



An Analysis of Taiwan's Role in the Sugar Trade of the Dutch East India Company (1624-1662) from a Supply Perspective

Yung-Sheng Chang¹, Yi-Yu Shih², Chih-Hsiung Chang^{3*}

¹associate professor, Department of Applied Japanese, I-Shou University, Kaohsiung City, Taiwan

²associate professor, Department of International Business, I-Shou University, Kaohsiung City, Taiwan

^{3*}assistant professor (corresponding author), Department of Finance, I-Shou University, Kaohsiung City, Taiwan
simon5289@gmail.com

Date of Submission: 04-04-2024

Date of Acceptance: 15-04-2024

ABSTRACT

Between 1624 and 1622, the Dutch East India Company initiated large-scale sugar trade centered around Taiwan, serving as a sugar supply hub. During this period, the company primarily sourced sugar from mainland China and Taiwan, with only a minority coming from other Asian regions like the Americas and Batavia. In 1622, the Dutch East India Company first transported sugar to the Netherlands, marking the beginning of their sugar trade. Over the following 40 years, the company's sugar trade experienced several periods, including challenging development and rapid expansion following the conclusion of the Ming-Qing Wars in mainland China. By analyzing these stages, a clearer picture of the sugar trade's development emerges. The Dutch East India Company's sugar trade had a broad sales market spanning Europe and Asia, monopolizing the Persian sugar market. Analyzing data on sugar sales volume, profit margins, and other factors makes the sugar trade more vivid and tangible. The flourishing of the Dutch East India Company's sugar trade during this period was facilitated by various factors. Their powerful naval fleet laid a solid foundation for sugar trade, while occupying Taiwan, Batavia, and encouraging sugar production in these colonies provided a steady supply of goods. Additionally, the rise of Dutch seafarers was spurred by the decline of former colonial empires like Portugal and Spain, indirectly providing the Dutch East India Company with opportunities for global dominance.

Key Words: Dutch East India Company, Sugar Supply Hub, Sugarcane Trade, Taiwan, Netherlands

I. INTRODUCTION

Taiwan is located on the maritime Silk Road in East Asia and enjoys a pleasant climate and

abundant resources. Since the 15th century during the Age of Discovery, ships from the Iberian Peninsula, including Portugal and Spain, followed by the Netherlands, England, and other European countries, have sailed along this route. During the Wanli era of the Ming Dynasty, a Portuguese ship sailed through the Taiwan Strait, and sailors on board discovered Taiwan named it "Ilha Formosa," marking the beginning of Taiwan's historical era.

In the 17th century, Dutch merchant ships were dubbed as the "carriers of the century" on the seas, as they invaded Asia on a massive scale, seizing Portuguese trading posts and establishing the Dutch East India Company (V.O.C) to engage in intra-Asian trade. Sugar was a commodity among the Dutch East India Company's external trade goods and played an extremely vital role in economic and trade development. Sugar trade became a significant aspect of the Dutch East India Company's trade in the Asian region, exerting profound and far-reaching influence not only on the Netherlands but also on the entirety of Europe.

II. LITERATURE REVIEW

Scholars both domestic and international have conducted detailed and comprehensive research on the Dutch East India Company and its trade. For instance, Albert Hyma's monograph "The Dutch in the Far East: A History of the Dutch Commercial and Colonial Empire" provides a thorough analysis of the Dutch East India Company's trade in the Far East (Albert Hyma 1942). Hyma examines various aspects such as the formulation of trade policies, the struggle for naval dominance in the Far East, and the occupation of the Malay Peninsula and Taiwan. From this book, it is evident that the Dutch East India Company made significant efforts to exploit the Asian market and monopolize Asian trade. David



William's monograph "A Primer of Dutch Seventeenth Century Overseas Trade" is considered essential reading for studying the Dutch East India Company's overseas trade (David William 1961). This book provides detailed accounts of Dutch occupation in Indonesia and Taiwan, as well as the opening of markets in Arabia and Persia.

Studies on the history of sugar trade have been conducted by Ellen Deborah Ellis's "An Introduction to the History of Sugar as a Commodity" is an important book for researching the history of sugar trade, discussing in detail the European context regarding sugar from various perspectives including types of sugar, its role, sugar cultivation in Asia, the Mediterranean, the Americas, activities related to sugar in the Iberian Peninsula, the development of the British sugar industry, and the demand and supply of British sugar (Ellen Deborah Ellis 1905). Additionally, Professor Mazumdar Sucheta (1998) from Harvard University has written "Sugar and Society in China: Peasants, Technology, and the World Market," which extensively analyzes sugar consumption, distribution, and other related aspects in countries like the Netherlands and England during the 17th and 18th centuries from the perspective of sugar production and export in mainland China. The book contains detailed data on sugar exports, profit margins, providing convenience for research. David Bulbeck's "Southeast Asian Exports since the 14th century: cloves, pepper, coffee, and sugar" extensively covers the situation of sugar trade in Southeast Asia, discussing various aspects such as the Dutch East India Company's first sugar shipment from Java in 1637 and the encouragement of sugar production in Java by the Governor-General of Batavia (David Bulbeck 1998). Kristof Glamann's "Dutch-Asiatic Trade, 1620-1740" is an important work on Dutch trade in Asia during the 17th and 18th centuries, rich in content, clear and thorough in explanation, and analyzes and interprets a large amount of data, including analysis on sugar, making it an important chapter in foreign research on Dutch sugar trade (Kristof Glamann, 1958). Holden Furber's "Rival Empires of Trade in the Orient, 1600-1800" explores the competition among European empires in trade in the East from 1600 to 1800, with sugar trade and competition being a significant focus of the author's research and exploration, as indicated by the title of the book (Holden Furber, 1976).

Mainland China's focus on the Dutch East India Company and sugar trade primarily revolves around translations, academic papers, and scholarly works, with many still exploring and analyzing the Dutch East India Company's sugar trade from a

Chinese perspective. Key works include "Early 17th-century Maritime Trade between China and the Netherlands" by Li Jinming (1989), "The White Sugar Problem" by Ji Xianlin (1995), "Export Destination of Chinese Sugar in the Ming and Qing Dynasties" by Zhou Zhengqing (2004), "On the Sugar Industry in Guangdong, Fujian, and Taiwan during the Ming and Qing Dynasties" by Chen Xuewen (1991), "The Sugar Industry of Chinese Expatriates in Batavia in the 17th to 18th Centuries" by Cai Zhenxiang (1991), "The Development of Sugar Industry in Taiwan during the Qing Dynasty" by Ruan Sihua (2004), and the master's thesis "A Study of the Dutch East India Company's Far East Trade in the 17th Century" by Li Qian (2009). In Taiwan, there are works such as Cao Yonghe's "Early History Research of Taiwan" (Cao Yonghe, 1995) and Yang Yanjie's "History of Taiwan under Dutch Rule." (Yang Yanjie, 2000).

This paper attempts to focus on Taiwan, analyzing how Taiwan became a sugar supply hub for the Dutch East India Company and the role Taiwan played in the development of the company's sugar trade. Furthermore, it aims to provide an overview of the overall situation of sugar trade by the Dutch East India Company in Asia and Europe during the 17th and 18th centuries.

III. MODEL CONSTRUCTION

How to make Taiwan Became a Trading Hub and a Sugar Supply Source for the Dutch East India Company

Taiwan was an important colony for the Dutch in East Asia and served as a trading hub for the Dutch East India Company in the region. The primary reason why the Dutch developed sugarcane cultivation and sugar production in Taiwan was due to their loss of sugarcane supply from mainland China. Therefore, they needed to find new locations for growing sugarcane and producing sugar to meet market demands. Additionally, Taiwan's climate and soil were favorable for sugarcane cultivation, making it an area vigorously developed by the Dutch East India Company for sugar production.

In 1624, the Dutch occupied Taiwan, marking the beginning of a 38-year-long colonial rule. During their occupation of Taiwan, which coincided with the rise of sugar trade by the Dutch East India Company, the Dutch actively managed sugarcane production on the island to meet market demands. This led to Taiwan becoming the sugar supply center for the Dutch East India Company's trade. Dutch ships transported large quantities of Taiwanese sugar to markets in Europe, Persia, Japan, and elsewhere, effectively monopolizing the sugar trade in these markets.



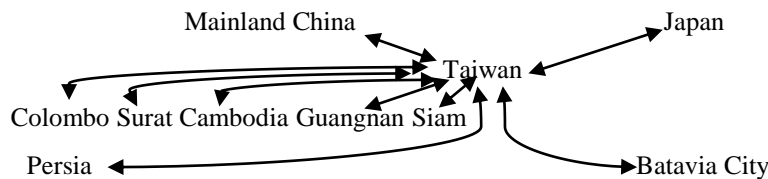
Taiwan as a Transit Station in Dutch Trade

After the Dutch occupied Taiwan, they established it as their primary trading post and actively engaged in trade throughout Asia. Taiwan also served as a transit station for Dutch trade in Asia. Dutch merchants would consolidate goods in Taiwan before redistributing them to various markets to gain profits from trade. Using Taiwan as a base, the Dutch acquired goods from mainland China or obtained them in Taiwan, and then transported these goods to Batavia or Japan for sale. Conversely, they would also purchase goods from Batavia, Japan, and other places and sell them back to mainland China or transfer them to other locations, thereby earning commercial profits through this indirect trade.(Yang

Yanjie, 2008)Through this important trade transit station in Taiwan, trade between mainland China, Batavia, Japan, Persia, and other regions of Asia was closely connected.

Besides establishing trading posts in Batavia, Japan (Dejima), and Taiwan, the Dutch East India Company also set up trading posts in other Asian regions such as Cambodia, Ceylon, Banten, Colombo, Surat, Tokyo, Cochinchina (Vietnam), and Siam (Thailand). How did the Dutch connect such a vast and complex commercial network? Taiwan, as a transit station, played a crucial role. The transit situation is illustrated in Figure 1.

Figure 1: Taiwan as a Transition in Dutch Trade



The following two tables clearly illustrate Taiwan's role in the Dutch East India Company's trade in the Far East.

Table1: Good Imported into Taiwan by Various Countries

Country	Imported Goods	
Mainland China	Taiwan	Raw silk, sugar, gold, sugar barrels, clothing, Tuckahoe
Japan	Taiwan	Silver, wax, timber, kapok, sulfur, rice, copper
Batavia City	Taiwan	Pepper, sandalwood, nutmeg, rice, red sandalwood, amber
Siam	Taiwan	Rice, lead, sandalwood, teakwood, bird's nests, coconut oil, lard
Tokyo	Taiwan	Raw silk, silk textiles
Guangnan	Taiwan	Raw silk · black sugar
Cambodia	Taiwan	Pepper, frankincense, musk, deer hide, feathers, and bird skin
Surat	Taiwan	None
Colombo	Taiwan	None
Persia	Taiwan	None

Table 2: Goods Exported to Various Countries from Taiwan

Exporting Location	Importing Location	Commodity
Taiwan	Mainland China	Silver, pepper, sandalwood, cloves, sugar, rice, frankincense.
Taiwan	Japan	Raw silk, sugar, coral, pepper, deer hide, canvas, large deer hide.
Taiwan	Batavia City	Raw silk, silk, sugar, rock sugar, porcelain, Tuckahoe, brass.
Taiwan	Siam	Raw silk, silk textiles, porcelain, sugar, Tuckahoe, mercury.
Taiwan	Guangnan	Japanese copper coins, lead, porcelain, etc.
Taiwan	Cambodia	Sulfur
Taiwan	Surat	White wax, Tuckahoe, red dye, pepper, gold, silver, etc
Taiwan	Colombo	Raw silk, porcelain, tea, Tuckahoe, Ming gong, white wax, gold.



Taiwan	Persia	Sugar, raw silk, porcelain, white wax, alum, sulfur, tea, etc.
--------	--------	--

From Tables 1 and Table 2, it can be observed that the Dutch East India Company transported goods purchased from various regions to Taiwan before onward shipment to other markets. The Dutch transported raw silk, sugar, tea, etc., and purchased from mainland China to Taiwan before shipping them to Batavia City. Conversely, spices purchased from Batavia and other Southeast Asian regions were transported to mainland China. Goods such as sugar, deer hide, and raw silk were shipped to Japan, while silver and brass brought back from Japan were transported to Batavia City, mainland China, and other destinations. As seen here, Taiwan served as an exceedingly crucial transit hub for the Dutch East India Company in East Asian trade. (Li Lei, 2003)

The Dutch purchased large quantities of sugar from mainland China and transported it to Taiwan, where it was then shipped to Japan, Persia, Batavia City, and the Netherlands. Mainland China was the primary sugar-producing region at that time, with Fujian and Guangdong provinces producing large quantities of high-quality sugar. The Dutch often sent ships to Zhangzhou and Xiamen to purchase sugar, and then transported it through Taiwan to other markets to obtain profits in trade.

In the 17th century, Taiwan became one of the most important sugar supply regions for the Dutch East India Company, primarily due to a decrease in sugar supply along the coastal regions of China. The reduction in sugar supply from the mainland severely affected Dutch sugar trade. Why did the sugar supply along the coastal regions of China decrease? The main reason for this situation was the instability in the coastal regions of China, where piracy and the prevalence of private maritime merchants were rampant. These merchant-pirates engaged in conflicts along the coast, committing acts of arson, murder, and robbery, leading to widespread unrest. To stabilize the situation, the Ming government decisively reinstated the maritime prohibition policy. The implementation of this policy severely restricted maritime trade for merchants in the southeastern coastal regions, exacerbating the losses in sugar trade for the Dutch East India Company.

At this time, while the sugar trade between Europe and Asia was expanding, the Dutch East India Company encountered a shortage of sugar supply in the coastal regions of China. In order to continue supplying sugar to markets such as Japan, Persia, and the Netherlands, and to gain significant profits in trade, the Dutch turned their attention to

Taiwan. Therefore, encouraging the development of the sugar industry in Taiwan to increase sugar supply became crucial for the Dutch in addressing the excess demand for sugar.

The Sugar Supply Situation in Taiwan

The pleasant climate, abundant rainfall, fertile soil, and ample sunshine in Taiwan make it highly suitable for sugarcane cultivation. During the period from 1624 to 1662, Taiwan became the center of sugar supply for the Dutch East India Company, closely linked to Taiwan's own sugar production capacity. As sugar became an international commodity, the Dutch reaped substantial profits from sugar trade. Therefore, during their occupation of Taiwan, the Dutch East India Company implemented numerous incentive policies and measures to encourage Taiwanese people to grow sugarcane and produce sugar. The contribution of mainland immigrants was crucial in the process of sugarcane cultivation. Due to the tumultuous situation in mainland China during the late Ming and early Qing dynasties, with factors such as political instability and regime changes, a large number of immigrants flocked to Taiwan. Coupled with the encouragement, promotion, and attraction by the Dutch, the labor force from the mainland made significant contributions to sugar production in Taiwan.

Firstly, immigrants from mainland China made significant contributions to sugar production in Taiwan. During the Dutch occupation of Taiwan, large areas of land were cleared for planting economic crops such as sugarcane. To meet the labor demand for land development, the Dutch authorities attracted mainland immigrants to Taiwan through various means. These immigrants from the mainland cleared wasteland and cultivated crops such as sugarcane, becoming the main force in Taiwan's development. During their time in Taiwan, most immigrants worked in the sugar industry, thus making significant contributions to the increase in Taiwan's sugar production.

The Dutch authorities frequently sent ships to coastal areas of mainland China to transport immigrants to Taiwan for land reclamation. With the increasing number of mainland immigrants, the basic labor problem for planting sugarcane and producing sugar was resolved. The wisdom and diligence of coastal residents made significant contributions to the development of Taiwan. The land they reclaimed, the crops they produced, and the sugar they manufactured became the premise for the Dutch East India Company to carry out its foreign trade.



Next, during the Dutch occupation of Taiwan, various supportive and incentive policies were implemented to encourage sugarcane cultivation, leading to a continuous increase in Taiwan's sugar production. With the popularity of sugar in markets such as Japan, Persia, and the Netherlands, sugar quickly became an international trade commodity, bringing considerable profits to the Dutch. Driven by these profits, increasing sugar production became the primary objective for the Dutch. To obtain more sugar, the Dutch rulers in Taiwan implemented policies to incentivize production. In agriculture, these incentive policies primarily focused on sugarcane and rice. During the Dutch occupation of Taiwan, the main agricultural crops were rice and sugarcane. The Dutch constructed irrigation systems to facilitate rice cultivation, but their most active encouragement was directed towards sugarcane. According to records from the Taiwan Customary Investigation Commission's second investigation report, the Dutch authorities relied solely on sugar as their source of revenue, thus making vigorous efforts to incentivize its cultivation and production (Taiwan Bank Economic Research Office, 1933).

During the Dutch occupation of Taiwan, several methods were employed to promote the cultivation and production of sugarcane.

The first one was to implement tax exemption policies. In order to incentivize agricultural production, the Dutch authorities implemented tax exemption policies for certain crops. Of course, these crops were ones that the Dutch urgently needed and could generate huge profits in trade. Therefore, sugar, being an important commodity in the trade of the Dutch East India Company in the Far East, undoubtedly fell into the category of tax-exempt crops.

The next one was to establish the hospitals and construct the roads. In order to encourage the development of sugarcane planting in Taiwan and to facilitate sugarcane farmers' access to medical treatment, the Dutch authorities built a hospital in Chihkan in 1634. The purpose was to provide convenient medical care for the Taiwanese who often fell ill while cultivating sugarcane. (Chen Shaogang, 1992.) Furthermore, according to research by Mr. Takashi Nakamura(), François Caron, who took office as the governor of Taiwan on August 10, 1644, was even more enthusiastic about promoting agricultural production in Taiwan. In order to increase sugar production, he placed greater emphasis on cultivating sugarcane. To facilitate the collection of sugar, Caron implemented a barter system and built a transportation route

between Chihkan and Sinckan. Subsequently, trade between Tainan Chihkan and Sinckan became exceptionally busy.

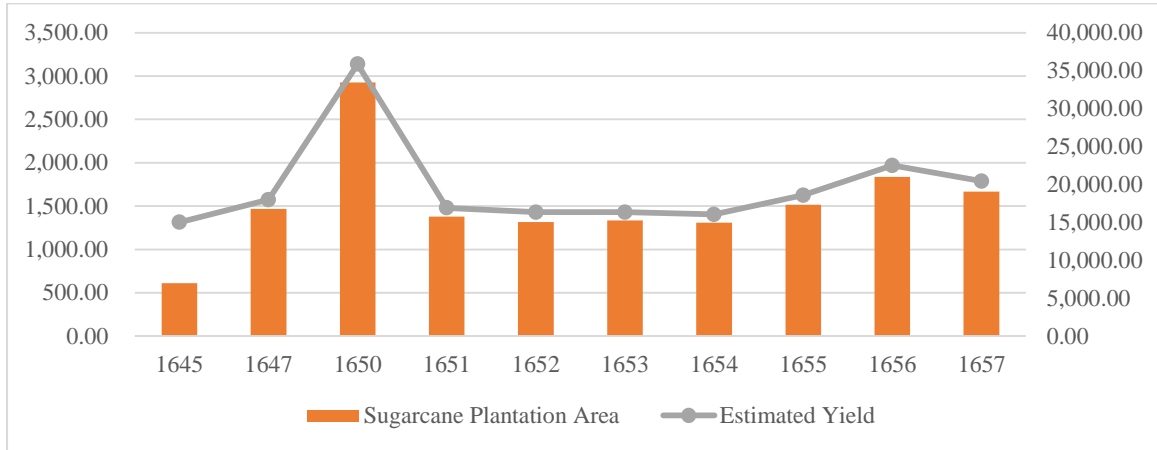
The last one was to provide loans to support sugarcane farmers. In order to obtain more sugar, the Dutch authorities provided loans to sugarcane farmers to support sugarcane cultivation. As early as 1635, the Dutch Governor Putmans and the Taiwan Council passed a resolution stating that if farmers planting sugarcane in Chihkan needed assistance, the Dutch East India Company would be willing to provide funds and livestock to help them. (Chen Shaogang, 1992). It can be seen that besides lending money to sugarcane farmers, the Dutch authorities also encouraged sugar production by providing livestock such as cattle.

Based on the above analysis, it is evident that during the Dutch East India Company's occupation of Taiwan, policies were implemented to promote sugarcane production in order to increase sugar supply. With the increase in sugarcane cultivation, sugar production also grew annually. This provided an ample source of sugar for the Dutch East India Company to engage in sugar trade, yielding significant profits for the Dutch. Concurrently, these policies implemented by the Dutch were somewhat beneficial to the agricultural development of Taiwan. However, fundamentally, the Dutch viewed Taiwan's sugar as a tool to gain trade profits. Taiwan was primarily seen by the Dutch as a colony, then as a trading hub, and finally as a commodity supply base.

The Dutch authorities actively developed and managed Taiwan, making it the most important transit trade point for Dutch Far East trade. As Far East trade expanded, the importance of sugar trade became increasingly prominent. The Dutch East India Company, which obtained substantial profits from sugar trade, further expanded its sugar trading activities. Originally reliant on mainland sugar, the Dutch East India Company faced interruptions in supply due to the change of regimes between the Ming and Qing dynasties. Consequently, to address the sugar supply issue, the Dutch turned to focus on developing and operating Taiwan, actively encouraging sugarcane cultivation and sugar production. Thanks to Taiwan's favorable geographical conditions, the Dutch's incentivizing policies, and the contributions of mainland immigrants, Taiwan quickly became one of the world's major sugar-producing regions. Taiwan also became the center of sugar supply for the Dutch East India Company. During this period, Taiwan's sugar production is detailed in Figure 2.



Figure 2: Taiwan Sugarcane Planting Area and Sugar Production



III. DISCUSSIONS AND FINDINGS

During the Dutch occupation of Taiwan, it served as a pivotal trading hub, facilitating active engagement in Far East trade. Following significant profits from the initial sugar trade, the Dutch East India Company continually expanded the sugar market to maximize profits. Simultaneously, the Dutch also utilized Taiwan as their sugar supply center. During this period, Taiwan supplied sugar from both mainland China and locally produced sugar. The Dutch East India Company shipped the aggregated sugar from Taiwan to markets such as Japan, Persia, and the Netherlands. Based on the level of market development and the quantity of sugar supplied from Taiwan, the sugar trade of the Dutch East India Company during this period can be divided into two stages: a challenging development stage from 1624 to 1635 and a prosperous stage from 1635 to 1662.

Development Stage of Sugar Trade in Taiwan (1624-1635)

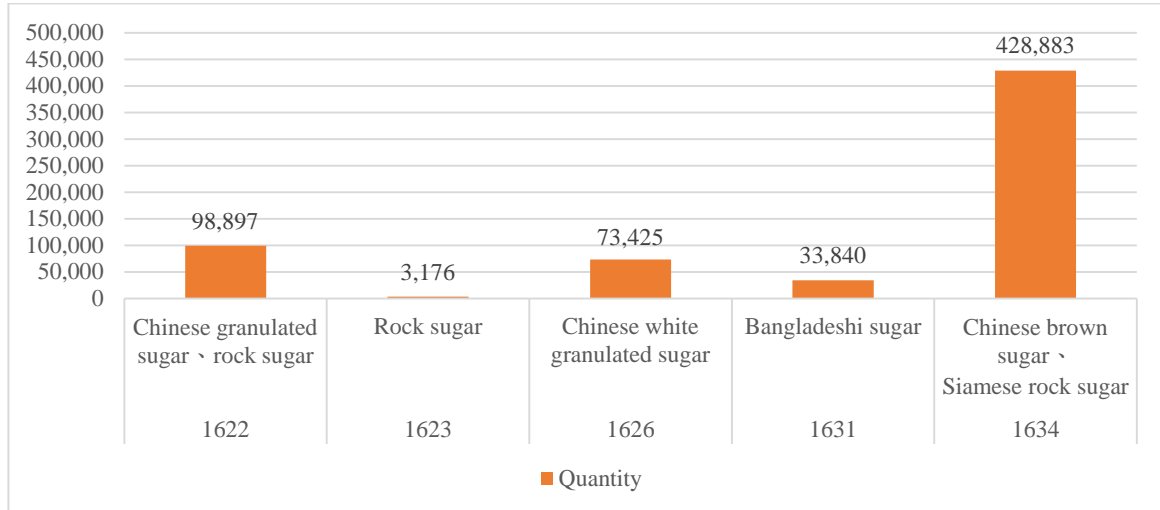
As early as 1616, the 17 directors of the Dutch East India Company realized that sugar was not merely ballast but a commodity capable of yielding immense profits. Consequently, the Dutch continually expanded their market, aiming to engage in sugar trade for greater profit. In 1622, the Dutch East India Company transported Chinese sugar to the Netherlands for the first time, marking the beginning

of over a century of sugar trade. However, between 1624 and 1635, the Dutch East India Company encountered difficulties in sugar trade, primarily due to challenges on both the supply and demand sides. On the supply side, mainland China (Fujian and Guangdong) was the world's primary sugar-producing region at the time. However, with the rise of pirates and private maritime forces, as well as the change of regimes between the Ming and Qing dynasties, the Dutch East India Company's major sugar sources were disrupted.

Another significant reason for the challenging development of sugar trade by the Dutch East India Company was the narrow sales market. Looking at the sugar trade of the Dutch East India Company, its markets included Europe (primarily the Netherlands), as well as Asian markets such as Persia, Japan, and places like Makassar and Surat. The markets in Makassar and Surat were developed in the 1670s and 1680s. Sugar trade in the Persian market also began to rise in 1638. Therefore, before 1635, the primary sugar sales markets for the Dutch East India Company were the Netherlands and Japan in Asia. Figure 3 shows the sugar sales situation in the European market by the Dutch East India Company and the trend of increasing demand for sugar. However, compared to the European market, the Dutch encountered significant difficulties in sugar trade in their domestic market due to taxation issues and the Bin Tan affair.



Figure 3: Quantity of Sugar Shipped back to the Netherlands before 1635



The Prosperous Stage of Sugar Trade in Taiwan (1635-1662)

After 1635, the sugar trade of the Dutch East India Company (VOC) flourished, with abundant sources of sugar satisfying the company's demand. The expansion of markets in Europe and Asia, along with increased demand for sugar, led to the continuous growth of the VOC's sugar trade, with profits steadily rising. Taiwan's fertile land, humid climate, and ample sunshine provided natural conditions for sugarcane production. Coupled with the VOC's active support and incentives, as well as the diligent labor of mainland immigrants, Taiwan became the primary region for sugarcane cultivation and sugar production in the world at that time.

With the elimination of pirate forces, coastal areas returned to their former calmness, which was an essential prerequisite for the development of maritime trade. A large quantity of goods from mainland China was transported to Taiwan, and during this time, sugar was also extensively transported to Taiwan. During this period, the Dutch East India Company primarily traded in sugar produced on the island of Taiwan. Due to the continuous growth in market demand for sugar and occasional natural disasters in Taiwan, the Dutch also purchased sugar from mainland China and other places to meet market demands. The Dutch still required a significant amount of sugar produced in mainland China and Taiwan, and to a lesser extent, they also acquired some from Batavia and Bengal, but the quantities were not substantial. (Glamann Kristof, 1958)

In addition, the growth in sugar demand in European markets, along with the recovery of Dutch

trade and the expansion into the Persian market, were also factors contributing to the prosperity of the Dutch East India Company's sugar trade. In the 17th century, the introduction of new beverages such as tea, coffee, and chocolate led to a sharp increase in sugar demand in Europe. It was the introduction of these three beverages – tea, coffee, and chocolate – that led to the popularity of sugar in Europe during the latter half of the 17th and 18th centuries.

In 1610, the Dutch East India Company began collecting tea purchased from mainland China and Japan in Batavia (present-day Jakarta), and then shipped them back to the Netherlands, officially introducing large quantities of tea to Europe. In 1650, black tea from mainland China was also transported to Europe. In the same year, coffee was introduced to England and subsequently spread widely throughout continental Europe. Europeans found that tea and coffee suited their tastes better than other beverages.

The Dutch East India Company quickly seized this market opportunity and transported large quantities of sugar back to the Netherlands to meet the demands of the European market. According to reports by Reesse. J.J.(), between 1622 and 1634, the Dutch East India Company transported a total of 638,221 pounds of sugar back to the Netherlands, while between 1635 and 1662, they transported 32,098,627 pounds of sugar back to the Netherlands. This illustrates the prosperity of the sugar trade in the European market.

During the late Ming and early Qing dynasties, a large quantity of mainland Chinese sugar was exported to the Persian Gulf region in the Middle East, primarily transported by the Dutch East India



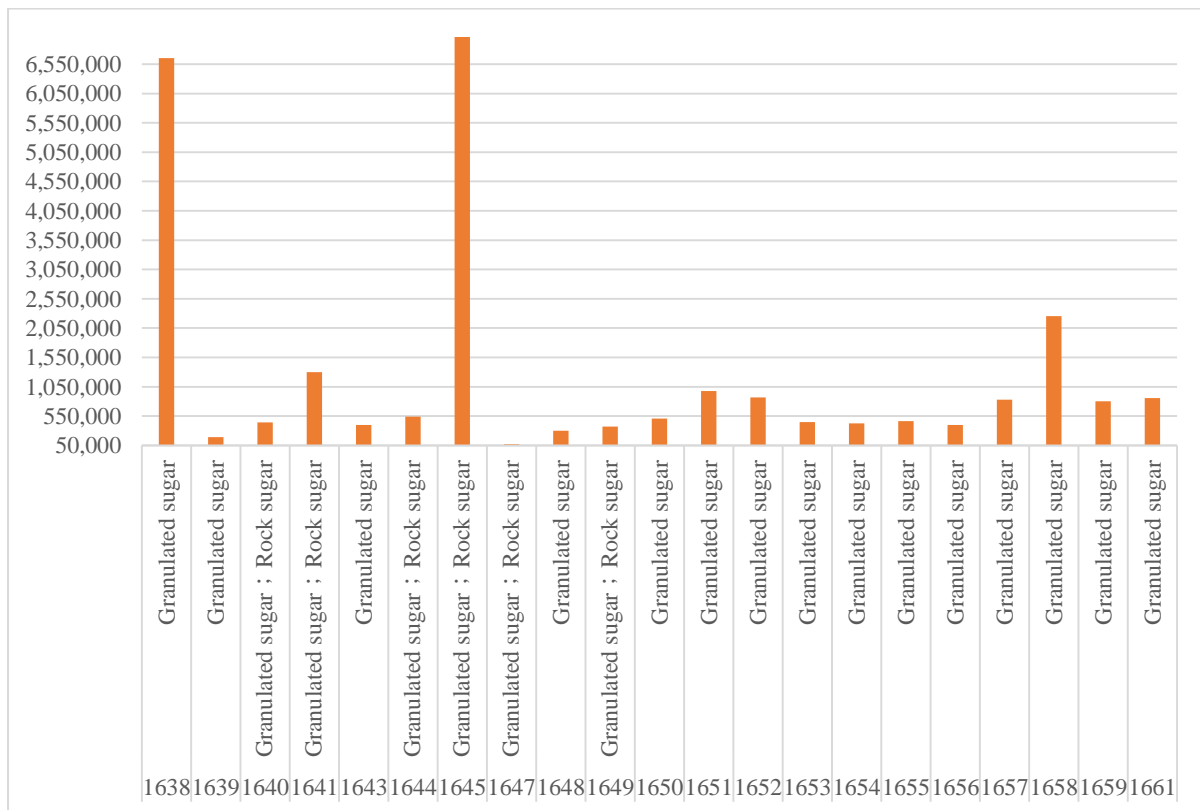
Company, which occupied Taiwan. In order to dominate the Persian market, the Dutch began to expel the Portuguese in the early 17th century. In June 1623, Dutch merchant Huybert Visnich arrived in Persia and obtained permission from the Persian government to unload goods and engage in trade within its borders. This marked the beginning of Dutch trade in Persia, which lasted for over a century. However, it wasn't until 1638 that the Dutch East India Company first transported sugar to Persia for sale. Subsequently, between 1639 and 1661, the Dutch exported large quantities of sugar to Persia.

Apart from the European market, the Dutch East India Company's sugar trade was also significant in the Asian market. The Dutch had been involved in Asian trade for a long time, and with the increasing demand for sugar in markets like Persia and Japan, the Dutch East India Company imported large quantities of sugar into these countries.

The Persian Empire had long imported

sugarcane for cultivation from neighboring countries and had mastered sugar production techniques. However, the sugar industry in Persia did not flourish as it did in mainland China. Not only could Persia not produce enough sugar for trade, but even domestic sugar demand had to be met through imports. At this time, the Dutch East India Company, already involved in the Persian market, and opportunistically seized this opportunity to transport large quantities of sugar to the Persian market for profit. From Figure 4, it can be observed that between 1638 and 1661, significant amounts of Taiwanese sugar were transported by the Dutch East India Company to the Persian market for sale. Persia was one of the Dutch East India Company's primary markets for Far Eastern sugar trade, with a very high profit margin on sugar in the Persian market. This was one of the main reasons or driving forces behind the Dutch shipping large quantities of sugar to Persia.

Figure 4: Amount of Taiwanese Sugar Transported to Persia between 1638 and 1661



Japan was one of the important markets for the sugar trade of the Dutch East India Company. During this period, Japan had not yet cultivated sugarcane or produced sugar, and it was not until the

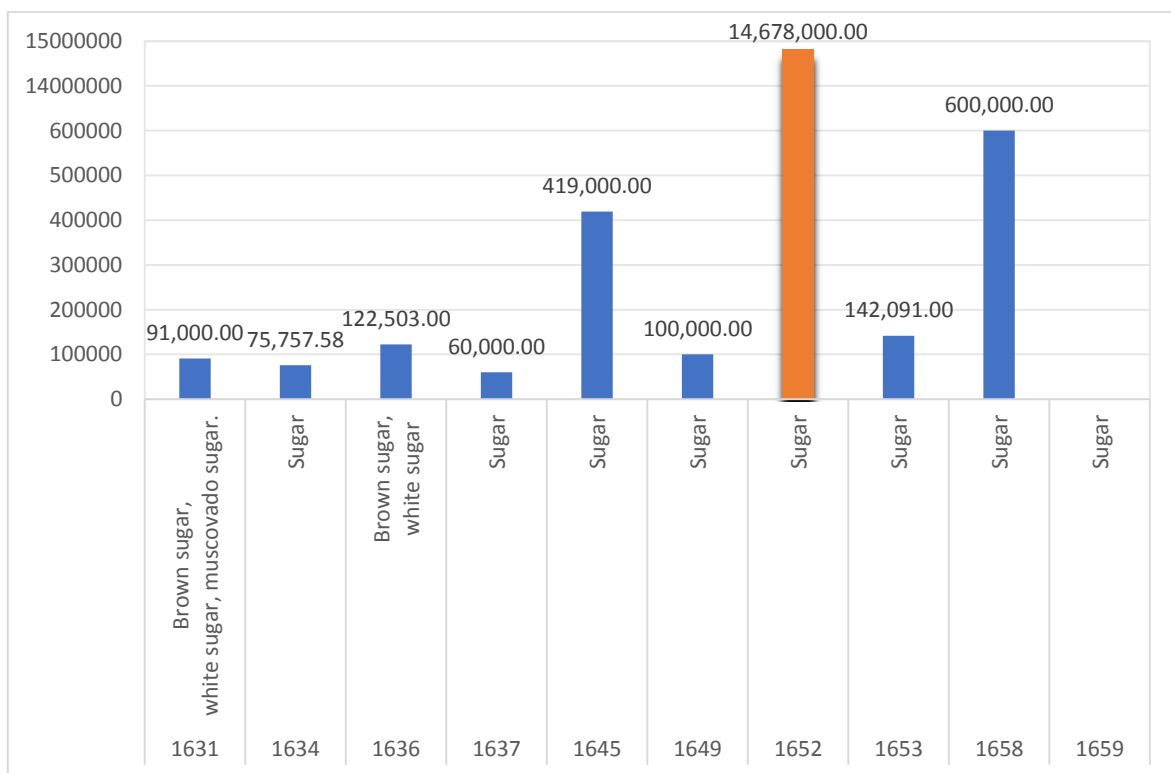
18th century that the Japanese began cultivating sugarcane and producing sugar domestically. To meet the domestic demand for sugar in Japan, where people had a preference for sweets, trade was



inevitable. Portuguese, British, Dutch, mainland Chinese, and Japanese merchants all engaged in sugar trade in Japan. In 1623, there was a power struggle between Britain and the Netherlands in trade, and after losing, Britain withdrew from trade with Japan. In 1624, the shogunate banned Spanish ships from entering Japan to prohibit the spread of Christianity in Japan. In 1638, the Portuguese were eventually expelled from the Japanese market due to factors such as missionary activities, allowing the

Dutch to eliminate a major competitor in the Japanese market(Cheng Shaogang,2000).At that time, only mainland Chinese and Dutch traders were allowed to trade in Japan, making them the primary importers of sugar into the Japanese market. Leveraging Taiwan's advantageous geographical position, the Dutch East India Company imported a large quantity of Taiwanese sugar (sometimes also sugar from other regions) into Japan to make a profit(see Figure 5).

Figure 5: Amount of Taiwanese Sugar Shipped to Japan from 1631 to 1659



During this period, the quantity of sugar imported into Japan by the Dutch East India Company was not as large as that imported by merchants from mainland China. However, an analysis of Figure 5 clearly shows that between 1631 and 1659, a total of 16,288,351.58 pounds of sugar was imported into Japan. Sugar prices in the Japanese market were also very high, resulting in significant profits. This explains why the Dutch exported large quantities of sugar into Japan. They purchased sugar at low prices in mainland China and then sold it at high prices in Japan, thus making substantial profits.

In addition to selling sugar to Japan and Persia, the Dutch also sold Taiwanese sugar to mainland China, as mainland China also became one of the markets for the Dutch East India Company's

sugar trade. According to records, in 1658, there were shipments of 5,300 dan of brown sugar and 8,000 dan of granulated sugar to mainland China.(Cheng Shaogang, 2000)

The Price of Sugar in the European Market

After 1635, with the pacification of coastal pirate forces in Fujian, the coastal areas regained their tranquility, allowing the Dutch East India Company to once again purchase mainland Chinese sugar and engage in other trades. On the Taiwan front, the severely damaged Dutch recognized the importance of managing the island of Taiwan. They took various measures and initiatives to encourage the development of sugarcane cultivation and sugar production on the island, making Taiwan one of the



world's primary sugar-producing regions. In terms of the market, spurred by the promotion of new beverages like tea, coffee, and chocolate, the demand for sugar in Europe reached unprecedented levels. With their keen market judgment, the Dutch seized the opportunity to expand into the European market at the right time. In 1632, the surrender of Nats to the Japanese by the Governor-General of Batavia alleviated Japanese grievances, leading to the resumption of Dutch-Japanese trade that had once been halted, and the sugar trade in the Japanese

market continued to expand.

Similarly, as the demand for sugar in the Persian market grew, the Dutch continuously exported sugar into Persia to gain substantial profits. Therefore, during this period, the Dutch East India Company's sugar trade flourished. With the Dutch occupying Taiwan and developing it into the primary sugar supply center for the Dutch East India Company, the Dutch continuously expanded their market and sold refined sugar to gain immense profits.

Table 3: Amount of Sugar Transported from Taiwan to Europe by the Dutch East India Company 17th century

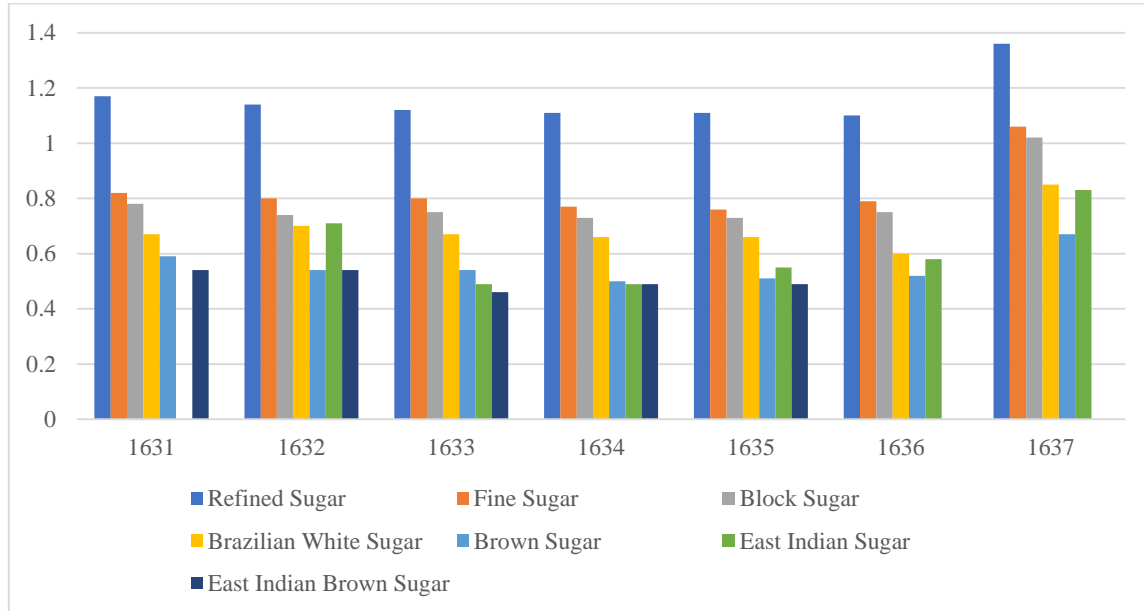
Year	Quantity(Unit: Jin)	Types	Vessel Number	Source
1645	1,108,500	Sugar	None	Batavia City Diary (II) p.359
1647	226,462.5	Sugar · Rock sugar	Roijterschip den Swarten Beer	Batavia City Diary (II) p.109
1648	340,857 units of sugar	Sugar	Roijterschip de Jufferouw and Roijterschip den. Os	Batavia City Diary (II) p.115, p.116
1653	Large quantity of sugar for ballast	Sugar	SchipGillont Jen	Batavia City Diary (II) p.116
1657	84,000	Sugar	RoijterschipBreuckelen; Yacht Hercules, Bloemenda el, de Wachter; RoijterschipGroeneMolen, Emeloort totaling 6 ships	Batavia City Diary (II) p.151
1658	330,000	Sugar	None	Colonial Archives, No. 1118
1659	81,600	Sugar	RoijterschipBreuekelen	Batavia City Diary (II) p.184, p.185
1661	245,293	Sugar	SloepDolphen	Batavia City Diary (II) p.189

As shown in Table 3, being the main sugar supply center for the Dutch East India Company, a large amount of Taiwanese sugar was transported to the Netherlands by the Dutch East India Company. In the early stages of Dutch occupation of Taiwan, there was no significant sugar cane planting or sugar

manufacturing industry, resulting in very limited sugar exports from Taiwan. During this period, the Dutch East India Company mainly relied on purchasing sugar from mainland China, as well as acquiring sugar from other places like Bengal, Banten, and Siam to meet market demands.



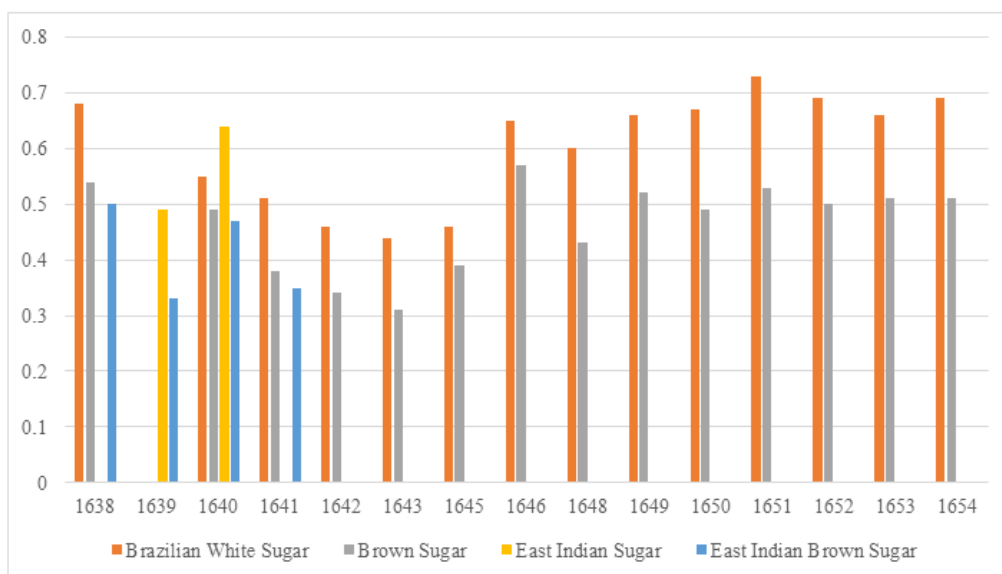
Figure6: the Sugar Price Listed in Amsterdam from 1631 to 1637



As shown in Figure 6, the upward trend in European sugar prices that began in the late 1620s and early 1630s continued into the 1640s. With the recovery of the Brazilian sugar industry, Brazilian sugar reappeared in significant quantities in the European market in 1641. The influx of large amounts of Brazilian sugar in 1641 led to a sharp decline in European sugar prices. As shown in Figure

7, the price of sugar continued to decline until 1645. However, after 1646, sugar prices experienced a significant increase once again. The Heeren 17 once again requested the importation of large quantities of sugar, with the Dutch requiring substantial amounts of sugar from mainland China and Taiwan, as well as Batavia and Bengal sugar being in demand.

Figure 7: the Sugar Price Listed in Amsterdam from 1638 to 1654





During this period, as the demand for sugar in Europe increased, a large quantity of Taiwanese sugar was transported to the Netherlands by the Dutch East India Company and then further distributed to other regions of Europe through Amsterdam. Taiwan served as a center for sugar supply for the Dutch, with sugar trade predominantly sourced from Taiwan Sugar Corporation. However, sugar was also purchased from mainland China, Bengal, Batavia, and Siam for resale. Due to quality issues, sugar transported from places like Bengal and Banda made up only a very small portion. The sugar prices in the European market continued to rise, experiencing two prosperous periods from 1637 to 1642 and from 1645 to 1655. Through the European market, the Dutch East India Company gained enormous profits.

V. CONCLUSIONS

Since the establishment of the Dutch East India Company in 1602 until the 18th century, sugarcane trade has been an important component of the company's Far East trade. In 1622, the Dutch East India Company transported sugarcane to Europe for the first time, marking the beginning of Dutch sugarcane trade. The rise of sugarcane trade by the Dutch East India Company was driven by the prospect of substantial profits and the vast global market that provided avenues for their trade.

In 1624, the Netherlands occupied Taiwan, marking the beginning of a 38-year-long rule. Initially, Taiwan served as a transit point in the trading activities of the Dutch East India Company, but with the succession of the Ming and Qing dynasties and the rampant activities of maritime pirates, the supply of sugarcane from mainland China was disrupted. During this period, the Dutch developed Taiwan into a center for sugar supply through a series of supportive measures and incentives. Sugarcane produced under the management of the Dutch East India Company primarily came from Taiwan during this nearly 40-year period. The sugar trade of the Dutch East India Company extended across Europe and Asia, with Taiwan emerging as its most important transit hub and primary supply source for sugar trade between Europe and Asia. Taiwan played an extremely crucial role in the global sugar trade supply chain during that time.

REFERENCES

- [1]. Albert Hyma(1942) The Dutch in the Far East : a history of the Dutch commercial and colonial empire. Ann Arbor, Mich. : G. Wahr, 1942.
- [2]. CaiZhenxiang (1991)The Sugarcane Industry of Chinese Expatriates in Batavia from the 17th to the 18th Century. Guangxi Overseas Chinese History, (1), p.50-53.
- [3]. Cao Yonghe(1995)Early History Research of Taiwan.Taipei: Linking Publishing Company Limited.
- [4]. Chen Xuewen (1991)On the Sugarcane Industry in Guangdong, Fujian, and Taiwan during the Ming and Qing Dynasties. Guangdong Social Sciences, (6), p.30-35.
- [5]. Cheng Shaogang(2000)The Dutch in Formosa. Taipei: Linking Publishing Company Limited.
- [6]. ChengShaogang(1992)Sugar Industry in 17th Century China and External Sugar Trade. Research on Chinese Social and Economic History, (2).
- [7]. David Bulbeck (1998) Southeast Asian exports since the 14th century : cloves, pepper, coffee, and sugar. Leiden, Netherlands : KITLV Press, 1998.
- [8]. David William (1961) A primer of Dutch seventeenth century overseas trade. The Hague : M. Nijhoff, .
- [9]. Ellen Deborah Ellis. "An Introduction to the History of Sugar as a Commodity. " Philadelphia : The John C. Winston CO, 1905.
- [10]. Holden Furber (1905) Rival empires of trade in the Orient, 1600-1800. Minneapolis : University of Minnesota Press.
- [11]. Ji Xianlin (1995)The Sugar Issue. Historical Research (1), p.5-23.
- [12]. Kristof Glamann (1958) Dutch-Asiatic trade, 1620-1740. Copenhagen : Danish Science Pr..
- [13]. Li Jinming (1989)Maritime Trade between China and the Netherlands in the Early 17th Century. Journal of Southeast Asian Studies (4), p.1-10.
- [14]. Li Qian (2009) A Study on the Far Eastern Trade of the Dutch East India Company in the 17th Century. Master's Thesis, Zhejiang Normal University.
- [15]. Li Lei(2003) The Development of Taiwan's External Trade Network in the Early to Mid-17th Century: Focusing on the Trade Operated by the Dutch Anping Factory, Research in Chinese Social and Economic History, (1).
- [16]. Li Yi (2012)Research on the Sugar Trade of the Dutch East India Company from 1602 to 1702. Master's Thesis, Zhejiang Normal University.



-
- [17]. MazumdarSucheta(1998) Sugar and society in China : peasants, technology, and the world market. Cambridge, MA: Harvard University Asia Center.
- [18]. RuanSihua (2004)Development of Sugar Industry in Taiwan during the Qing Dynasty. Journal of South China Agricultural University (2), p.144-150.
- [19]. Taiwan Bank Economic Research Office (1933) Taiwan's Economic Primer, Agriculture in Taiwan during the Dutch Colonial Period.
- [20]. Yang Yanjie (2000) A History of Dutch Rule in Taiwan.Taipei: Linking Publishing Company Limited.
- [21]. Zhou Zhengqing (2004)The Export Destination of Sugarcane in China during the Ming and Qing Dynasties. Journal of Guangxi Normal University (4), Philosophy and Social Science Edition, p.129-132.