Technology Diffusion and Catch-up to Civilization

: The Political Economic Approach to the Global Porcelain Market in the 17th century*

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Abstract

This paper examines how Japan quickly rose as a new supplier of high-quality porcelain in the 17th century. Jingdezhen and other Chinese kilns had maintained a solid position as the only exporter of high-quality porcelains until the appearance of Japanese Arita-Imari porcelain. Although some kilns in Korea (Joseon Dynasty) and Southeast Asian countries were also able to produce popularly traded porcelain such as blue-and-white, Japanese commodities were highly valued by importers, especially European merchants and nobles who were emerging consumers. This phenomenon has so far been studied mainly from archeological, artistic and economic historical perspectives. In this paper, I offer a new interpretation of this historical event as reflecting East Asian’s political economic transformation in the context of the Ming-Qing transition in China and the global East-West encounter. This juncture between the Chinese monopoly on high-quality porcelain exports and global supply diversification will show that technology diffusion achieved through the violent Japanese Invasion of Korea in 1592 was a key factor in Japan’s success on high-quality porcelain production. It should not be underestimated that even in the early modern era, technology and skilled labor were major resources for achieving added-value and economic wealth. Also, my analysis will demonstrate that the involvement of the state in high-tech goods markets like that of porcelain is a reflection of a country’s level of civilization.

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I. Introduction

In the early modern era, porcelain products were not only cultural art works or luxuries, but also the most advanced technology-intensive goods. Commonly, anyone belonging to the upper class who desired to consume and enjoy luxuries as status symbols demanded Chinese porcelain as the most valuable goods. Until the seventeenth century, high-quality porcelains were produced only in a small number of kilns in East Asian countries such as China, Korea, and Vietnam. Of course, comparatively low-quality pottery, stoneware and earthenware were produced in various forms and designs, and consumed as cultural symbols all over the world. But high-quality porcelains could not be possessed easily because of their limited production and distribution, which were closely linked to barriers to high-level technology. For high-quality porcelain, fine production factors, like kaolin, dyestuff, firewood, and technologies for purification, burnability, designing had to be combined well. Chinese potters had already developed those technologies around the ninth to tenth century, and the skills were spread slowly over several centuries by exports and potters’ emigration. Jingdezhen and other Chinese kilns had maintained a solid position as the only exporter of high-quality porcelains until the appearance of Arita-Imari porcelain.¹

Of special interest is that although some kilns in Korea (Joseon Dynasty) and Southeast Asian countries were also able to produce popularly traded porcelain such as blue-and-white, Japanese commodities were valued highly by importers, especially European merchants and nobles who were emerging consumers. This change in the porcelain industry was coupled with an expanding international trade market. The Dutch East India Company (Vereenigde Oost-Indische Compagnie, VOC) explored eastern sea routes and established regular lines, including permanent trading posts in Bantam, West Java and Batavia (current Jakarta), and other places in Southeast Asia. Through the VOC’s trading network, goods and people migrated West to East, and East to West. Dejima, one of the trading posts in Nagasaki, Japan, was the unique but stable channel for Japanese-Dutch interactions. It was an unusual trading post in that it allowed access to just one country, the Netherlands, although Japan generally had a closed-door policy to the West. Arita-Imari porcelains were exported through Dutch trade routes, and quickly appealed to the European market. Even though Japan exported far less porcelain than China, after just a few decades Chinese potters began to imitate the Japanese polychrome style, in what became widely known as Chinese Imari.

¹ Arita-Imari porcelain is a collective term for Japanese porcelains which were produced around the Kyushu area, including Arita, Imari, Hagi, Hirado, Karatsu, Saga, Sasebo, etc in the seventeenth century. There were various types of porcelains and potteries, but the main export goods were the blue-and-white and polychrome.
This historical description is commonly provided by existing research focusing on the history of porcelain. Porcelain has received much attention in the archeology, art history and economic history fields. The best-known source in English on this subject is Robert Finlay’s monograph. Finlay(1998; 2010) offers time-series explanation on the history of global porcelain by taking a closer look at the creation, rise and decline of Chinese porcelain. It is useful to understand the history of events, but this does not provide an analysis on how Japanese porcelain managed to rise temporarily in the global trade market within the political and economic context of the 17th century. In other words, a historical account only explains how the porcelain industry had changed, but not why those changes occurred and what factors brought them about. Other studies that approach porcelain from a global history or commerce and trade history standpoint also present only partial explanations from the exchange and distribution perspectives, but not production (Volker 1971; Lim 2011; Gunn 2011). With respect to production, there have been significant individual studies on Chinese and Japanese ceramics, but they pay little attention to the international political economic context of the seventeenth century. In sum, to date, relatively little literature is available to provide a comprehensive analysis of the transformation of international porcelain industry and market.

This paper attempts to examine the political economic mechanism that changed the global porcelain market, focusing on how Japan so quickly rose as a new supplier of high-quality porcelain in the seventeenth century. This phenomenon has so far been studied mainly from archeological, artistic and economic historical perspectives. However, in this paper, I offer a new interpretation of this historical event as reflecting East Asian’s political economic transformation in the context of the Ming-Qing transition in China and the global East-West encounter. This juncture between the Chinese monopoly on high-quality porcelain exports and global supply diversification will show that technology diffusion achieved through the violent Japanese Invasion of Korea in 1592 was a key factor in Japan’s success on high-quality porcelain production. It should not be underestimated that even in the early modern era, technology and skilled labor were major resources for achieving added-value and economic wealth.

My analysis will also demonstrate that the involvement of the state in high-tech goods markets like that of porcelain is a reflection of a country’s level of civilization. In other words, the desire of Japan to import and possess high-quality porcelains had evolved to secure related technology and potters, and further innovate its own porcelains. This process did not occur

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2 It cannot be possible that all of researches regarding the history of ceramics are quoted in this paper. Instead, for introducing source in English, Roumaniere(2012) offers a basic sum-up on the birth of the Japanese porcelain, and Schiffer(2000) and Impey, Jörg, and Mason(2009) provide colorful plates of Japanese export porcelain in the seventeenth century.
randomly but aimed to an obvious direction, to “catch-up” to the center of civilization. A typical example was when Japanese potters succeeded in making white porcelain; they imitated Chinese blue-and-white firstly. It should be considered that this cultural and political motivation fueled the appearance and rise of Japanese porcelain.

Briefly, this article will be tracing the mechanisms of the international porcelain industry in the early modern era. In order to understand the nature of the industry, it is necessary to consider not only cultural and economic factors but also the political and technological factors. In the following sections, I will carry out an analysis of how each factor affects the porcelain industry and how it influenced the appearance of Japanese porcelain on the global market. The first chapter shows the importance of the political and policy change toward industry, especially pointing out the effect of the Ming-Qing transition and the closed-door policy. In the next chapter, I pose that technology diffusion with potters’ migration was a key factor for success in the newly-produced white porcelain in Arita, Kyushu in Japan. Although Japanese potters had developed innovative porcelain, it could not succeed in being exported toward the global market without the global trade network provided by VOC. This point will be illustrated in the Chapter 4, and the last chapter will summarize and conclude this discussion.

II. The Effect of Political Fluctuation and Policy Divergence

1. Transformation on porcelain industry coupled with Ming-Qing Transition

In the early modern era, the international porcelain industry was fragmented by each cultural sphere and in East Asia, the Chinese-centric structure was maintained until the 17th and 18th century. Of course, a limited amount of porcelains were exchanged through land and sea trade routes before the seventeenth century, but it could not be traced to the formation of global porcelain market. Rather, intra-trade within East Asia, including between Northeast and Southeast countries, had been activated building on the pursuit of Chinese culture, regarded as the center of civilization at that time. In addition to the demand side, on the supply side, Chinese technology and related systems for porcelain production remained ahead of other Asian countries. From the New Stone Age upward, the Chinese continued to develop and innovate its technology, design, and style of pottery and porcelain. Around the third to sixth century, they Chinese displayed an early stage of celadon and white porcelain, and had increased Chinese porcelain’s reputation as a global trademark. Considering that the well-known Goryeo celadon was invented around the tenth century, China was clearly a leader in the porcelain industry.

*Jingdezhen* (景德镇) have had an important position in the Chinese porcelain industry
since the Yuan Dynasty, specifically after establishing the *Fuliang Porcelain Bureau* (浮梁瓷國) in 1287. Surely, Jingdezhen was one of the main production regions during the Song Dynasty, and in the Song period, there were more than three hundred kilns which would have employed 12,000 skilled workers and equal numbers of unskilled labor forces (Glahn 2016, 247). Also, it had appropriate locations for production and shipment, due to a neighboring thick forest where potters could easily find firewood, a kaolin-producing area, and canal for water transportation. However, it was the first time that an official institution was established. *Fuliang Porcelain Bureau* was the official kiln for offering high-quality porcelain used in the palace. With this as momentum, Jingdezhen was organized as a cluster of porcelain producers centered around the imperial kiln, and blue-and-white from Jingdezhen gained a reputation especially from the Islamic world.

The first that a significant amount of Chinese blue-and-white was imported and introduced by VOC to the European market was in 1602 (Misugi 1992). In that year, the VOC captured a Portuguese ship called San Jago on the Southern Atlantic Ocean and sold its cargo, including Chinese porcelain, by auction. This event proved to be a crucial opportunity for Europeans to exuberate over Chinese blue-and-white. The VOC also went beyond the spice trade, forming itself to be a distributor of Chinese porcelain. The Dutch were not the first to trade porcelain, but there was no one who had exchanged large amounts of porcelain systematically and stably for two centuries. Following the Portuguese and Dutch, the English attempted to import Asian porcelain through the EIC (East India Company). Until the first success to produce white porcelain in Meissen, Germany in the 18th century, the most valuable ceramics were from East Asia, especially China. At this point, in the early 17th century, demand for Chinese porcelain was clearly increased because of market expansion. Already, Northeast Asia including Korea (*Joseon Dynasty*) and Japan (*Edo/Tokugawa period*) as well as Southeast Asia had required Chinese porcelain, and at that time, the European demand was added.

A sharp contrast was drawn between increasing demand and decreasing supply. In 1636, the *Qing Dynasty*, officially the Great Qing, was founded by Hong Taiji (Shunzhi Emperor, 1626-1636), and eight years later (in 1644) the Ming Dynasty had collapsed completely. The chaos during the transition period was triggered by weakening central ruling power, causing great and small violence, such as warfare and rebellion. It directly hit the Jingdezhen facilities, and official kilns were closed until 1654. Even though privately-managed kilns were not destroyed entirely, in the 1620s to the 1630s, a significant decline of Jingdezhen’s production had occurred and skilled potters had scattered. Even after the Qing Dynasty dominated in China, unsolved rebellion destroyed Jingdezhen kilns. Finlay(2010) demonstrates that due to collapse of the Ming Dynasty, domestic demand for Jingdezhen porcelain had decreased, so Jingdezhen “aggressively” attempted to expand the overseas market in order to find new customers (Finaly 2010, 200). However, the quality of porcelain produced in Jingdezhen had already been
declining in both quantity and quality since the reign of the Wanli Emperor (1563-1620). \(^3\)

Besides, because of continuous destruction and political instability, it was not easy to produce porcelain unless skilled laborers were concentrated on the kilns, skilled and unskilled workers collaborated closely, and production factors were supplied stably. Therefore, in the middle and late seventeenth century, there was excess demand instead of excess supply or balance.

At the top of the Chinese porcelain industry, official kilns had provided a standard on shapes, patterns, and design, and therefore, most neighboring privately managed kilns imitated imperial porcelains. The official kiln was the leader of that industry. After the leader, or center, broke, it was natural that other followers found it difficult to keep production systems organized. At this time, the Chinese-monopolistic international porcelain trade market was transformed to a much more decentralized or competitive one. The VOC, a rising major consumer, sought a substitute for Chinese porcelain under the lack of supply, and it chose Japanese. As the following chapter shows, Japan was the second mover on the porcelain production and international porcelain market. Nevertheless, Japanese porcelain seized the opportunity created by the supply-demand gap that led to political instability. How it was able to catch and fill in the gap cannot be explained only by political factors, and will be dealt in Chapters 2 and 3.

2. Closed-door policy of East Asian states and policy divergence

Before examining the question of how Japanese porcelain was able to seize opportunity, we must clarify why Japanese porcelain was chosen. In the seventeenth century, relatively low-quality compared with Chinese but steadily developed porcelains from other Asian areas were scattered. For example, the Korean Peninsula had served as a long-lasting producer following the Chinese since the first half of the tenth century. From the fourteenth century, Vietnam was able to produce blue-and-white and also export it, while holding a lower position and reputation than the Chinese. \(^4\) Considering that the first successful production of white porcelain in Japan was in 1616, the latest mover caught up quite faster than other producers. While the evaluation of the quality and artistry of Japanese porcelain is varied, attention in this paper is directed to international or global trade. From a comparative perspective, one of the interesting points is that two major producers besides China in the Northeast Asia, Korea and Japan, exposed an obvious difference. That is, porcelain produced in the Korean Peninsula and Japan were not much different in quality, but the latter was exported actively in the contrast to the former.

This paper suggests an approach that highlights a comparison on the maritime policy

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\(^3\) 藍浦(1815), “隆萬窯”, 『景德鎮陶錄』(Jingdezhen Taolu).

\(^4\) Regarding Vietnam porcelain, for more information, see National Museum of Korea(2008).
of both states. There was a significant disparity on openness toward cross-cultural interactions between Northeast and Southeast Asia in the early modern era. Haneda (2007) points out that due to relatively decentralized power compared with Northeast Asian monarchies, merchants had to deal only with local city authorities in Southeast Asian port cities. This distinctive feature would allow VOC to occupy by force of arms and establish factories, offices and other facilities for trade. However, it was much more difficult to control violent conflicts against regular armies backed up by relatively centralized powers despite having armed merchant ships. Of course, the geographical proximity would affect attitudes on trade, but it was clear that in the early modern era, commercial practices were distinguished between Northeast and Southeast Asia. Haneda (2009) also argues that basically Canton and Nagasaki, the main gates of China and Japan respectively, were under the state control and anti-foreign sentiments, especially against Westerners, although some differences could be found. Comparing Bandar Abbas in Persia in that time, Nagasaki and Canton were strictly controlled by the state, and even interpreters were employed by official branches, not by merchants (Haneda 2009, 13-22).

In addition, maritime policies were diverged among Northeast Asian countries. Nagasaki and Canton had some similarities, but there was no similar port city on the Korean Peninsula. Of course, Joseon Dynasty had not only a similar port city and transaction place called Waegwan, now Busan, where people did bilateral trade between Japan and Joseon but also served as a trade office for land routes toward China. However, until the nineteenth century, Joseon was isolated globally and had no international port city like Nagasaki or Canton. In other words, Joseon had maintained the most closed or passive maritime policy among the three Northeast Asian states. This condition would affect the establishment of different positions in the global porcelain market. Even though the Joseon Dynasty had official kilns similar to the Chinese and its porcelain had much better quality at first, it had lost, or even ignored opportunity to show its advanced porcelain in the global market.

In contrast, Dejima (出島), in Nagasaki, was an unusual port city. In order to prohibit the spread of Christianity by the Portuguese, Tokugawa Shogunate ordered the construction of an artificial island for isolation between Westerners and Japanese in 1636. It was financed by Nagasaki’s most powerful 25 merchants, and its construction was completed in 1638. Dejima has a fan shape, and its area is 15,395m². Firstly, it was used by Portuguese until all Portuguese were expelled from Japan. The next user was the Netherlands, whose contact with the Japanese started in 1600. In 1609, two Dutch trading ships were permitted commercial activities at Hirado, followed by the British in 1613. But Dutch merchants only had permission after 1635,

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5 All references to Dejima are quoted from the following: Nagasaki City Board of Education (ed), Geoff Neil (translate), DEJIMA, (Nagasaki: Kawaguchi Print Co., Ltd., 2012).
because of their “loyalty” during the Christian rebellion occurred. In other words, from the Japanese view, the Dutch was the qualified party because it did not coerce others to accept religion, but rather combatted rebellion. Based on the closed-door policy, Tokugawa Shogunate had restricted interaction with Western culture, except with the Dutch. This channel enabling communication minimally for Japanese with the outside world could contribute to develop new intellectual groundwork, Rangaku. As compared with intellectuals in Joseon who had been conservatized during the seventeenth to eighteenth century, Japanese were preparing for political reformation symbolized by the Meiji Restoration. Of course, regarding the global porcelain trade, Japanese had a stable route thanks to its linkage with VOC.

III. Desire from Imitation to Innovation: Technology Diffusion and Catch-up

1. Technology diffusion driven by violent political interaction

To successfully fill the vacuum of porcelain supply, the Japanese were able to provide high-quality and desirable porcelain which suited consumers’ tastes. There is no evidence to prove that the Japanese aimed to export porcelain intentionally and strategically when they first began production. However, according to Arika Ota’s research, it is possible to detect strategic porcelain production for gaining profits from trade in the Kyushu area in the 18th century (Ota 2017). It defines the porcelain industry as a leading sector on industrialization in Japan during the eighteenth century, and argues that central-local relations and relationships among local authorities, producers and distribution dealers provide important implications about Japanese early modernization. Nevertheless, this argument cannot be inferred directly as the first motivation for porcelain production in Japan. Rather, a wide-spread desire to enjoy tea among Japanese upper-class people was much more effective at first, as the following section shows.

Before discussing the motivation behind self-production of high-quality porcelain, the technology factor should be considered as important background on porcelain production. Even if one had strong motivation to self-produce rather than import porcelains, high-level technology had to be possessed as well as fine quality raw materials. Around the Asian region, the technology needed to make high-quality porcelain had been diffused from China to other countries, from the center to the periphery. Not only the Japanese, but other kilns had preferentially transferred technology through Chinese potters.6 According to archeological

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6 In case of Korea, intermittent inflow of Chinese potters had affected to the development of Korean porcelain since around tenth century. For more information, see National Institute of Korean History(2010); Bang(2012).
evidence, if a heterogeneous historic kiln site were unearthed, it would be inferred that some changes arose, such as the injection of new knowledge or skilled labor. In the early modern era, technology transfers did not occur as they do today. In the twenty-first century, much more data, information and knowledge flows through various communication tools such as the internet, social media, and mobile, as well as medium in print. Still, tacit knowledge and know-how embodied in skilled workers is needed to direct movement of person when it would be transferred. The later formation of transfer was in general in the seventeenth century, and this was applied in the porcelain industry.

Especially in the porcelain industry, a skilled master would only be trained by an apprentice system. An apprentice education and training system is a definite example of technology transfer by person-to-person based on migration. Michael Dillon(1978) pointed out that technology advancement in the Ming Dynasty was not driven by innovation but stuck to tradition, analyzing Jingdezhen as an industrial center of Ming. With this feature, “local buzz and global pipeline” model provided implication on technology diffusion observed in pre-industrial era. An atmosphere inside a cluster is called “local buzz”, and a network or channel which injects new knowledge or technology from outside that cluster was called a “global pipeline.” In order for one industrial cluster to acquire competitiveness, technology and knowledge, especially tacit ones, needed to be exchanged actively inside each cluster, and innovation with creative ideas had to be encouraged. If local buzz has been developed this way, it would contribute to innovation. However, simply having knowledge and technology from existing members could not overcome the limitations of innovation. Therefore, new sources from outside would be required, and the role of a gatekeeper who links the global pipeline to his/her cluster was important (Bathelt, Malmber, and Maskell 2004, 31-56).

The above model may not be appropriate to explain how any one technology was created the very first time, but can show how disconnected clusters absorb a personal, intellectual, and technological impetus. In other words, it could be shown that geographically isolated clusters had been developed by linkage with global pipelines and by analyzing followers’ catch-up processes. One point which should be adjusted is that the global pipeline was not maintained as a virtual network but as people who acted as new sources outside immigration in the real world in the early modern era. Due to this feature, before the modern information revolution, technology diffusion, transfer, or exchange could not last persistently but was discontinued, even one-shot. Therefore, what should be noted are two points: One is that early modern industry’s innovation may not have occurred only based on existing sources, but needed fresh sources from outside. The other important point is how outside sources are injected or absorbed.

Comparing with the processes of other technology diffusion in the porcelain industry in the early modern era, the Japanese case was distinctive because it was driven by two wars,
the Japanese Invasion of Korea in 1592 and 1597, called *Imjinwaeran* and *Jeongyujaeran* in Korean. There is little evidence that shows the immigration potters from China to other countries, but organized and violent forced migration of potters like in the Japanese case was beyond doubt. Although there is no consensus about Korean potters’ voluntariness on migration from Joseon to Japan between Korean and Japanese academia, it was true that hundreds to tens of thousands of potters moved to Japan.⁷

*Figure 1.* The simplified networks on movement of Korean potters to Japan⁸

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⁷ There is no consensus on the number of how many Korean potters had migrated to Japan during the warfare among Korean and Japanese scholars.

⁸ This figure is recomposited by author based on various sources following, and drawn by UCINET and NetDraw. The blue-square nodes symbolize Korean cities and red-circles are Japanese cities. The arrows show the path of movement, and its thickness means frequency of each path. Also, the nodes are rearranged based on geographical proximity in real world. Used sources are below: No(2009; 2010a; 2010b; 2010c; 2014); Lee(2011); Cho(2016); Kurokami(2016).
he or she was from and had continued ceramic manufacturing among potters forced to move to Japan. According to it, there are three features: First, overall movement were unidirectional, from Joseon to Japan, and spread inside Japan. Second, locations of settlement were accompanied with starting points. This results from how Korean potters moved to Japan. During wartime, Japanese generals had gathered or captured Korean potters neighboring their military camp posts and routes, and they forcibly settled Korean potters in their own territories. It was clearly true that Toyotomi Hideyoshi ordered to bring masters, workers, and craftsmen, but the process in Joseon might not be controlled under the centralized system. This is evidence on the decentralized characteristic of Japanese porcelain industry, and each local influence attempted to boost porcelain industry for economic as well as cultural prestige.

Figure 2. The rearranged networks on movement of Korean Potters to Japan

In addition, the last point is that Arita and Imari may have played an essential role on the Japanese porcelain industry in early seventeenth century. Figure 2 is drawn by same data

9 There remains the written record on Toyotomi Hideyoshi’s order to Nabeshima Naoshige in Tenshukaku, Osaka Castle, Osaka, Japan.
but arranged for emphasis on flow. Arita and Imari absorbed potters not only directly from Korea but also indirectly from other Japanese cities. This result bears a clear resemblance to historical events. Factually, Japanese white porcelain was begun by Yi Sam-pyeong (李參平, Kanegae Sanbee, in Japanese), one of the potters from Korea, captured by Nabesima Naoshige who took part in the Japanese invasion as general. Yi Sam-pyeong founded kaolin at Izmiyama, Arita, and succeeded in producing white porcelain in 1616. It was the first time that the Japanese self-produced porcelain using Japanese raw materials. After he died, the Japanese apotheosized him as the “God of Porcelain.” If it had not been for his manufacturing, the Japanese could not have developed its own porcelain industry. No doubt, migration of Korean potters and technology diffusion by them was a critical factor in emerging Japanese porcelain.

2. Imitation to Innovation led by cultural exchange

As has been noted above, the desire to possess high-quality porcelain was mostly a lagging indicator which presented how much tea culture was enjoyed, and further symbolized high-level culture within a society. In other words, increasing and spatially-spread demand of Chinese porcelain was supported by cultural exchange. Before full-fledged porcelain production, enjoying tea had been rooted first, and demand on tea cups, pots and other related tools had increased later, or even simultaneously. Tea ceremony consists of tools which would be used as well as attitude, manners, and way of brewing and drinking tea. After the middle of the fifteenth century, the tea ceremony had been spread widely and had been popular, followed by an increase in demand on porcelain much more than before. This point comprised in-depth motivation on self-production porcelain for tea-things, equipping the Japanese to become more “civilized.”

To be exact, the meaning of porcelain combined with tea ceremony was a cultural as well as socio-economic “distinction” between someone who could enjoy high-level culture and be civilized and someone who could not. Porcelains were a sort of positional good. Consumption and consuming practice has involved relational context under the social hierarchical structure, not just expressed rational choice (Trentmann 2016, 1-18). The reason for attention to emerging Japanese porcelain is that before the seventeenth century, Japan had stood on the border where Chinese-centric civilization had stretched, even though Japanese longed for Chinese culture. In the early modern era, Japanese collectively called luxuries from foreign culture as “Karamono(唐物)”. Karamono means literally “the goods from Tang Dynasty”, but practically high-quality imported goods regardless of their real origin.

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10 For more information on porcelain industry of Arita, Japan, see 有田町歴史編纂委員会(1985-88).
This example shows that Japanese perceived Chinese culture as a center of civilization. An accumulated desire to be at the center of civilization had evolved to action, so Japanese upper-class people aimed to achieve production to satisfy demand for porcelain.

Especially interesting from this point of view, several questions remain unsolved. First, why had the Japanese captured Korean potters instead of Chinese? It is inferred from the fact that around the late sixteenth century, Samurai and upper-class in Japan, especially Toyotomi Hideyoshi, preferred to Korean porcelain called “Itochawan(井戸茶碗)” due to being influenced by Senno Rickyu(千利休) who sought to simple and calm tea ceremony conceptualized “Wabi(侘び)”. Based on his concept, Chinese porcelains were not suitable because they were too fancy and colorful. Consequently, it was not strange that the Japanese wanted skilled Korean potters. But another question arises at this point concerning the style of Japanese export porcelain. At the beginning, the motivation of forced migration aimed to produce restrained porcelain, but the result was a little bit different. Even though some kilns have produced porcelains alike Itochawan style, most kilns in Kyushu imitated Chinese porcelain, such as blue-and-white and polychrome. There needs much more evidence, but the clear point is that Itochawan style was not standard in the global porcelain trade market in the seventeenth century.  

Chinese blue-and-white had taken primacy on the global market since the Yuan Dynasty. Among Japanese export porcelains, a unique style came into the spotlight. “Kakiemon (柿右衛門)” or “Ko-Imari(古伊万里)” style, the first Japanese polychrome porcelain, emerged in 1640s to 1650s. It was created by a combination of Korean technology regarding white porcelain and Chinese overglaze skill, whose motive came from colorful ceramics in Ming Dynasty. Overglazed with vivid red and gold, Kakiemon porcelain drew a distinction from blue-and-white. Europeans especially were fascinated, and VOC started to import Japanese porcelain actively. After Japanese porcelain swept all around Europe, and Jingdezhen reopened and supplied porcelain stably again, European consumer ordered polychromes like Japanese even from Chinese kilns. As a result, Chinese potters and merchants had to match demand and created Chinese Imari in the eighteenth century. Beginning with desire to catch up to civilization, Japanese potters achieved innovation beyond imitation, which displayed new style through combining well each Asian porcelain’s strength.

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11 Korean potters had been able to produce blue-and-white since fifteenth century before two wars, called Japanese Invasion in 1592 and 1597. Korean blue-and-white was not that much produced comparing Chinese, but Itochawan style porcelain was not strategic exports goods as well as the highest quality porcelain in Korea, either. For more information, see National Museum of Korea(2014).
IV. The Essential Role of VOC on Global Market Expansion

In the following, this paper will examine distribution and circulation followed by an analysis from the production side. Around the seventeenth century, there were major changes in global trade. One is a shift on major trade routes from land to sea. Eurasian land trade symbolized by the “Silk Road” had a long history and had already reached its peak in the Tang Dynasty. However, advanced long-distance navigation and the development of enduring ships had driven European to use sea routes bypassing the Islamic lands. By vessels, merchants could convey more quantities with relatively less damage. The other is that European exploration toward India since the fifteenth century had transformed to a regular voyage combined with commerce. With long-distance sailing, many more commodities and people could travel across the continents. That is, intra-trade and global trade could be combined with each other, backed up by East India companies. Those had served and promoted the formation of a larger global market.

For the global porcelain market, East India companies took on a decisive role for exporting Asian porcelain to European market. Especially, the VOC had been the first mover on Asian porcelain exports since the early seventeenth century. Truly, East India companies including the VOC aimed not only to import porcelain; rather, they were much more interested in the spice trade. Portuguese and Dutch merchants broke trade customs in the Indian Ocean and had occupied port cities for enormous profits from Asian products, particularly spices by monopolized trade (Haneda 2007). Even if the original intention was so, Dutch merchants realized that Chinese porcelain could guarantee huge profits from the experience of a first auction in 1602. At that time, the Portuguese stepped back from Asian trade, so Dutch merchants had the opportunity to hold a lead over trade with the Asian countries. The VOC had secured a monopolistic status on trade with Japanese, although the English as a second mover were excluded. Apparently, the VOC had played an essential role on the global trade in the seventeenth century.

Specifically, the VOC had transported not only commodities but also people. In Haneda’s argument, from 1602 to 1700, 320,800 people traveled from Europe to Asia, via the Indian Ocean by the VOC’s ships, and 114,400 people traveled vice versa (Haneda 2007). The two-thirds gap between the two directions was thought to be caused by deaths during the voyage, or while working in Asia. There is no decisive evidence to infer as following, but considering that the company operated factories, offices, and other facilities in Asian cities, the missing numbers of people might have settled for a time or lifetime. This explosively increased

12 In seventeenth century, approximately 70% of Asia-Europe trade was comprised of spices transaction.
human exchange had contributed to promote an early stage of globalization and cultural assimilation as well as to keep the global market developing gradually. Frankly speaking, the global porcelain trade market was one of the important examples which involves multi-layered implications regarding international or global phenomenon.

Figure 3 shows how the VOC had established a global trade network based on its voyage record. From 1595 to 1700, there were 4,742 sailings whose record of the out-port and destination could be found. In Figure 3, Bantam and Batavia (current Jakarta) were central nodes of Asia, and Texel had the heaviest traffic. Also, considerable port cities around the Indian Ocean, Pacific Ocean and Atlantic Ocean were connected by the VOC’s ships. Considering middle stopovers and additional activities around destinations additionally, the network would be enlarged. Further research should be directed at reviewing annexed description on data used on Figure 3.

Figure 3. Simplified trade network between port cities connected by VOC, 1593-1700

One more point which should be examined is that the VOC had placed orders of porcelains suited to European tastes as well as just buying ready-made orders. Volker(1971)

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presents specific ordering from VOC to Japan. As mentioned above, after the 1640s and 1650s, Japanese porcelains were exported regularly including blue-and-white and polychrome white porcelains. According to preceding research, it is estimated that the Kakiemon or Ko-Imari style was invented not by the Dutch’s orders but Japanese themselves first. Documents of Sakaita (酒井田家)’s family recorded that a merchant of Imari learned overglaze techniques from Chinese merchant paid ten silver coins in Nagasaki (Watanabe 2013, 252). After improvement, the merchant could have started to sell overglazed polychrome porcelain to the daimyo of Kaga (加賀, current Kanazawa) as well as Dutch and Chinese merchants since 1647. As it turns out so far, Dutch merchants were directly involved in the birth of unique style of porcelain, but they contributed by introducing it to European market and continuing to order, promoting production. Based on Volker’s research, overglazed polychrome white porcelain decorated with vivid red and gold satisfied only European tastes. In 1670, Persia informed to Dejima, Japan, that it did not desire red color porcelain (Volker 1971, 176). If it were not VOC’s global trade network, Kakiemon style would not have gained a reputation because the Islamic world did not import and introduce it to the rest of the world.

### Table 1. East Asian porcelain trade status in the seventeenth century, 1602-1682

<table>
<thead>
<tr>
<th></th>
<th>Chinses porcelain (pieces)</th>
<th>Japanese porcelain (pieces)</th>
<th>Total (pieces)</th>
<th>Annual Average (pieces)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Exported to Europe</td>
<td>Exported to South Seas</td>
<td>Exported to Japan</td>
<td>Exported to Europe</td>
</tr>
<tr>
<td>1602-29</td>
<td>495,747</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>495,747</td>
</tr>
<tr>
<td>1630-40</td>
<td>1,040,488</td>
<td>2,470,247</td>
<td>936,565</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4,447,300</td>
</tr>
<tr>
<td>1641-58</td>
<td>170,933</td>
<td>1,308,054</td>
<td>411,375</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1,890,362</td>
</tr>
<tr>
<td>1659-66</td>
<td>-</td>
<td>73,132</td>
<td>12,811</td>
<td>158,798</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>817,803</td>
</tr>
<tr>
<td>1667-79</td>
<td>-</td>
<td>1,136,155</td>
<td>-</td>
<td>28,457</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2,593,789</td>
</tr>
<tr>
<td>1680-82</td>
<td>10,768</td>
<td>518,520</td>
<td>-</td>
<td>17,005</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>769,339</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>1,717,936</td>
<td>5,506,108</td>
<td>1,360,751</td>
<td>204,260</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td><strong>11,014,340</strong></td>
</tr>
</tbody>
</table>

Source: Ho (1994), pp.50-61, *edited by author*

In sum, the global trade network provided by Dutch merchants was one of the important factors to complete the Asian porcelain industry transformation. Also, new suppliers and distributors had emerged on the global porcelain trade market in the seventeenth century and

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14 Beware of that it does not include every annual record for every ship. The annual average is counted based on each period of column not considering absent annual data.
the global trade market was enlarged. Table 1 shows roughly the status of the East Asian porcelain trade in the seventeenth century. There is no accurate and universally accepted statistic on the amount, price, and value of trade in porcelain, but it can be found from the following table that overall trade had become active. Especially, Japanese porcelain had been sold by Chinese and Dutch merchants from Nagasaki to Southeast Asia, and many of them had been reshipped to Europe and Persian Gulf since late 1650s (Ho 1994, 43). Of course, a sharp decline was observed between 1641 and 1966, but trade had begun to recover after the late 1660s. The period of decline coincided with the destruction and closure of Jingdezhen kilns, and the records show problems in trade business. If it were not for the inflow of Japanese porcelain, a much deeper decline would be occurred at that time. In addition, indirect trade passing through the South Seas including through Batavia, Formosa, Surat, and Siem was much larger than direct trade from China and Japan to Europe. It implies that Southeast Asian port cities used by the VOC were key interchanges or mediators of global porcelain trade network in the seventeenth century.

V. Conclusion

This paper explains that the sudden appearance of Japanese porcelain on the global trade market was not just due to historical coincidence but a combination of four factors, political change, technology diffusion, cultural desire, and market expansion. As the study has shown, the main purpose of this article has been to explore which factors affected and how each factor interacted on the transformation of the East Asian porcelain trade and the global porcelain market. Proceeding researches were mostly focused on individual factors based on each academic discipline. For example, research achievements of art history focused on the process of porcelain development as well as analyzing what and how a new style of porcelain had emerged. In economic history, the main point of research was where, how much and by whom trade had been done. However, to provide an exact overview of the change in the situation, political dimension should be emphasis, and the political change factor could not be distinguished from other factors. In other words, those factors are combined tightly by the medium of politics.

Specifically, on the supply side, the emergence of Japan as a new supplier of high-quality porcelain resulted from a political event, the Japanese Invasion of Korea from 1592 to 1598. During this violent interaction between Korea and Japan, hundreds to tens of thousands of Korean potters had migrated from Joseon to Japan mostly as captives. Due to these potters, the Japanese were able to succeed in producing high-quality white porcelain which were major
trade goods in the seventeenth century. In addition, the solid position of Chinese porcelain on the trade market was cracked because of political instability under the situation of the Ming-Qing transition. *Jingdezhen*, the main Chinese porcelain industry complex, was destroyed by rebellions and kilns were closed until the *Qing Dynasty* achieved domestic stability. Both quantity and quality of porcelain production and export goods declined seriously when political instability had intensified, especially in the 1640s. This circumstance provided an opportunity for Japan to seize the cleavage on Chinese porcelain supply.

Meanwhile, on the demand side, a new market emerged for the Asian porcelain. Based on the overseas expansion of East India companies, especially VOC, many more consumers desired to possess East Asian porcelain. However, Dutch merchants had to find substitution because of instability in Chinese porcelain supply. Even though other East Asian countries, that is Korea, could produce high-quality porcelain, Japanese porcelains were much easily accessed by foreign merchants through selectively opened port cities. But Joseon had no open port city for Westerners. This difference and divergence on maritime policy affected as a crucial factor to which porcelain could export globally. Also, this is the reason that *Dejima* and Japanese selective closed-door policy should receive attention.

Moreover, the motivation to produce porcelain itself, not export, lied in enjoying culture which symbolized high-level political and socio-economic status. In the early modern era of East Asia, this motivation had worked not only inside one nation but also internationally due to accumulated cultural exchange among nations. The desire to approach closely and assimilate with civilization was the basis of porcelain possession and had a fundamentally political feature. The Japanese had yearned for Chinese culture as a standard of civilization of East Asia for a long time. More direct motivation on porcelain for Japanese was related to the tea ceremony, but it also came and imitated from Chinese culture. The Japanese intention to catch-up to civilization should not be underestimated for explaining a sudden appearance of Japanese porcelain as a second mover. It implies that cultural motivation could take an important role on the international politics of early modern East Asia.
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