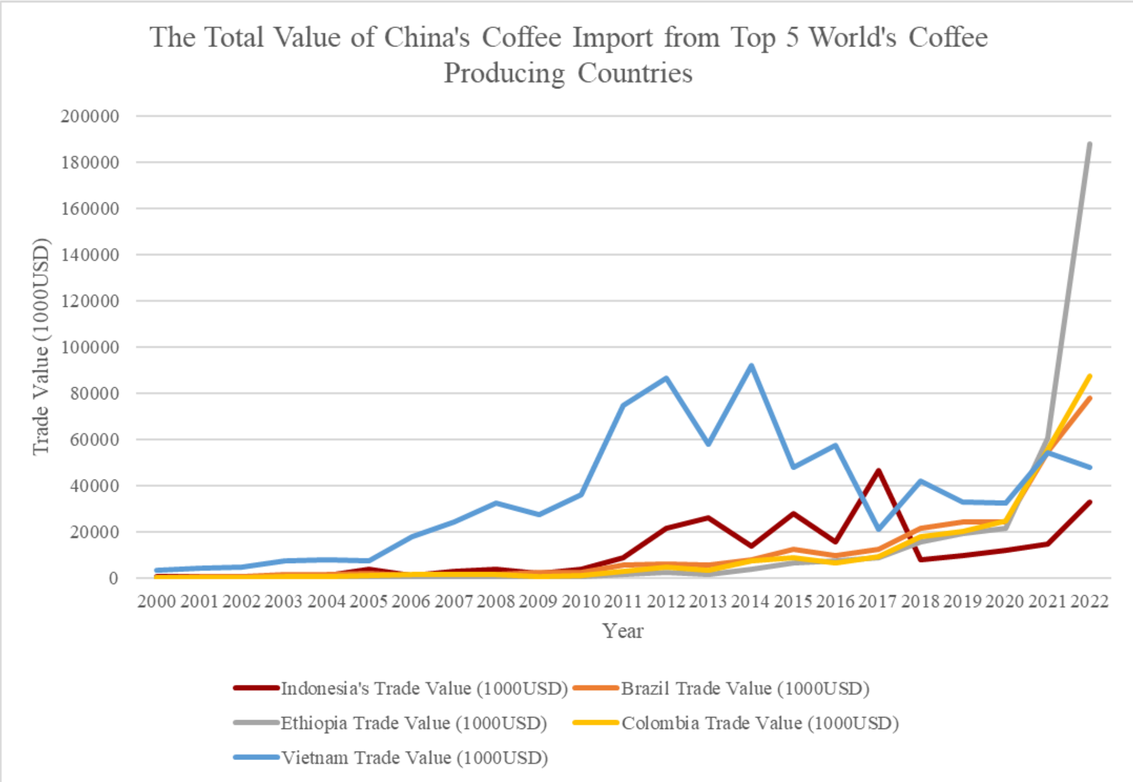

Figure 4. The Total Value of China's Coffee Import from Top 5 World's Coffee Producing Countries Based on Four Coffee Bean Types Categorized by their HS Codes (Coffee; not roasted, or decaffeinated (090111), Coffee; decaffeinated, not roasted (090112), Coffee; roasted, not decaffeinated (090122), and Coffee; roasted, decaffeinated (090122)) (Source: World Bank; Organized and presented by the author)

China's coffee import data indicates that trade creation has occurred between China and various coffee-producing countries. This phenomenon is primarily driven by the increasing demand for coffee in China. Although the trade values have fluctuated in certain years, the overall trend from 2000-2022 shows an upward trajectory for most countries. While the volume of coffee imports from Indonesia is not as high as from the other four major producing countries, it has demonstrated a significant positive trend

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compared to the period before the ACFTA wassigned in 2000. Vietnam, also a member of ACFTA, experienced a substantial increase in its coffee exports to China after 2004, when ACFTA came into effect. Vietnam could be more benefitted by ACFTA rather than Indonesia due to its closer distance to China. These observations support the notion of coffee trade creation between China and Indonesia following the implementation of the free trade agreement.

In contrast, Taiwan's coffee import values from Indonesia fluctuated but generally showed a less dynamic growth compared to China. One could simply argue that Taiwan's totaltrade value of Indonesian coffee beans still showed a stable upward trend and less pronounced,suggesting no immediate trade diversion. However, the data from Taiwanese government on Taiwan's coffee imports trend, other countries' import confirms a shift away from Indonesiancoffee after ACFTA started to be implemented, indicating a longer-term trade diversion. This also has raised another question of whether it was truly due to the ACFTA because the trade diversion was not immediate and took a little bit of time for Indonesia's coffee imports to decline after the agreement was officially implemented.

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4.4 Changes in Taiwan's Top Coffee Importers

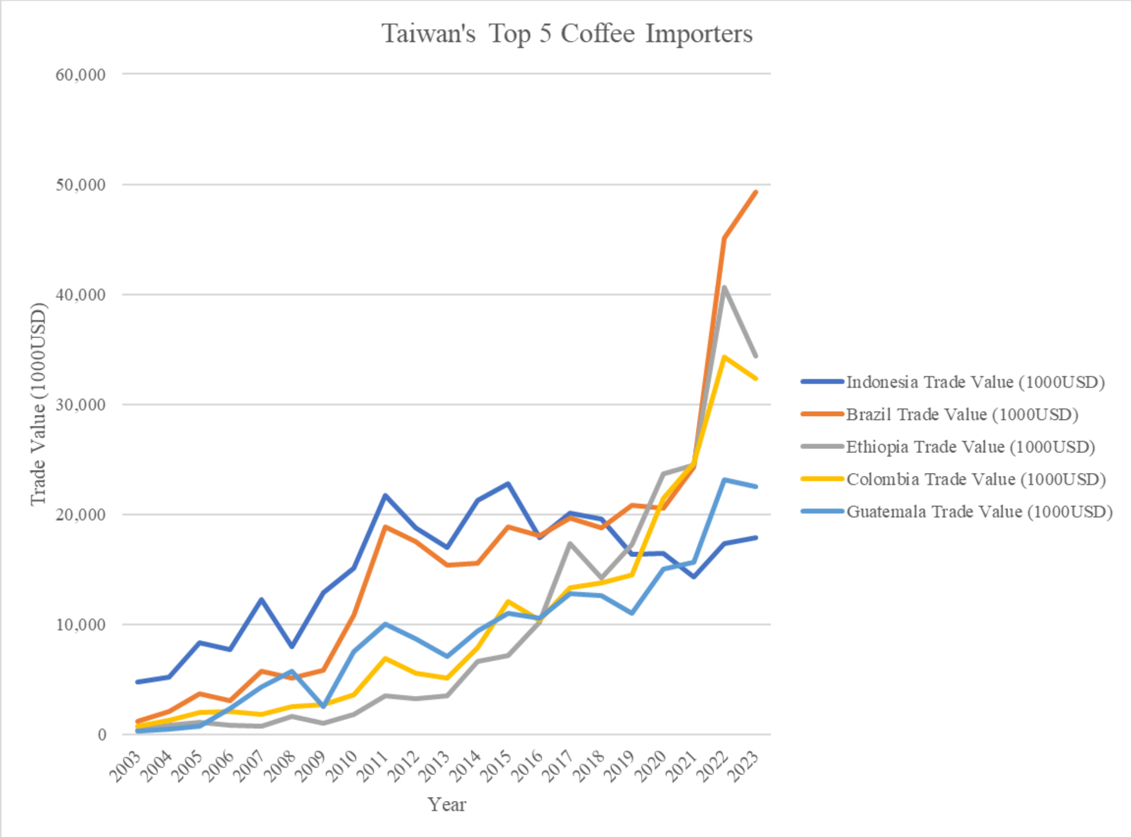

Figure 5. Taiwan's Top 5 Coffee Importers' Trade Values Recorded from 2003 - 2023 (Source: TaiwanCPT Single Window; Organized and presented by the author)

In the coffee import data provided by Taiwan's Ministry of Finance and Customs, the top five coffee importers to Taiwan are Indonesia, Brazil, Ethiopia, Colombia, and Guatemala. Interestingly, in 2003, Indonesia started as the leading supplier, but at the end of 2023, it had fallen to the last position among the top five importers. This indicates trade diversion from Indonesia to other countries, as evidenced by the rising trade values for Brazil, Ethiopia, Colombia, and Guatemala, while Indonesia's values declined.

The ACFTA was first signed in 2002, and even though the data provided did not start from 2002, there was no significant increase in Indonesia's coffee import to Taiwan anymore.Indonesia was still winning the first position for many years up until 2016. The position was taken in 2016 after the ACFTA had been initiated for almost 14 years, EHP

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for 12 years, and the official zero tariff from the ASEAN-China Free Trade Area for 4 years. This led to anothercuriosity about whether ACFTA was the main cause of the trade diversion between Indonesia and Taiwan, or other factors were involved in the coffee demand shift to other countries that distances are three times than Indonesia to Taiwan, particularly South America and African countries. In any kind of agricultural supply-demand sense, if Taiwanese coffee demand kept on increasing, a bigger supply would be happy to come in regardless of free trade agreements or where the demands are from. Therefore, Indonesia would be a good supplier to Taiwan dueto it being one of the biggest coffee producers in Asia and has a close distance to Taiwan. Nonetheless, Indonesia's coffee was eventually replaced by other countries' imports and evenbecame quite expensive when served around the coffee shops and suppliers in Taiwan.

4.5 Insights on the Taiwanese Coffee Market from Taiwan International Coffee Show

The Taiwan International Coffee Show 2023, held from November 17-20, 2023 organized by Taiwan Coffee Association, Taiwan Tea Manufacturer's Association, and Chan Chao International Co., Ltd. was attended by 322 local and overseas exhibitors with 1,475 booths. Coffee producing countries, such as Brazil, Ethiopia, Panama, Indonesia, Vietnam, andThailand joined in this exhibition, and exhibitors from countries who develop technologies forcoffee roasteries and making such as the US, Greece, Italy, France, Australia, Singapore, etc. were also seen. The exhibition sells coffee-related products, from the beans, roasters, grinders,and final products like drip coffee packets and coffee capsules. Many coffee machines with AIimplemented were also introduced around the exhibition. Different championships for coffee making, which are 2023 World Latte Art Championship, 2023 World Coffee Roasting Championship (WCRC), and 2023 World Coffee in Good Spirits Championship, were also held in the four days

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of the exhibition with winners coming from all around the world (Chan Chao International Co., Ltd., 2023).

The coffee exhibition was divided into two floors, first and fourth floors. The first floor featured technology and international exhibitors, while the fourth floor focused on coffee beans,chocolates, and other food products. Distributors were seen offering lists of coffee beans to individuals, other companies, and even coffee shops' baristas who are aiming to look for better quality and different notes of coffee for their personal or commercial needs. Observations at the exhibition provided a clear indication of the relative prominence of different coffee origins. Notably, Indonesian coffee was observed to be less prominent in comparison to coffee beans from South America, Central America, and Africa. This disparity was evident through the limited variety of Indonesian beans available, in contrast to the extensive selections from Colombia and Ethiopia.

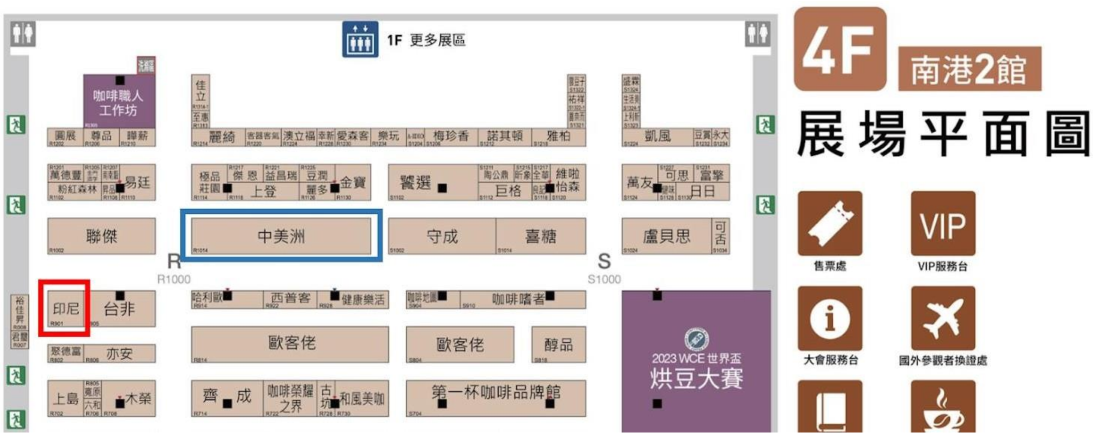

Figure 6. The Floor Plan of Taiwan International Coffee Show 2023's Fourth Floor. (Source: Taiwan International Coffee Show 2023 Facebook Page)

Based on the picture of the expo's floor plan, says 中美洲 (Central America). Thissection consisted of representatives from Central American countries, including Guatemala, Paraguay, and Belize. Despite being the top fifth importer in Taiwan, Indonesia's section (redbox) was around one-third of the size of the Central American

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representative's booth. Apart from that, price lists from local distributor companies indicated that Indonesian beans were lesscommon, with only one or two types listed, compared to multiple listings for Colombia and Ethiopia.

BEAN SUPER
BEAN SUPER INTL CO., LTD.

豆超國際生豆訂購單

編號	產季	品項	規格	零售價	麻袋／整箱價	展期優惠麻袋價	到貨時間	訂購數量	總金額
1	2023	牙買加 頂級藍山 NO.1	15KG/桶	2200	2100(桶)	2050(桶)	現貨	/ KG	
2	2023	哥倫比亞 釀酒人01特調	20KG/箱	750	650(箱)	600(箱)	現貨	/ KG	
3	2023	哥倫比亞 釀酒人02香檳	20KG/箱	750	650(箱)	600(箱)	現貨	/ KG	
4	2023	哥倫比亞 釀酒人03紅酒	20KG/箱	750	650(箱)	600(箱)	現貨	/ KG	
5	2023	哥倫比亞 釀酒人04元氣	20KG/箱	800	700(箱)	650(箱)	現貨	/ KG	
6	2023	哥倫比亞 水果拼盤 草莓	20KG/箱	800	700(箱)	650(箱)	現貨	/ KG	
7	2023	哥倫比亞 水果拼盤 水蜜桃	20KG/箱	800	700(箱)	650(箱)	現貨	/ KG	
8	2023	哥倫比亞 水果拼盤 百香果	20KG/箱	800	700(箱)	650(箱)	現貨	/ KG	
9	2023	哥倫比亞 水果拼盤 鳳梨	20KG/箱	800	700(箱)	650(箱)	現貨	/ KG	
10	2023	衣索比亞 吉馬莉姆 果美村 寶貝藝伎 水洗G1	30KG/袋	520	440	430	現貨	/ KG	
11	2023	衣索比亞 花貝果娜 西達摩 74158 水洗 TOP G1（紅圈計畫）	30KG/袋	510	430	420	現貨	/ KG	
12	2023	衣索比亞 耶加雪菲 夏茱卡 74110 水洗 TOP G2（紅圈計畫）	30KG/袋	375	295	290	現貨	/ KG	
13	2023	衣索比亞 西達摩 瓦米娜 日曬 TOP G4	30KG/袋	278	198	192	現貨	/ KG	
14	2023	衣索比亞 西達摩 瓦米娜 厭氧日曬 G4	30KG/袋	340	260	250	現貨	/ KG	
15	2023	瓜地馬拉 法漢妮斯 聖羅莎 SHB 歐規特選 郊狼處理站	30KG/袋	300	220	210	現貨	/ KG	
16	2023	巴西 喜拉朵 日曬 NY2/3 產地特優選	30KG/袋	248	168	162	現貨	/ KG	
17	2023	印尼 蘇門答臘 三次手選 曼特寧 TP G1	30KG/袋	400	320	290	現貨	/ KG	
18	2023	肯亞 新安豹處理廠 AB TOP 肯亞式雙水洗	30KG/袋	410	330	320	現貨	/ KG	
19	2024	哥倫比亞 長老的最愛（小米酒後製咖啡）	20KG/箱	650	600(箱)	600(箱)	2024/1	/ KG	
20	2024	衣索比亞 吉馬莉姆 果美村 寶貝藝伎 日曬 G1	30KG/袋	520	440	430	2024	/ KG	
21	2024	衣索比亞 花貝果娜 西達摩 74158 日曬 TOP G1（紅圈計畫）	30KG/袋	510	430	420	2024	/ KG	
22	2024	衣索比亞 耶加雪菲 夏茱卡 74110 日曬 TOP G1（紅圈計畫）	30KG/袋	490	410	400	2024	/ KG	
23	2024	衣索比亞 班奇馬吉 露西處理站 藝伎 水洗 TOP G1	30KG/袋	540	460	450	2024	/ KG	
24	2024	衣索比亞 班奇馬吉 露西處理站 藝伎 日曬 TOP G1	30KG/袋	540	460	450	2024	/ KG	
25	2024	衣索比亞 烏拉嘎 茉香柚 水洗 可如蜜 TOP G1（紅圈計畫）	30KG/袋	470	390	380	2024	/ KG	
26	2024	衣索比亞 烏拉嘎 茉香柚 日曬 可如蜜 TOP G1（紅圈計畫）	30KG/袋	470	390	380	2024	/ KG	
27	2024	哥倫比亞 安蒂奧 橡樹莊園 奇洛索 水洗	35KG/袋	700	620	600	2024	/ KG	
28	2024	哥倫比亞 蕙蘭 低咖啡因	35KG/袋	360	280	260	2024	/ KG	
29	2024	哥倫比亞 蕙蘭 歐規特選 卡斯提優	35KG/袋	280	200	195	2024	/ KG	
30	2024	瓜地馬拉 薇薇特南果 SHB 歐規特選	30KG/袋	300	220	210	2024	/ KG	
31	2024	肯亞 多門處理場 SUPER C 肯亞式雙水洗	30KG/袋	300	220	210	2024	/ KG	

Figure 7. Bean Super, one of the coffee distributors in Taiwan who attended Taiwan International Coffee Show 2023, Coffee Beans Price List (Source: Bean Super)

On the red box from Figure 6, it says 印尼蘇門答臘 三次手選 曼特寧TP G1, whichmeans Indonesia's Sumatra Mandheling three-times hand-selected TP G1. This is considered the highest grade of Sumatra Mandheling with an individual retail price of NTD400 or USD12.4 every 227g/bag. However, as seen from the price list, other countries' coffee prices may start from NTD248 for Brazil at number 16, and NTD280 for Colombia at number 29. From this list itself, there was only one Indonesian bean that could be found, but 12 for Colombia and 12 for Ethiopia even though they are much farther than Indonesia to Taiwan. Some distributors like F Coffee (Figure 8, left) also

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had one to two coffee beans from Indonesia and even mixed them with Brazil’s coffee beans, and other distributors like Pro Aroma (Figure 8, right) did not even have Indonesian coffee beans in their price list.

咖啡豆單　　聯繫人: 徐芳　訂購電話:+886 932789515

濾掛咖啡：每盒10包、每包12g(正負0.5)　　豆子：半磅 227g　1磅454g

編號	品名	產區	處理法	焙度	参考風味	豆子	濾掛
1	牙買加 藍山 琥珀莊園 No.1	牙買加	水洗	中淺	柳橙、奶油、楓糖，柑橘類酸質，Body細緻黏稠	2300 元/半磅	1380元/盒
2	南投縣 水里阿拉比卡	台灣	水洗	中淺	李子、甘蔗、烏龍茶、堅果、酸質明亮，Body 滑順	800 元/半磅	600元/盒
3	台東鸞山流淚谷	台灣	低溫厭氧日曬	中淺	荔枝、鳳梨、水梨、蘋果	700 元/半磅	550元/盒
4	藝妓村 果利藝妓 綠標	衣索比亚	日曬	中淺	草莓、萊姆、茉莉、甜桃，甜感佳，果汁感	610元/半磅	500元/盒
5	拉斯拉哈斯莊園 莉瑪	哥斯大黎加	黑蜜	中淺	橙花、葡萄、甜橙，甜感飽滿，尾韻綿長	480元/半磅	450元/盒
6	耶加雪夫 亞姐玫 G1	衣索比亚	水洗	中淺	茉莉花、甜橙、黃檸檬，細緻乾淨，尾韻綿長	410元/半磅	400元/盒
7	西達莫	衣索比亚	日曬	中淺	莓果、藍莓、核果、奶油、熟果	320 元/半磅	390元/盒
8	麗瞅和姬 AB TOP	肯亞	水洗	中淺	柑橘、葡萄柚、橘汁、香甜多汁風味	390 元/半磅	390元/盒
9	新東方 酒香背影	瓜地馬拉	日曬	中淺	柳橙果乾、桑葚果醬、覆盆莓、紅葡萄柚、紫葡萄、葡萄酒	350 元/半磅	390元/盒
10	黃金鼎上曼特寧 G1	印尼	濕搬法	中淺偏中	香料、可可、核桃、巧克力、草本植物	480元/半磅	450元/盒
11	蘇島黃金曼特寧 G1	印尼	半水洗	中淺偏中	草本、奶油、巧克力、Body厚實黏稠	390元/半磅	390元/盒
12	曼巴	印尼/巴西	日曬&水洗	中焙	Body厚實、稠度高、巧克力核果、焦糖	420元/半磅	400元/盒
13	芳香四溢	非洲、亞洲	日曬	中深	可可風味、核果、莓果、風味圓潤,甜感佳	680元/1磅	390元/盒

Figure 8. F Coffee and Pro Aroma’s, the coffee distributors in Taiwan who attended Taiwan International Coffee Show 2023, Coffee Beans Price Lists (Sources: F Source and Pro Aroma)

Based on these price lists, all of the beans offered are Arabica coffee beans. Coffee beans from Ethiopia were planted in Yirgacheffe, Sidamo, and Guji, which are locations in Ethiopia that mainly plant Arabica beans. Other locations, such as Nyeri in Kenya, Colombia,and Brazil are also known to be planting Arabica coffee. Recorded in the Coffee Development Report 2021, Brazil produces approximately 40% of global Arabica stocks, and Colombia produces 10% (ICO, 2021). To prove that it is only Arabica beans that are mostly sold by theseTaiwanese distributors, grades and terms that are used by these beans in the price list, such as SHB (Strictly Hard Bean) and G1 (Grade

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1), are usually indicating high quality Arabica beans.SHB is a grading to indicate that the beans are grown only at high altitudes (above 1,200 meters), and G1 (Grade 1) coffee is usually labeled to be defect-free, denser than lower-gradebeans, uniform in size and shape, have higher ideal moisture content, and score at least 80 outof 100 in the cupping test from certified coffee graders. All of these features are standards thatwould affect the taste and aroma of the coffee beans (ICO, 2021).

4.6 Taiwanese Local Coffee Distributors Opting for Arabica Producing Countries

Indonesia is recognized as one of the world's leading producers of Robusta coffee, contributing approximately 10% of global Robusta production (ICO, 2021). This substantial production capacity for Robusta coffee might explain why Indonesia coffee is less prevalent inTaiwan, as it does not align with the preferences of the modern Taiwanese consumer market, which predominantly favors Arabica coffee. The Arabica coffee supply from various regions in Indonesia may not suffice to meet the Taiwanese demand. Consequently, suppliers are compelled to source Arabica coffee from countries with more consistent production levels, such as Ethiopia and Colombia, which accounts for their growing popularity in the Taiwanesemarket. The availability of coffee stocks from Ethiopia and Colombia is notably high. Brazil, as the world's largest coffee producer, particularly of Arabica beans, naturally maintains significant stock levels. Following Brazil, Colombia and Ethiopia rank second and third, respectively, in Arabica production. This raises a fundamental question central to this research:why has the coffee from these countries gained popularity over Indonesian coffee in recent years?

One plausible reason for the decline in Indonesia's coffee supply to Taiwan post-2016 could be the rising demand for Arabica coffee. Analyzing the available price lists suggests that local Taiwanese producers may be monopolizing the market by predominantly supplying Arabica beans, thereby influencing consumer preference

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towards Arabica coffee. This observation leads to a critical inquiry: what causes local distributors to only provide Arabica beans? Further investigation into the history of coffee consumption in Taiwan is required to determine whether this shift from Robusta to Arabica is driven by distributor influence or if distributors are simply adapting to the changing consumer preferences in the Taiwanese market.

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5. Market-Driven Taiwanese Coffee Preference

Starting the day by drinking a cup of coffee has become a daily routine for at least 40%of the Taiwanese population in the 21st century (DailyView, 2022). Each person in Taiwan consumes approximately 1.8 kg of coffee per year, or around 122 cups (Wang, 2022),surpassing the average tea consumption of 1.4 kg per person (ICO, 2021). The number comesas a surprise since Taiwan has a long history of tea consumption following its Chinese descenthistory and culture, as well as hundreds of years of tea cultivation. The history of drinking coffee in Taiwan is considered immature compared to its forever competitor, tea, but this magical drink somehow successfully became an inseparable routine that many Taiwanese cannot avoid. Most Taiwanese who are coffee consumers could easily agree that they need a dose of coffee to survive the fast-paced lifestyle in the modern 21st century, but many do not know what type of coffee beans they are consuming or if it matters.

The diminishing number of Indonesian coffee imports to Taiwan could be attributed tothe changing market preference for coffee. As Indonesia's geographical factors support more production of Robusta, most of Indonesia's coffee exports certainly have to be Robusta. Meanwhile, looking at coffee bean options in Taiwan, most coffee shops and convenience stores heavily emphasize the "100% Arabica" branding. This could be key to showing that the Taiwanese prefer Arabica more than Robusta, but the reason why Indonesian coffee could be less found is still highly questionable.

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Figure 9. Family Mart’s Taiwan Let's Café promotion claiming they only use 100% Arabica beans witha beautiful balance of flavor characteristics and perfect roasting degree. (Source: Family Mart’s TaiwanWebsite)

In this chapter, the discussion will focus on the evolving consumption habits throughout the history of coffee consumption in Taiwan. This journey begins with the first encounter in the 19th century through Japanese merchants, followed by the introduction of Starbucks in 1998,which initiated a new trend of Westernized coffee shops, and culminates in the current era of quick grab-and-go coffee prevalent across the nation. Through this journey, there will be further explanations on how Taiwanese coffee preference is curated into drinking Arabica coffee and, thus, explaining why most coffee shops nowadays only provide Arabica bean options rather than offering both Arabica and Robusta for Taiwanese consumers to choose from.With certain companies dominating the green beans import and coffee chain stores market, it also supports the idea of why Arabica is found in big bulks from certain countries, especially Ethiopia and Colombia. The existence of Arabica coffee from these countries might also be the reason why Taiwanese consumers prefer them more over the other limited options like Indonesian or Vietnamese coffee beans.

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5.1 Coffee Beans in 19th and 20th Century Taiwan

In the book “臺灣咖啡誌” or literal translation “Taiwan Coffee Journal” written bywriter Wen Ke Yi (文可璽), he started by throwing back to 19th century Taiwan. Coffee beans first appeared in Taiwan during the Qing Dynasty, but nobody saw them as a profitable crop as consumers did not know how to consume them. The tea merchants in Dadaocheng were silently experimenting with locally grown beans at the end of the 19th century and this was thestart of the coffee’s recognition as a beverage in Taiwan. A named tea merchant in Dadaocheng, Li Chun Sheng (李春生), recorded his story of how coffee beans were delivered to him duringthe Dadaocheng Festival and how he used the stone mortar to crush them. He soon bought hisown roasting machines and even gave his first batch of roasted coffee to the British Consulate for tasting, and it received a lot of praise. Despite these early cultivation efforts, it remained in history as it was not the perfect time and place for cultivating this soon-to-be popular agriculture crop in the next century (Wen, 2019).

Not until December 1912 that coffee finally got its spotlight. A Japanese merchant, Shinozuka, established the first European-style coffee house in Taipei Club, Taipei Park for the first time, named “Lion” (「ライオン」(公園獅). The inspiration for this coffee shop was Ginza Lion Cafe in Tokyo. Wen described in his book that the coffee house was a fashionable Western-style building with a floor area of more than 65 square meters, few rooms with different meeting purposes, and even featured a spiral ladder going upstairs paved with carpetsthrough the whole steps. The interior design was not the only luxurious thing, the dishes servedwere top-notch foreign wines, sakes, Japanese tea, like oolong tea and black tea, chocolate, coke, and even coffee (Wen, 2019).

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Coffee houses were the beginning of coffee's introduction during the period of Japanese colonization in Taiwan. It was deemed a symbol of Western modernization as it used European- style design and brought "international" beverages into Taiwanese society. Under Japanese colonialization, coffee houses were divided into two, which were called 'tea shops' and 'cafés'.Cafés located in Taipei and Tokyo in the 1930s were high-society meeting places that were mostly associated with sexual businesses and male customers were accompanied by hostesses. Meanwhile, tea shops were equal to the coffee shops in modern society, but also only for the high-class community (Chen, 2005).

Wang (2018) mentioned that the authority in post-war Taiwan considered coffee as a luxurious import, so consumption and demand were discouraged by the authority. This was a sensitive period for import goods as Chiang-Kai-Shek's Nationalist Party just come to Taiwan after they lost the civil war with the Communist Party, and they believed that spending money on import goods and coffee houses was a hindrance that would prevent them away from beating the Communist Party (Wang, 2018).

In the 1950s-60s, even though not everyone could afford to go to coffee houses due tothe high tariff imposed in post-war Taiwan, coffee was often still portrayed as a symbol of 'advanced countries' when featured in some newspapers and became even more luxurious item since it was very expensive after import tax was implemented. Having coffee was pictured as a way to assimilate into the Western lifestyle, particularly the Western Europe and the US. The 1950s-1970s was the start of Taiwan's close political and economic relationship with the US, which was why people were eager to have this American lifestyle by consuming the crop theyused to think unsuitable for them a century before, coffee. Shanghai mainlanders opened coffee houses with Chinese names, which attracted well-educated customers, such as business people,politicians,

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journalists, and writers. However, coffee houses were not completely portrayed positively up until the late 1980s since a lot of Japanese cafés, which converted their names toAmerican ones, were still places where sexual deals happened (Shen, 2005).

5.2 Welcoming Starbucks to Taiwan

Coffee houses officially left their luxurious title and dark impression, and turned a newleaf to be known as 'coffee shops' in the 1990s. This was the beginning of how coffee began to be seen as a more common beverage rather than an extravagant one. Starting from 1993 and1994, the first coffee shop chain stores brands, Dante and Ikari, officially opened their first branch in Taiwan. It soon moved forward as a chain operation and recorded in 2020, Dante owns 82 branches in the country and 16 branches overseas, particularly in the Middle East andIndonesia. Ikari ran a smaller operation with 37 branches in 2020 but focused on baking industry investment (Mirai Business, 2020).

The Taiwan's coffee shop true game changer finally entered the stage in 1998, Starbucks. Celebrating Starbucks' 25th anniversary in 2023, 500Times UDN news outlet talked about Starbucks Taiwan's timeline up until 2023. The world-known coffee shop chain store brand from Seattle, Starbucks, officially opened in Taiwan on March 28, 1998, particularly in the middle of the hot-spot Tianmu area, Taipei. A renowned food corporation, Uni-President Group, was the agent that officially opened Starbucks in Taiwan and Starbucks Taiwan became its subsidiary in 2018. After its grand entrance to Taiwan's most elite district at that time, Starbucks soon opened more branches, and the number of stores even reached more than 500 outlets in 2020. The brand not only removed the luxurious coffee conception but also inspired Taiwanese society to consume coffee as a daily caffeine booster and a lifestyle.

Starbucks in Taiwan brought in the American-style coffee shop concept where

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people could not only use it as a high-society get-together spot but also a comfortable and warm placewhere customers, regardless of their status, could comfortably hang out to chit-chat or work and study. It was an inspiration for other companies and individuals to think of coffee shops as the best companion, a comfortable second home, and also a place to show people's creativity in designs and services. Soon after Starbucks expanded its stores and gained more popularity,coffee became highly demanded and different local brands started to emerge in the country, naming 85C, Louisa, and Cama as a few. Some other international brands also put their attention to Taiwan's coffee market, like UCC Japan and even McDonald's established McCafe in 2013 (500Times, 2023).

Other than a drink that people enjoy in the shops, coffee also has become a modern necessity that serves the right amount of caffeine for people to go through their long day of work, so a demand to serve quick, affordable, and delicious coffee soon appeared. Coffee-to-go is certainly something that the Taiwanese working society cannot miss every day in the modern 21st century. Uni-President Group caught the new trend and changing demand fast enough, and launched the CITY CAFÉ brand in 7-11 as the channel to serve takeaway coffee distributed directly through their stores spread all over the island, and they successfully becamethe biggest channel for coffee distribution in Taiwan in 2020 with over 5,000 stores nationwide. Instead of selling their brand directly, UCC Japan invested more in B2B coffee bean supply and became the distributor for coffee served in other convenience store brands in Taiwan, such as Family Mart's Let's Café and OK Mart's OK Café (Mirai Business, 2020). In modern Taiwan society, 2024, there is almost no place that does not serve coffee, including convenience stores, fast food chains, restaurants, coffee shops, and even some brands of beverage stores.

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5.3 Taiwan says Hi Arabica and Bye Robusta!

Most Taiwanese convenience stores and coffee shops love to promote their coffee withthe "100% Arabica" tagline, but when Taiwanese customers were asked whether they love Arabica or Robusta more, maybe most common coffee drinkers did not know for sure the differences between the two of them. A question about this phenomenon would be: Why do most coffee shops and convenience stores promote "100% Arabica" coffee when customers donot know about this coffee? Is it merely a marketing strategy, coffee beans' importers' goods manipulation, or purely Taiwanese's preference for drinking Arabica coffee?

As previously mentioned in our introduction, Arabica is widely regarded as a higher quality bean compared to Robusta due to its complex flavors, which can vary depending on where it is grown. Arabica can taste sweeter, fruitier, zestier or sometimes nuttier (NCA, 2024), making it enjoyable on its own without needing other additives. While Arabica is known for its quality, Robusta is often used for other purposes, such as making instant coffee and coffee drinks, and is commonly used in expresso machines. However, many Taiwanese coffee shopsthat use coffee machines prefer Arabica coffee over Robusta, even though Robusta is a cheaperoption and offers similar quality with different taste notes. The primary hypothesis for this trend is that the dominant coffee importers in Taiwan maintain established relationships with specific suppliers in certain countries, ensuring a consistent supply of coffee beans from thesemarkets. However, the prevalence of Arabica or Robusta beans in the market may not be solelyattributed to these importers. This phenomenon could also be influenced by the Taiwanese consumers' preference for Arabica coffee, regardless of their awareness of consuming Arabicaor their ability to distinguish between different types of coffee beans.

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The primary assumption of why this trend is happening is that dominant coffee importers in Taiwan have specific coffee suppliers in certain countries that they have already cooperated with, ensuring a consistent supply of beans from these markets. Nonetheless, the reason behind the more Arabica or Robusta founded in the market may not solely be because of these importers. It could also be driven by the Taiwanese preference for Arabica coffee, evenif they are unaware they are consuming Arabica or do not recognize the specific type of bean.

Wang Sumei (2018) in her journal named "Domesticating the Foreign: Re-making Coffee in Taiwan" discussed how she interviewed six focus groups in 2006 with different socio-economics and age groups about how they perceived coffee in their daily life. Her research has proven that people from different age groups and backgrounds perceived coffee differently, especially those who were introduced to coffee during post-war Taiwan, and those who were born after 1987. A lot of Wang's middle-aged informants, aged around 40 - 50 years old, first encounter with coffee were at western-styled restaurants in the 1980s. At that time, almost no one grew up with the idea of consuming coffee as a daily necessity. For them, drinking tea was something that they were more familiar with while drinking coffee was moreof a symbol of a higher social status. An interviewee that Wang talked with, Guang-Hua who was a 46 years old man, claimed that in the 1980s, he used to treat his visitors to coffee insteadof tea because he was a colonel that worked on a naval warship. The idea of treating his guests to coffee gave the idea that you were treating your guests right as you gave something that was more valued, while tea was something that you could consume on your own (2018).

This middle-aged generation started to become more familiar with coffee after the 1980s and more particularly during the rise of coffee in the 1990s. Therefore, they thought of coffee as equal to American culture. They may have not thought too much

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about the taste or feeling that coffee would give, but the impression of it being relaxed, modern, and cool when someone was consuming it. Not only from coffee but the eagerness of Taiwanese to have the American dream could also be seen in that era, a good percentage of Taiwanese went to the USto study and stayed there to seek what they thought was a better living (Wang, 2018). For those who could not achieve this Westernized dream, they might have sought comfort through coffee and Starbucks.

Starbucks has been committed to using Arabica beans since it opened its Seattle branchin 1971. Arabica coffee beans offer a more complex and fruitier taste, which Starbucks' coffee engagement manager, Aaron Robinson, claimed could be modified and played to create different flavors and interesting combinations. Even though Robusta would be cheaper for theirespresso-type drinks, Starbucks values flavor as one of their important criteria in serving goodcoffee. The brand would then use the same beans and recipes in all their branches, including those in Taiwan (Beck, 2023). Given that Starbucks in Taiwan can be regarded as a pioneer among coffee shops, it can be reasonably asserted that Starbucks established the first benchmark for the general population, who began to enjoy coffee as a common beverage starting in the 1990s. Consequently, the Taiwanese preference for Arabica likely began with Starbucks. As they became accustomed to Arabica, they continued to seek the same taste from other brands without even realizing it. Even though Robusta is still be available through canned or instant coffee, consumers prefer the fresher and more flavorful coffee served in stores, which is expected with Arabica coffee.

5.4 Taiwan's Main Coffee Importers Focus on South America and Africa as Suppliers

To accommodate Taiwanese's accustomed taste to Starbucks coffee, other coffee shops certainly have to deliver similar coffee quality or grade with different flavor notes

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to compete with this rapidly expanding American chain. Therefore, everyone started to seek for high- quality Arabica coffee at a lower price to attract customers. Coffee importers in Taiwan needed to secure cheaper beans before they distributing them to the market, which led them to focus on importing green beans, as these are less expensive than roasted or processed beans. This demand has encouraged suppliers to source Arabica beans from countries that can provide largequantities at bulk prices.

Taiwan's coffee imports are monopolized by a few major importers, and understanding the two largest players can help clarify the dynamics of the market. The first biggest importer has been previously mentioned several times, Uni-President Group. Uni-President Group is not only the parent company of Starbucks Taiwan and 7-11 convenience stores with CITY CAFÉ,but it has also become the largest coffee importer in Taiwan to meet its own distribution needs. It is reported in the CommonWealth Magazine that Uni-President imported more than 20% of Taiwan's coffee in 2021 and produced 300 million cups of coffee each year. Since green beans need to be processed before being roasted and served, the company also established a subsidiary, Cophi, to manage the entire coffee supply chain, ensuring a seamless delivery to their retailers and other buyers (2021).

Cophi's responsibility in the supply chain starts from choosing the best beans they can get from the producing countries, storing them in the warehouse, cupping, and even educating their customers. They travel directly to the coffee farms in producing countries, such as Brazil, Colombia, Ethiopia, etc., navigating challenging roads to ensure the beans meet their 380 pesticides and cupping tests. This hands-on approach guarantees that the coffee tastes the samewhen it arrives in Taiwan as it did at its origin. If the taste differs, the batch is rejected. Green bean quality must be maintained when it arrives in the country properly, Cophi achieves this with warehouses that have adjustable

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temperature and humidity settings. Additionally, Cophi collaborates with R&D staff and baristas to educate their customers on optimizing their coffee machines. They offer tailored programs and training videos on the specific beans, equipment, and maintenance to ensure the best coffee experience (Uni-Cophi, 2021).

The second main importer in Taiwan is WeSource (源友企業股份有限公司).Originally a food raw material OEM and Unilever distributor, WeSource entered the coffee market in 2009 in response to rising demand, experiencing double-digit revenue growth annually. By 2017, Taiwan imported over 28,000 metric tons of green coffee beans, with WeSource supplying and roasting a quarter of that amount. WeSource's success is partly due to its partnership with Luckin Coffee, often called China's Starbucks. Similar to Uni- President's Cophi, WeSource has a comprehensive green bean cleaning and screening production streamline, using cutting-edge coarse sorting machines, stone removal machines, and even coffee color sorters to remove foreign materials like stones, wood, metal, and glass. They are committed to this supply chain by investing in cutting-edge coarse sorting machines, stone removal machines, and even coffee color sorters, whose purposes are to filter out foreign matters in the coffee bulk, such as stones, wood, metal, and possibly glass substances. They also provide customized recipes and training for customers (Li, 2018). Committed to high- quality sourcing, WeSource obtains its beans directly from farmers in Colombia and Ethiopia.

The experiences of Taiwan's two major importers show that the coffee supply chain demands significant effort and dedication before beans can reach stores and customers. Any company could not simply do green bean filtration and provide storage unless they are willingto invest a lot in advanced technologies and warehouses, a heavy

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burden to new entrants. Thesebigger companies possess the expertise and infrastructure to source directly from producing countries and maintain quality storage, which benefits the entire coffee market in Taiwan. Rather than harming the market, relying on these major importers may actually be advantageous for everyone involved.

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5.5 Unfair Trade and Price Negotiation: Ethiopia

Taiwan's coffee importers can obtain cheap green beans from countries like Ethiopia and Colombia, despite these countries being farther from Taiwan. Referring to the previous chapter, one explanation is the Free Trade Agreement between China and Indonesia led to tradediversion from Taiwan and trade creation between China and Indonesia. However, another reason may actually be a completely unrelated and have started from the internal problems in the producing countries themselves. Ethiopia and Colombia are forced to sell their coffee beansat cheaper prices due to unfair trading systems. This would be the major reason why importers, not only in Taiwan but from all around the world, could get green Arabica beans at cheaper prices despite the distance.

At the inauguration of the 4th World Coffee Conference in 2016, Ethiopian Prime Minister Hailemariam Desalegn articulated his concerns regarding the dual threats of economic inequality and climate change to Ethiopia's coffee industry. He underscored the pervasive impact of coffee price volatility on global coffee farmers, noting that price declines have led to reduced quarterly profits for smallholder growers, whose profit margins are already minimal. This situation threatens the ability of smallholder coffee farmers to sustain their families. Ethiopia, gifted with diverse soil types and a favorable climate for coffee cultivation, continues to strive for improvements in production quality and productivity through collaborative efforts between the government and coffee growers. Nevertheless, the challenges posed by imbalancedcoffee prices and climate change—manifested in rising temperatures and altered climatic conditions—remain significant obstacles to the industry's progress (International Comunicaffe,2016).

A Taiwanese-Ethiopian, with the nickname Jimmy, shared his insights on Ethiopia's coffee beans' unfair trade practices from what he has analyzed throughout his

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time living in Ethiopia (2022). Ethiopia's economic state has always been deteriorating due to many circumstances. There is an increasing raw material costs due to the Tigray Civil War in 2020 -2022, the ongoing Russian-Ukraine war, the appreciation of US dollars, the depreciation of the Ethiopian Birr, and most importantly, severe shortage in foreign exchange. To fulfill this shortage, Ethiopia must find an alternative to provide more goods for their citizens, therefore,they rely heavily on coffee beans and other agricultural crops. However, as desperation is the fuel behind this exchange, green beans have to lose their real-time value just to be used as a distinguished tool to be exchanged with US dollars. Raw materials costs kept on increasing, but Ethiopia could only sell their green beans at a slightly higher price than the year before and would always be at a loss.

Unfortunately, instead of receiving help, this ongoing issue in Ethiopia has become a chance for international corporations to exploit so they could import cheaper and higher qualityArabica coffees from Ethiopia's local farms to their countries. Many large importers, such as global green bean wholesalers, European and American grain merchants, and Japanese trading companies have their own representative offices in Ethiopia. Since these representatives are very well aware of the situation in the country, they would utilize this to strike a deal with Ethiopian merchants to import goods in exchange for huge quantities of green coffee beans andby paying with US dollars. Some countries even would do even engage in barter transactions by getting low-priced green coffee beans in exchange for goods that are produced by large international companies. Ethiopian merchants know that they can earn additional profits by selling these imported goods in addition to the principal, which they could later use to pay fortheir loans and bank interests (Jimmy, 2022).

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5.6 Unfair Trade and Price Negotiation: Colombia

The condition in Colombia does not differ from Ethiopia. Coffee cultivation plays an important role in Colombia's economy, contributing 6.6 percent to the nation's total exports in 2017, and coffee plants occupied 13.81 of Colombia's arable area, marking it as the highest coverage from a single crop (Saenz et al., 2021). A significant report of Colombian coffee mentioned the country expected coffee exports to grow by 2.5% annually (Kalmanoff, 1968). Unfortunately, Colombia's coffee production is not growing as it is expected. Marking around 2022/23 coffee year and the post-COVID era, Colombia was facing a major issue of having toadjust their coffee price to a fixed price or could be lower than the market price due to the influence of high harvest from its neighboring country, Brazil. As the world's largest coffee exporter, Brazil's harvest significantly influences global coffee prices. When Brazil produces more, neighboring countries like Guatemala and Colombia must lower their prices to remain competitive (Hall and Teixeira, 2023).

There has been significant debate about the National Federation of Coffee Growers of Colombia and its handling of low production and export quantities. Colombia has funding named the National Coffee Fund, but the management and direction of this funding have always been questioned since a lot of plans to modernize coffee farming and establish a better production strategy have never been realized (Coffee Behind the Scenes, 2019). In MY 2022/23,Colombia produced 10.7 million 60-kg bags of green bean equivalent (GBE), down from 11.3 million bags the previous year. The declining and unstable production was caused by excessiverainfall and cloud cover due to the La Niña weather phenomena, which leads to lower yields. Additionally, Colombian farmers had to reduce fertilizer application due to the upsurge in global fertilizer prices, possibly linked to the Russian-Ukraine war. Due to inflation, the

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Colombian peso has received a modest reevaluation (International Comunicaffe, 2023).

Coffee is a national beverage in Colombia with 84% of Colombians believing it symbolizes their country. However, due to the coffee industry's promoting domestic coffee exports, Colombians have historically been left with low-quality coffee (Coffee Behind the Scenes, 2019). A new challenge for the industry is the rising domestic demand as people startedto appreciate coffee more, but there is an unavailable domestic supply though Colombia is the third biggest coffee producer in the world. Colombia has been seeing an increasing Robusta coffee import from Brazil to satisfy this domestic demand due to Brazil’s bigger inventory andlower price that could compete with the Arabica that Colombia itself produced. In the MY 2023/24, Colombia is estimated to export 12 million bags of GBE, but they would have to import approximately 2.5 million bags GBE from Brazil (Gomez, 2023).

Regardless of the raw material price uproar in Ethiopia and the significant price drop in Colombian coffee, other countries, including Taiwan, can still enjoy Ethiopian and Colombian coffee due to importers’ ability to negotiate lower price. This type of transaction benefits the importers, but in the long term would cause harmful effects to the producers in thethird-world countries since it would soon backfire if they only sell the bare minimum and poor-quality coffee. The pressure to grow coffee with expensive materials and equipment but receive minimal profits leads to losses and debt, ultimately threatening the quality and sustainability of coffee production. Importers may eventually lose these incentives if producers are unable to sustain quality coffee production under such conditions.

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6. Indonesia's Domestic Production and Consumption

Indonesia is one of the major producers of the world's Robusta supply, but the trend of local coffee production and consumption has been seeing major changes. Robusta coffee beans,reflecting its name, are known for their robustness and resilience in growth compared to Arabica coffee. They also can grow in lower altitude regions and are less susceptible to pests and diseases. Since Indonesia is a tropical country, this type of bean is still suitable to grow inthe country's mountainous area, which is relatively lower than other countries with four seasons. Unfortunately, even this type of coffee bean is starting to lose its battle with climate change which has caused extreme weather in the region. Contrasting the unstable weather challenge that affected production heavily, Indonesia's domestic consumption has grown rapidly with the newest trend of domestic coffee chain brand development. This chapter will delve into how these two trends would eventually result in decreasing exports and impact Taiwan's coffee supply from Indonesia.

6.1 Extreme Weather Affected Coffee Production Quantity and Quality

Throughout the Coffee Development Reports written by ICO in 2020 and 2021, Indonesia's fluctuating production has been significantly highlighted since extreme weather heavily impacted it. These reports explained how unpredictable and severe weather events have increasingly disrupted coffee farming, affecting both the quantity and quality of Indonesian coffee produced. Indonesia always has to deal with unprecedented rainfall throughout the year,which has become more inconsistent due to climate change. This has caused droughts to be prolonged and rainfall periods to be intense. Unfortunately, this condition could not support the good growth of coffee plants because they require a stable weather pattern. The unpredictable extended droughts cause coffee plants to have water stress, reducing the yield and quality of the berries produced. After they are faced with such water deficiency, a rush of heavy rain would

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come suddenly. Rain was supposed to save these coffee plants, but instead, it became another problem that caused soil erosion and nutrient depletion with their uncontrollable intensity throughout the rainy season.

The reports also highlight that these extreme weather conditions magnify other challenges faced by Indonesian coffee farmers, such as widespread pest infestations and diseases when the climate changes are too extreme. The combination of water stress, uncontrollable heavy rainfall, and possible pest and disease spread, easily threatens the livelihoods of many smallholder farmers who rely heavily on coffee production as their primary source of income (ICO, 2021). Smallholder farmers are less likely to use fertilizers to help boost the growth of their coffee crops since there is minimal access to them in certain regions that grow coffee crops. These farmers may also be lacking technical knowledge for proper fertilizer application, such as the periods when they should apply the fertilizer or the amount of fertilizer they should apply. Heavy rainfall also causes increased humidity and it is a major problem for the cherry development stage since it could cause minimal pollination and would affect the beans' quality.The heavy rainfall is not complete without the companion of strong winds, which could threaten various stages of coffee cherry development (USDA, 2023).

Based on data provided in the Statistical of National Leading Estate Crops Commodity 2021-2023 by Indonesia's Directorate General of Estate Crops, Indonesia's coffee production shows a positive trend overall. However, there were years with lower production, such as in 2015, when the production was 580,013,099.4 kgs approximately 4 million kgs less than 2014, which had 584,097,245.1 kgs. Such fluctuations occurred before and after 2014-2015 and are estimated to have happened again in 2023 after 2022. The graph below shows the trend of Indonesia's coffee production up until 2022, with a prediction for 2023 (Directorate General of Estate Crops, 2023).

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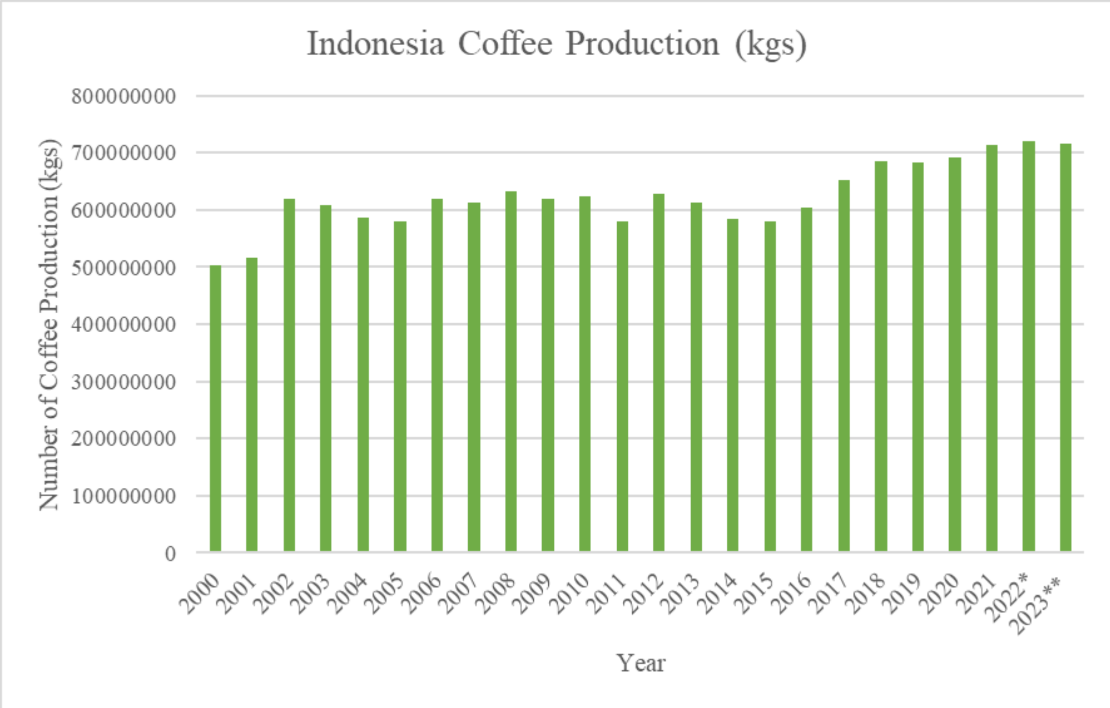

**: Preliminary production number*

***: Estimation*

Figure 10. Indonesia's Coffee Production (kgs) (Source: Indonesia Directorate General of Estate Crops,Statistical of National Leading Estate Crops Commodity 2021-2023, p. 307)

Extreme weather has proven to be a significant cause of Indonesia's declining coffee quality and quantity. Coffee cherries fail to develop properly, leading to substantial impacts on yield. Compared to other major coffee-producing countries, Indonesia's coffee crop yields were commonly known to be lower in terms of their growth and potential. This results from poor- quality planting materials, limited fertilizer usage or crop protection inputs, and inadequate extension services for farmers in smaller regions (USDA, 2022). The addition of extreme weather would exacerbate these issues, aggravating all the problematic aspects that contribute to the instability of coffee production in Indonesia.

6.2 Domestic Contemporary Coffee Chains Build Higher Consumption

Indonesia's coffee production has fluctuated over the years, but domestic consumption has steadily increased, especially after the rise of modern local coffee chain

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stores. Starbucks entered the country in early 2000s, but it was not until 2017 that modern coffee shops began appearing everywhere, with branches opening in shopping malls and shophouses in the middle of bustling metropolitan streets. Starting in 2017, local brands revolutionized the coffee shop industry in the archipelago by offering affordable, high-quality coffee to the middle to low- income market, breaking the notion that coffee shop coffee had to be expensive like Starbucks or its local contender, Excelso. Brands, such as Janji Jiwa, Kopi Kenangan, Kopi Kulo, Lain Hati, Kopi Soe, Fore Coffee, etc., (Lintang, 2024) started to compete in expanding their franchises faster across Indonesia and even overseas.

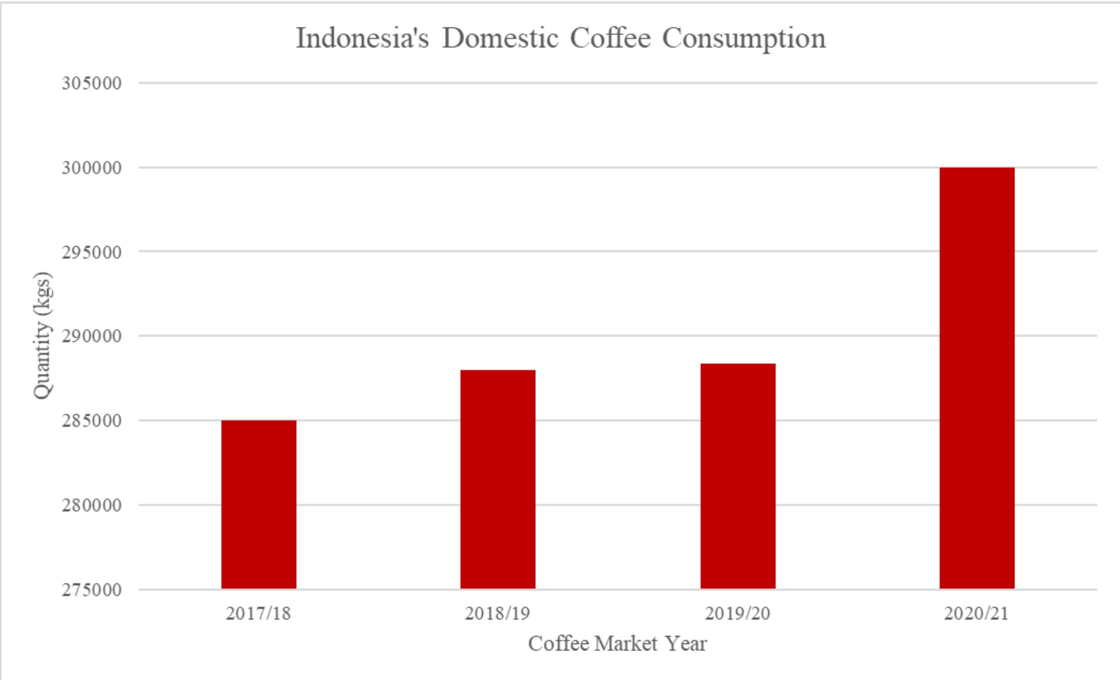

Figure 11. Indonesia’s Domestic Coffee Consumption (Source: ICO; Organized and presented by the author)

According to the world’s coffee consumption table, Indonesia’s domestic consumption reached 285,000 kilograms during the 2017/18 coffee market year. The subsequent increase of 3,000 kilograms from 2017/18 to 2018/19 may have been supported by the proliferation of modern coffee shops that opened in 2017. This consistent upward trend culminated in the 2020/21 coffee market year, reaching a peak consumption of 300,000 kilograms, driven by the emergence of more coffee brands and

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outlets across the country over the preceding three years(ICO, 2021).

Kopi Kenangan, a local coffee chain store established in 2017, started its journey in thecoffee business by opening its first outlet in Jakarta's bustling office area and quickly becamethe first Southeast Asian F&B Unicorn and in its pre-IPO application in just 7 years. Their concept was simple, "For us, the important thing is to just beat it first. Let's do it first. Even the recipe for Kopi Kenangan Mantan (one of its signatures) was only finalized the day before, just be brave, don't lose the momentum," -Edward Tirtanata, founder of Kopi Kenangan. Edward talked about the first concept of how he started Kopi Kenangan, which was using the idea that coffee must be drunk only for the drink and not for the comfortable place or even Wi-Fi. He saw that there are a lot of coffee shops that have been established in Indonesia, but one thing he realized was these options (Starbucks, Excelso, Coffee Beans), are not always affordable. He mentioned that he kept getting coffee from Starbucks, which priced its coffee from Rp. 35,000.00 or ~$2, or very cheap coffee that is priced at Rp. 1,000.00 or ~$0.06. There was no product is in the middle of this range, which is cheaper but also still uses high-quality ingredients. This was the moment when he finally tested the water in selling Kopi Kenangan, whose products priced ranging in Rp. 20,000.00- or around USD$1.22 (KumparanBISNIS, 2019). With this mindset, they immediately dived into the grab-and-go coffee chain business in 2017 and managed to become the fastest-growing coffee shop with over 900 stores in 67 Indonesian cities, selling an average of 100,000 cups daily. They also expanded internationally with 23 branches in Malaysia and 5 in Singapore (Kopi Kenangan, 2024).

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Figure 12. Kopi Kenangan Mantan, Kopi Kenangan's signature drink is translated as Ex Memories Coffee, which features a coffee latte and palm sugar (Source: Kopi Kenangan)

This grab-to-go concept inspired many other local entrepreneurs to jump on the trend of building local coffee chain stores like Kopi Kenangan, and some of them have also reached success in building hundreds of stores in these past five years. Janji Jiwa, established in 2018, is currently the coffee chain brand with the largest number of stores in the country, with approximately 1,100 shops across Indonesia in 2022. Janji Jiwa emphasizes the concept of a sustainable 'farm-to-cup' supply chain where farmers are rewarded with crop-to-crop income while customers can still get consistent quality products at affordable prices (Jiwa Group, 2024). Janji Jiwa's store number growth could actually be considered more substantial than Kopi Kenangan's since Janji Jiwa implements the concept of franchising while Kopi Kenangan maintains single ownership under the corporate name in all of the stores.

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Top two: Janji Jiwa (left), Fore Coffee (right)

Bottom three: Kopi Soe (left), Lain Hati (middle), Kopi Kulo (right)

Figure 13. Popular Indonesian Grab-and-go Brands (Source: Inilah.com)

Besides the two most popular coffee chains, as seen above, there are other brands suchas Lain Hati with 500 outlets, Kopi Kulo with 250 outlets, Kopi Soe with 230 outlets, and Fore Coffee with 120 outlets across Indonesia. A common feature of these brands is their signature drinks, which are coffee beverages mixed with various flavorings, commonly known as lattes. This trend can be explained by Indonesia's main coffee type, Robusta, and local market preferences. Robusta is known for its strong, bitter, bold and earthy taste, making it suitable for espresso, which is often mixed with milk to create drinks like cappuccinos and lattes. Indonesian Robusta is ideal for these grab-and-go coffee chains, as it pairs well with milk, palm sugar, brown sugar, coconut milk, avocado essence, and even biscuits.

Indonesians are known for loving strong flavors in their food and beverages,

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often preferring very sweet, salty, or spicy tastes. Blended drinks would dilute the bitterness of Robusta while adding sweetness from additives, suiting Indonesian preferences. Kopi Kenangan popularized this trend with their signature coffee latte with palm sugar, inspiring other brands to create similar drinks using local ingredients. Willy, Head Trainer at ABCD School of Coffee, noted that while Kopi Susu (coffee with milk) has been around for generations, modern coffee chains have made it trendy and affordable with aesthetically pleasing contemporary packaging.

6.3 Indonesian Coffee Industry Faced with Supply Shock

Indonesia's GDP growth projection heavily relies on local consumption and investment (Yoliawan H., 2018). To boost production and exports, local consumption is massively encouraged. Unstable coffee production cannot meet both local and international demand, causing conflicts between local distributors and international exporters. (Neilson, 2013).Unstable coffee production cannot accommodate the amount of consumption for both local andinternational demand, causing conflicts between local distributors and international exporters to get Indonesian coffee beans. Edward, Kopi Kenangan's co-founder, also expressed concernsabout securing consistent, high-quality coffee for their outlets, often running out of stock. He noted "Indonesia is quite funny. Good coffee is usually exported, while the ones with lower quality are for domestic consumption. This is also why it is quite hard for us (Kopi Kenangan)to find 30 tons of coffee every month. There is quite a good amount of sum of hundreds of kilograms, but it is hard to find distributors that offer coffee in tons (domestically). There wasa moment when we (Kopi Kenangan) were overwhelmed, worried that our coffee kept on going out of stock," (kumparanBISNIS, 2019). Currently, Kopi Kenangan is considered one of the biggest coffee shop brands in the country, so it could be simpler to assume they would have better access and connection with local producers considering their business scale.

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However, other than the six brands mentioned above, there are many other brands that also need huge amounts of coffee beans every day.

All of these factors combined undoubtedly result in a supply shock for coffee in Indonesia, profoundly affecting the entire production and distribution chain. Despite the surge in domestic production driven by the popularity of contemporary coffee chain stores, the coffee sector struggles to meet both local and international demand. This imbalance not only disrupts the market but also highlights the urgent need for comprehensive policies and strategic agreements to enhance Indonesia's coffee production capabilities. Such measures are essential to stabilize the coffee industry in Indonesia, ensuring that it can sustain the growing domestic consumption while also fulfilling its export commitments. By addressing these challenges, Indonesia can better position itself to thrive in the global market and leverage its rich coffee heritage to achieve greater economic resilience and growth.

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7. Conclusion

The beginning of this discussion revolved around the impact of the establishment of the ACFTA on the Indonesian coffee exports from Taiwan that are diverted to China. The ACFTA has supported trade creation between China and Indonesia while causing an obvious decrease in coffee trades between Indonesia and Taiwan. The first suspect of this shift was driven by theACFTA's tariff reductions, which have made China a more attractive market for Indonesian exports, especially coffee. However, while looking at the timeline of ACFTA's establishment, it could be identified that the whole trade diversion was not only impacted by the ACFTA's implementation itself but also by the involvement of consumer preferences' shift both in Indonesia and Taiwan.

The Taiwanese coffee market has evolved to favor Arabica coffee over Robusta due to the changing consumer preferences when major coffee chain stores, like Starbucks, came into Taiwan. A brand like Starbucks has managed to standardize what coffee should taste like for the common Taiwanese people who were not so familiar with this foreign beverage that was deemed to be just a luxurious beverage. When Starbucks made it more affordable while making it a comfortable place for people to enjoy, Taiwanese people started to get pampered with the taste notes of Arabica. This preference soon led to Taiwanese importers to source more Arabica coffee shops all around Taiwan that started to join the Taiwanese market since they have to accommodate people's preference influenced by Starbucks. While Indonesia is a major Robusta producer, they could not provide enough Arabica coffee to match Taiwanese's coffee demand anymore, thus, shifting Taiwanese coffee imports from countries like Brazil, Colombia, and Ethiopia. These countries could provide high-quality Arabica coffee beans at an affordable price, which would further reduce the interest for Indonesian coffee since Indonesia's specific regions Arabica beans would be priced higher.

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Indonesia's coffee production and consumption trends have also played a crucial role in shaping its export patterns, not only to Taiwan but the whole world. Indonesia is considered the fourth largest coffee exporter in the world, unfortunately, extreme weather conditions have affected the quality and quantity of Indonesian coffee. Simultaneously, the rise of local contemporary coffee chains in Indonesia has increased domestic consumption, creating an even bigger competition for local and international markets for Indonesian coffee. This increasing internal demand combined with production challenges has limited the availability of coffee forexport, impacting international coffee imports from Indonesia.

The interplay of ACFTA, evolving market preferences between the Taiwanese and Indonesian coffee markets, and unpredictable domestic production reshaped the coffee trade dynamics between Indonesia, Taiwan, and China. The ACFTA has managed to help trade creation with China at the expense of Taiwan. However, considering the short distance betweenTaiwan and Indonesia and Indonesia's close bilateral connection, a trade agreement can be built to boost agricultural produce trade between the two countries, especially on coffee.

Indonesia has a high potential to grow more coffee in its fertile mountainous lands distributed all over the archipelago. However, Indonesia's coffee production has always been unstable despite the strategic location to grow coffee plants due to the extremely unstable weather they are facing. This is not a problem that could be solved overnight and would impactIndonesia's coffee production even more in the future. Economically, Indonesia's domestic coffee consumption increases by 8% annually and this would offer long-term benefits for the country since domestic consumption usually encourages domestic production (ICO, 2022). Unfortunately, at this stage, Indonesia's production may not be able to handle domestic and international demands

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simultaneously.

Small-holder farmers' coffee production account for 99,32% of total coffee productionin Indonesia (BPS-Statistics, 2021), indicating majority of Indonesia's coffee is still produced by small-holder farmers. Educating all of these smallholder coffee farmers would not be an easy task for the Indonesian government since it is a huge scale of farmers group that the government needs to reach and educate. Luckily, organizations like Fairtrade have skilled specialists who have enough experience and knowledge to share from their experiences of teaching smallholder farmers from other major exporting countries. Fairtrade's training and cooperation increase US$1.36 for each pound of coffee sold, boost coffee quality, and help develop infrastructures required in coffee plantations area (Fairtrade America, 2022). By providing a bigger scale of funding or directing investments for farmers to get certified with Fairtrade, there is a better chance for farmers to increase their production and get paid accordingto the market's price.

Additionally, a renewed coffee trade agreement between Indonesia and Taiwan could lead to more comprehensive agricultural trade deals, building on their historical Agricultural Technology Cooperation that began in 1976. Past collaborations, supported by Taiwan ICDF, aimed to boost Indonesia's agricultural development but were limited in duration and follow-up. With encouragement from the Indonesian Economic and Trade Office in Taipei, a new bilateral investment agreement is proposed, focusing on agricultural, cultural, educational, and trade sectors. This agreement could involve Taiwan sharing agricultural technologies to improve Indonesian coffee production, leading to more high-quality, Fairtrade-certified Arabica coffee exports to Taiwan, enhancing supply chain efficiency and sustainability. This model mirrors successful technological exchanges like the China-Africa Cooperation, potentially revitalizing the longstanding coffee trade between Indonesia and Taiwan

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