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The effects of the unequal treaties on normative, economic and institutional changes in 19th century Japan

By

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Abstract

Japan's mid 19th century transition from 200 years of self-imposed autarky to open trade is the main success story of East Asian integration into the world economy during the first wave of globalization (1850-1914). This article reviews the economic, institutional and normative changes within Japan that were triggered by the unequal treaties following Admiral Perry's arrival in 1853. These changes were instrumental for Japan's industrial success and catching up with the western powers on economic and military terms by the eve of World War I. We argue that Japan provides an interesting case study of a nation which was able to overcome, what economist Paul Romer has called 'idea gaps' (lack of ideas to produce economic value) and 'object gaps' (lack of factories, physical infrastructure) in the economic development process.

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Keywords: economic and institutional changes in 19th century Japan, unequal treaties.

Outline:

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Non-technical summary

Economic historians consider the time period from 1850 to World War I as the first wave of economic globalization. Major innovations in the transportation sector, like the introduction of the railways and the transition from sailing to steam technology in ocean shipping, facilitated not only an expansion of trade within the industrializing countries in Europe, but led also to an expansion of trading activities between Europe and the Americas and with East Asia.

However no country in the 19th century experienced a more dramatic transition from economic self-sufficiency to open trade than Japan. And no other country in East Asia used the vehicle of 19th century globalization so forcefully to transform itself from a sleepy agrarian society to an economic and political powerhouse in East Asia in less than half a century.

This article reviews the circumstances of Japan's opening up to world commerce at the time of the unequal treaties between the western nations and East Asia.

Our main argument is that Japan's success in catching up with the west has its roots both in the economic development that occurred during the Tokugawa period (1600-1868) and the normative (or value) changes that occurred in the transition years between Admiral Perry's arrival in 1853 and the beginning of the Meiji period in 1868. We argue that Japan provides an interesting case study of a nation which was able to overcome, what economist Paul Romer calls 'idea gaps' (lack of ideas to produce economic value) and 'object gaps' (lack of factories, physical infrastructure) in the economic development process

1. Introduction

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2. Early trade, closure and economic development in the Tokugawa period

Although it was highly risky to cross the ocean to reach the Chinese continent, trade existed between Japan and continental Asia until the late seventeenth century before the country closed itself off from the rest of the world. Japan needed to import raw silk from China. Official trade statistics are not available for this era; however, according to a number of studies based on sample records of traders in the sixteenth and seventeenth century, Japan imported primarily raw silk produced in the Asian continent, and exported minerals such as silver (and later copper), with other miscellaneous goods such as sulphur, handicraft, rice, wheat, and dried seafood.[1]

China had apparently a comparative advantage in the production of silk, in its raw form, as a fabric and as apparel. From a Japanese perspective, it was viewed as a higher quality silk

[1] See Fusaaki (1990), Ginya (1994) and Teijiro (2002).

than domestic production. Japan, on the other hand, was very productive in retrieving silver from their mines and the demand for metal was high in China; predominantly in its function as a medium of exchange. A combination of the reluctance by the Chinese authorities to allow either Chinese or Japanese trade in each other's territory and the risk of the voyages opened up profitable intermediary opportunities for the Portugese.[2] In fact, the Portugese benefitted from a "middleman's paradise" in the Sino-Japanese trade which resulted from carrying Chinese raw silk and textiles to Nagasaki in exchange for taking Japanese silver to China and being compensated handsomely for the riskiness of the voyages.

The Kyushu Island in south western Japan, including the port of Nagasaki, naturally became the 'gateway to Europe'. Through this gateway also came missionaries who became quite successful in converting locals to the Catholic faith. Saint Francis Xavier and his Jesuits were quite impressed by the islanders judging them to be "..*the best people so far discovered and it seems to me that among unbelievers no people can be found to excel them".* (Sansom, 1973, p. 115). The feudal lords, or the *daimyos*, in the Kyushu Island were interested in Christianity and some of them were converted. The influential daimyos in the main island were also curious and interested in meeting with the Christian missionaries and learning from them about the West.

The early encounters with the west occurred during an era of civil wars amongst feudal lords which were fuelled by western weapons made accessible through trade. Ieyasu Tokugawa (1542-1616) put an end to the civil unrest, united the country and became the founding shogun of the *Tokugawa period* (1600-1868). The shogun was initially neutral to the westerners and Christian missionaries in Japan. However, the rebellion that broke out in 1637 against Tokugawa’s new feudal regime which imposed a high tax burden on the commoners, made Tokugawa change course. Since the rebellion was lead by local Christians, Tokugawa banned Christianity, and decided on the closure of Japan, or the *sakoku.*[3]

Japan's period of seclusion began formally in 1639 when all contact between the Japanese and outsiders, including trade, was forbidden. The period of seclusion coincided with a long era of internal peace and political stability, both a hallmark of the Tokugawa period. Peace and good governance enabled the economy to roughly double in population- from about 15 to 30 million. At the time of the seclusion, markets existed only in a limited number of towns and farmers

[2] Japan’s first encounter with the Europeans took place in the southern islands of Japan in 1549 when a storm accidentally caused a ship from Portugal to land. Spanish ships arrived soon after.
[3] *Sakoku* stands for 'closed country'.

traded in markets held every five to ten days in the countryside. By the 1820s, Japan had well-developed economic institutions like large money exchangers (pre-modern banks) and the world's first futures market for rice. Edo (Tokyo) grew from a small group of fishing villages in 1590 to a city of over a million by 1720.

The general ban on foreign trade resulted in a loss of gains from trade and a slowing of technological progress. The technological progress which took place involved refinements of production techniques (in mining, smelting and refining) imported from China during the 16th century. Innovations occurred in farm tools and methods, but they did not involve technological macro inventions which were characteristic of the industrial revolution. The self-imposed isolation resulted in a lag of scientific method and knowledge in comparison to the West. The Tokugawa period coincided with the *Great (Technological) Divergence* between East and West.

A consequence of the policy of *sakoku* was that the economy had to rely on interregional trade and local specialization. Regional specialization and interregional trade was facilitated by decentralized government (power was given to the daimyos, or local lords), public investment in infrastructure (building and maintaining of roads, bridges, flood control and irrigation systems) and by providing incentives to commoners to increase production by engaging in market activities.

Tokugawa, however, still left a tiny door open at Deshima, a tiny island in the harbour of Nagasaki which permitted only the Dutch to trade under stringent conditions on the volume and content.[4] As a result, until the mid-nineteenth century, information about the West came solely from Dutch learning and books.

Table 1 provides estimates of import volumes and domestic production of raw silk in years for which data is available. It reveals the decline of raw silk imports (primarily from China) which was accompanied by a substantial increase in domestic production. Being forced to learn how to produce raw silk on its own, rather than relying on Chinese imports, provided the foundation of Japan's export competitiveness after it was forced to fully open its gates to the outside world in the mid 19th century.

[4] A treaty with the Dutch restricted the trade to just one ship per year. The Chinese faced similar restrictions.

Table 1: Source of raw silk used for silk fabric production in Kyoto[5]

Year	Import	Domestic	Import share
until 1683	mostly imported	negligible	close to 100%
from 1715 to 1724	20,000	210,000	8.7%
1747	7,950	400,000	1.9%

Note: Units in kin. (1 kin=600grams)

3. The unequal treaties and the opening up to the West

Although there had been several efforts of engagement with the Japanese outside the Nagasaki trading post, it was left to the United States to take the initiative of opening up Japan. US interest in Japan arose primarily from the emerging maritime traffic between North America and Asia following the opening up of China in the 1840s and the annexation of California in 1850. Rumours of vast Japanese coal deposits to fuel the US steam ships as well as the need of safe harbours for the US whaling industry which started to push into North Pacific waters motivated the breaking of Japan's isolation.

US Commodore Perry's arrival in July 1853 at Uraga Harbour near Edo (modern Tokyo) with the mission to open up the country under the threat of military action is generally viewed as one of the pivotal moments in Japan's history. To the leaders of the Tokugawa regime, the sight of Perry's coal-powered steam ships, which they later referred to as the 'black ships', made a powerful impression and became a symbol of Western technological progress. This sentiment is captured in a famous poem written by an anonymous Japanese author[6]:

The steam-powered ships
break the halcyon slumber of the Pacific;
a mere four boats are enough
to make us lose sleep at night.

The primary goal of Perry's 1853 mission was to establish diplomatic relationships between the US and Japan. He accomplished this through the Treaty of Peace Amity which was

[5] Produced from information in Teijiro (2002).
[6] Because the poem makes fun of the Tokugawa leaders who were too shocked to respond to Western technological power symbolized by steamships, the author couldn't disclose himself.

signed in March 1854 in Kanagawa. The treaty became famous since it launched the opening up process which ultimately led to the end of the Tokugawa era and the beginning of the Meiji Period in 1868. The period from 1853-1868 is often treated as a black box by economic historians. However this view neglects the transformation of ideals among Japanese leaders which provided the underpinnings for Japan's institutional changes enabling the economy to succeed on a path of successful industrialization. A closer look at the treaties enables us to gain a better grasp of this critical transformation period in Japan's history.

1854 Treaty of Kanagawa

The treaty of Kanagawa was not a commercial treaty since there were initially no strong intentions for commerce. The treaty provided for the opening of two ports in Shimoda and Hakadote, secured supplies of coal and guaranteed Japanese assistance to ship-wrecked US crews. However, an important aspect of the treaty, and why it has later been named one of the unequal treaties, is that it included a unilateral most-favored-nation (MFN) clause. In particular, Article 9 of the Kanagawa Treaty made the following provision:

"*It is agreed, that if at any future day the government of Japan shall grant to any other nation or nations privileges and advantages which are not herein granted to the United States and the citizens thereof, that these same privileges and advantages shall be granted likewise to the United States and citizens thereof, without any consultation or delay*."

The significance of Article 9 is that the MFN clause was *unilateral* in operation, *unlimited* in scope and *unconditional* in operation.[7] Since the still existing seclusion laws prohibited the Japanese from going abroad, the unilateral aspect of the treaty did not raise any concerns on the Japanese side. However, allowing the US to claim any benefits granted to third states put the Japanese into an unfavourable bargaining position in the decades to come. Contrary to 19th century Britain, who was pro free trade and committed to an unconditional MFN regime in its negotiations, the US was a general proponent of an conditional MFN practice in is trading

[7] For a thorough discussion of the importance of the MFN clause in Japan's 19th century international relations see Murase (1976).

relationships with “civilized nations”.[8] However, it did not accommodate conditional clauses in treaties with “uncivilized nations”.

1858 Treaty of Amity and Commerce

Perry launched the diplomatic relationships between Japan and the West, but the matter of trading rights were left to Townsend Harris and his US envoy.[9] The fact that the Treaty of Kanagawa did not include any exceptions for the preferential treatment of the Dutch at Nagasaki was used by Townsend Harris as a leverage for negotiating key elements of the 1858 Treaty of Amity and Commerce between the United States and Japan. The so-called ‘Harris treaty’ provided a model for similar treaties signed by Japan with other foreign countries and curtailed Japanese sovereignty for the first time in its history.[10]

The Harris treaty was of much broader scope than the Kanagawa treaty. Its main provisions included the opening of five trading ports at Edo (Tokyo), Kobe, Nagasaki, Niigata and Yokohama; extraterritorial rights for Westerners, meaning that the Japanese law could not be applied to foreigners in Japan; the opening of markets in Tokyo and Osaka; exchange of domestic and foreign currencies; lack of Japanese tariff autonomy and a unilateral MFN clause.[11]

Transformation of ideals: from ‘sakoku’ to ‘kaikoku’[12]

Conrad Totman, the eminent historian of Japanese history, provides an insightful analysis of the internal tensions and intellectual transformation that took place in Japan between Perry’s arrival in 1853 and the end of the Tokugawa period in 1868.[13] Up to 1853, the prevailing Japanese position could be described as equating *sakoku* (=closed country’) with 'virtue'. Following Perry’s arrival the leadership was initially divided between proponents of the old

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[8] A conditional MFN clause allowed a granting state to bargain for compensatory arrangements with the beneficiary state before extending favours to it. The US conditional MFN practice accommodated protection for its import competing industries.
[9] Following Kanagawa, Japan signed treaties with Great Britain (1854) and Russia (1855) which also both contained unilateral MFN agreements. However, in the former an exception was made to the MFN clause with regard to existing trading relationships with the Chinese and Dutch.
[10] Within five years, Japan signed the same treaty with Britain, France, Netherland, and Russia.
[11] In the course of the negotiations Harris offered MFN treatment of Japanese nationals in the US. However, because of unawareness of the operation and significance of the MFN clause, this offer was rejected by the Japanese negotiators.
[12] *Kaikoku* stands for 'open country'.
[13] See Totman (1980).

Tokugawa order who were advocates of *joi* (=expel the barbarian) and the minority who advocated a change. Totman (1980, p.7) captures the Japanese internal dilemma quite succinctly:

“ *…from the time of Perry until well into the sixties proponents of the treaties could be, and were, vilified as corrupt, spineless men lacking in elemental notions of civilization and honour… Defenders of the treaties were in consequence a lonely and vulnerable group. By contrast those who seized the pro-sakoku banner, especially after the ports opened in 1859, found themselves able to mobilize widespread support even among vassals of the Shogun…a tension between history and value existed. It was a tension between the unavoidableness of the treaties and the virtues of a pre-treaty ideal. Until there emerged a new ideal embracing treaty relations, the tension would persist and proponents of treaties would be under perpetual attack.”*

The pre-treaty ideal was that to embrace *sakoku* as an expression of ethnic virtue, as it protected Japanese character and civilization from barbarian influence. As mentioned above, the economics of trade was initially of negligible concern for the Japanese during the period 1853-1858. The defense of *sakoku* rested on the concern about foreign penetration and residence, in particular foreign access to the Imperial Palace and Shrine territories in the Kinai (Kyoto-Osaka) region. Japanese leaders were willing to engage in trade with foreigners, as long as such trade was conducted by Japanese going abroad rather than foreigners setting up trading posts in Japan. The unavoidableness of the treaties resulted from knowledge about the defeat of China. China always provided a benchmark for Japan and the fact that China was nearly occupied by the West meant that there was little hope of Japan resisting against foreign influence.

Despite wide-spread opposition, the Harris treaty was reluctantly signed to avoid war and with the hope of buying time. Japan opened up to trade officially on July 4, 1859 with the establishment of the port city of Yokohama coming into effect. As the implementation of the Harris treaty resulted in foreign residence in Edo, attention shifted to the prevention of further foreign advances to the Kinai region and the vicinity of the throne. Domestic concern about the Kinai defense led to increased political engagement of all samurai classes and unifying efforts in strengthening domestic defense.

Economic historian Erich Pauer has pointed out that the Japanse defense concerns in the 1860s led to the establishment of reverberatory furnaces aimed to produce iron cannons. Since the establishment of the reverberatory furnace factories involved the first use of factory-like organisational production systems in Japan, Erich Pauer has suggested that Japan's industrial revolution has its roots in this time period.[14]

However, as foreign activities, teaching and learning about the west was increasing in scope, it became more and more clear to the samurai leaders that the trend of 'foreign penetration' could not be stopped. In due course, during 1858-1864 *sakoku* became discredited and was replaced by general support of *kaikoku*. Totman argues that the crucial act of transformation occurred by adopting *kaikoku* as a new Japanese virtue, exemplified by the elegant and influential formulation of the shogun Yoshinobu (Totman, p. 16):

"As I have often reported, world conditions have changed. If you study those conditions closely, both past and present, you find that while there are differences both of territory and of customs among nations, all experience the same process of evolution, all experience alike the span of life from birth to death. In this there is no difference between one and another. All are born of the same womb. Thus to keep faith with one another is to conform to divine justice. Moreover, as an island Japan holds a vital position in the world, in the eyes of both East and West. At this time other countries are making steady progress. Distance is no obstacle to them and they communicate freely with each other. If we alone, at such a time, cling to outworn customs and refrain from international relations of a kind common to all countries, our action will be in conflict with the natural order of things. We will, I think soon find ourselves in great difficulties. Now is our opportunity, therefore, to change this state of affairs....Before many years are out our wealth and strength will be assured, our military prestige will have expanded and increased."

The successs of *kaikoku* can be explained by fundamental organisational and institutional changes. First, was the creation of a emperor-centered polity which changed the emperor from a "*...passive source of political legitimation into an active font of authority*" (Totman, p. 16). Second, was the formation of a modern nation state which merged Confucian administrative principles with western imports as Japan saw it. Critical to the implementation of this agenda was learning from the West and the quest for renegotiating the unequal treaties.

[14] See Pauer (1991).

Japan’s rise and the revision of the unequal treaties

Revisions of the unequal treaties stood at the top agenda of Japan's diplomacy agenda. The first attempt took place in 1878, when foreign minister Munenori Terashima negotiated with the United States to regain Japan’s tariff autonomy. The Japanese considered tariffs as an important source of government revenue, in particular, to make up for the cost of the Seinan War, a civil war that occurred soon after the Meiji Restoration. Japan’s request for tariff autonomy was initially accepted by the United States. However, it came to a halt when Britain and Germany rejected it. Later, foreign minister Shigenobu Okuma attempted to revise the extraterritorial rights for Westerners in Japan. His idea to compromise by allowing foreign judges in trials was not accepted by the Japanese public, and even promoted nationalist movements in Japan.

In 1894 the extraterritorial rights clause was abolished in the Japan-Britain Commerce and Navigation Treaty. This was extended to agreements with fourteen Western nations including the United States, France, Germany, Russia, Netherlands and Italy. The agreement was possible because Britain and Japan had a common concern about the southern expansion of the Russian Empire. Victory by Japan in the imperial wars against China in 1894 and against Russia in 1904 are believed to have been instrumental in Foreign Minister Jutaro Komura's successful negotiation of a complete revision of the Japan-Britain Commerce and Navigation Treaty in 1911.

The year 1911 is marked as a year in which Japan established its status as a developed society in the international arena. Japan’s industrial development and the success of its imperial expansion in the wars with China and Russia helped attain this position. In 1920 Japan along with France, Britain and Italy, became an initial permanent member of the security council of the League of Nations, the predecessor to the United Nations, symbolizing Japan's acceptance as a significant member of the international community From 1858, the year that Japan signed the first unequal treaty with the United States, it took more than half a century for Japan to gain legal equality with the West.

4. Major economic and institutional changes following the opening up

Trade and relocation of economic activity to the east

Japan’s opening up to the West led ultimately to a successful path of industrialization. An advantage of the unequal treaties which was not recognized at the time was that the import tariffs were kept very low. Free trade allowed the economy to specialize according to its comparative advantage and reap the benefits of an efficient allocation of resources.

Figure 1 gives Japan's composition of commodity trade during its early trading period 1868-1881. Figure 1a shows that raw silk, which was Japan's main import item before the economy's closure in the 17th century, became its main exportable. Along with tea, raw silk provided the major export earnings necessary to finance the imports of capital goods (machinery, trains, steamships) which enabled it to industrialize. Figure 1b reveals a more heterogeneous composition of commodity imports with textiles (cotton fabrics, yarn and woolen) providing more than 50% of total imports. Linking Japan's early commodity trading pattern to the corresponding autarky goods prices, Bernhofen and Brown (2004, 2005) have confirmed that Japan's trading pattern in its early trading years 1868-1875 confirm the general predictions of the law of comparative advantage. In addition, they have estimated Japan's static gains from trade to be around 8-9% of its GDP at the time.

Figure 1a: Composition of Japan’s exports: 1868-1881[15]

[15] Toyo keizai shinpo sha. 1975. *Nihon boeki seiran (Japanese trade statistics)*, Tokyo: Toyo keizai shinpo sha.

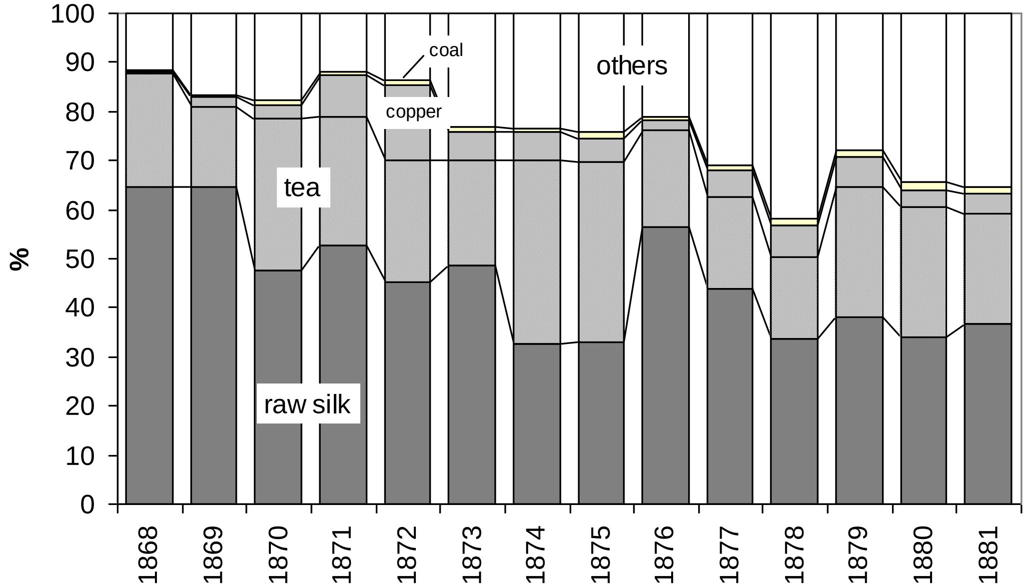
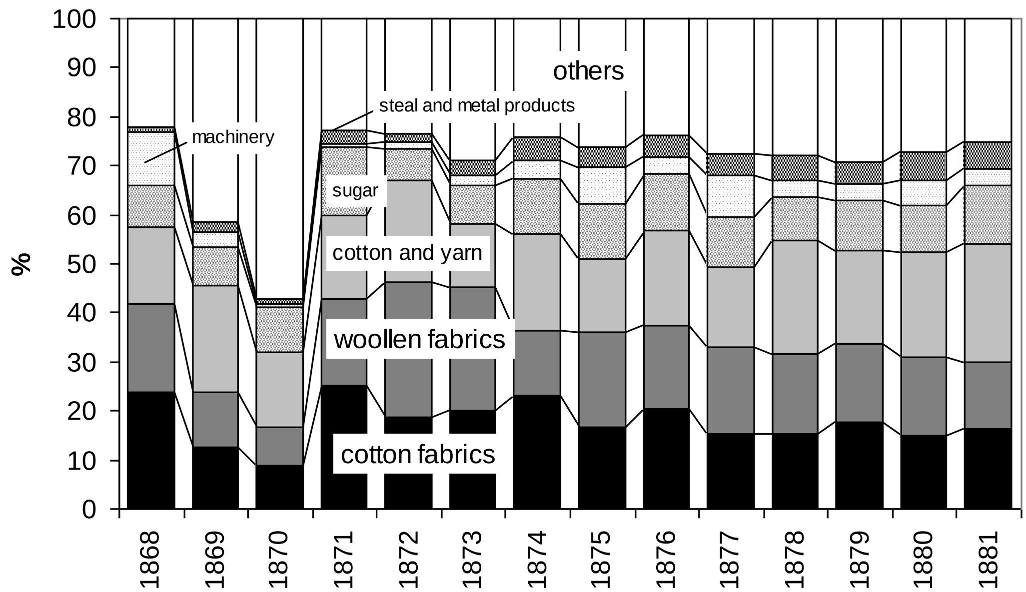


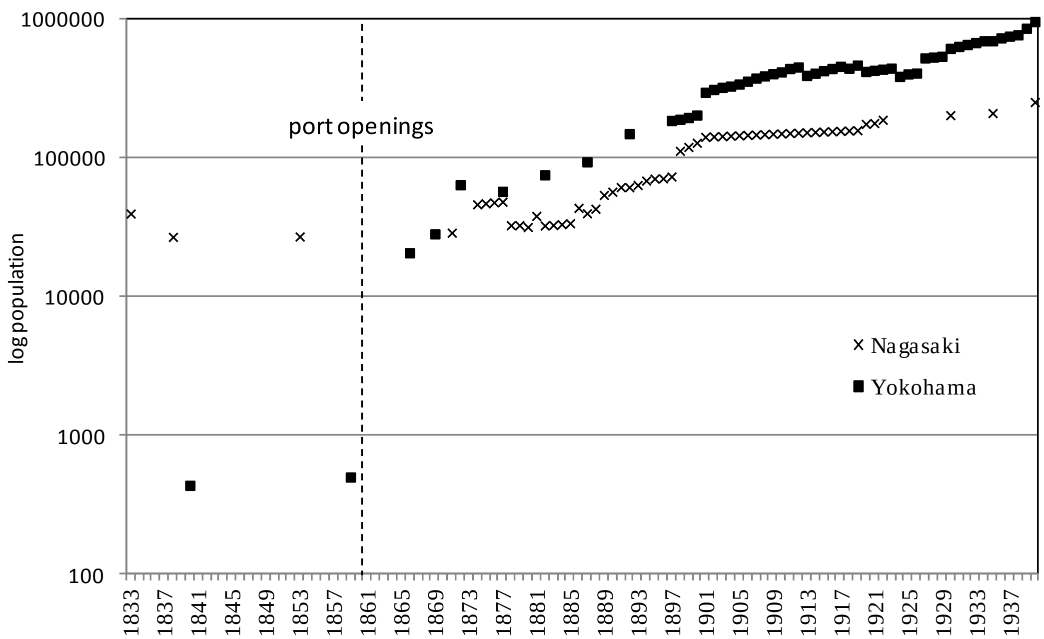
Figure 1b: Composition of Japan's imports: 1868-1881[16]



[16] Toyo keizai shinpo sha. op. cit.

Japan's reluctance to open up was reflected in the fact that it did not open the Kanagawa Port as requested by the West, but instead opened Yokohama, which was at the time a mere fishing village of around a hundred households. The impact of the opening up on the urban development in Yokohama was immense. Figure 2 depicts the population changes in the port city of Yokohama in comparison to the port city of Nagasaki. In addition to the rapid growth of port cities like Yokohama, there were changes in the location of industrial clusters from western to eastern Japan. This is reflected in the eastward shift of population within Japan, described in Figure 3. After the opening up, silk fabric production developed in eastern Japan in the northern Kanto area, which later developed as one of the core manufacturing locations in the industrialization process.[17]

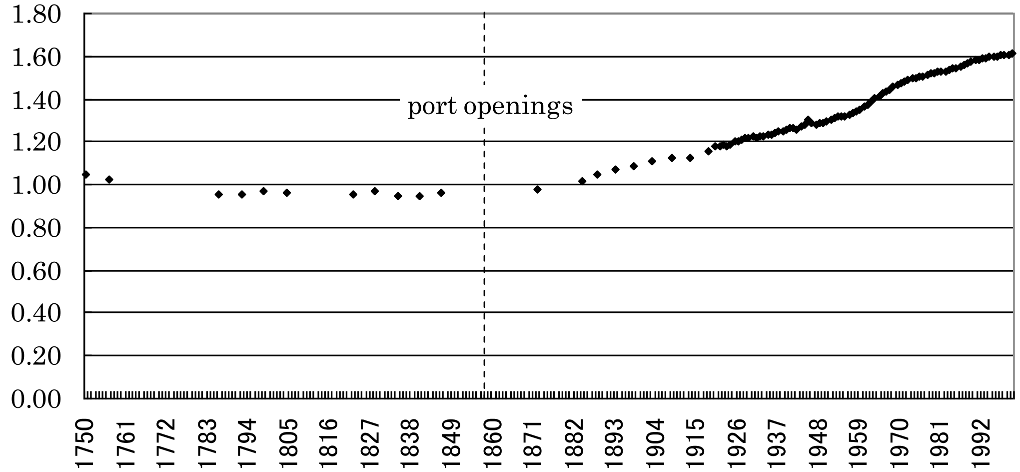
Figure 2: Population of port cities, Yokohama (eastern Japan) and Nagasaki (western Japan)[18]



[17]See Atsumi (2010).

[18]City of Nagasaki. 1956. *Nagasaki shisei rokujyugo nenshi, zenpen. (The sixty five years' history of Nagasaki, volume 1/2)*, Nagasaki: City of Nagasaki.,
City of Yokohama. 1989. *Yokohama shi shi 2, shiryou henn 1. (The history of Yokohama 2, Statistical appendices, volume 1)*, Yokohama: City of Yokohama.,
Yokohama Chamber of Commerce. 1909. *Yokohama kaikou gojyuunenshi, gekan (Fifty years' history after the port opening of Yokohama, volume 2/2)*, Yokohama: Yokohama Chamber of Commerce.

Figure 3: Population share of eastern and western Japan (east/west)[19]



The Iwakura mission, weak ties and institutional changes

The new leaders of the Meiji government actively tried to learn from the West to introduce proper institutions to modernize Japan. The channels through which they acquired information included sending young officials individually abroad to study, sending delegations to tour around the United States and Europe, most notably the *Iwakura Mission*, and hiring advisors from the West.

A large number of young officials travelled abroad to study law, economics, military organisation, and democratic systems. The institutional foundations for Japan to become a modern nation were quickly introduced and implemented in a short period of time beginning in the 1870s. The institutional changes adopted by the government included a new constitution, the introduction of compulsory education, the western calendar, modern military organization, demolishing of the *Hans*, or repealing the autonomy of regional clans, the introductions of prefectures, and various technological infrastructures such as transportation.

The importance of 'weak ties' in promoting the dissemination of new ideas and novel information between heterogeneous social groups, is well recognised in the field of sociology.[20]

[19] Ministry of Internal Affairs. 1993. *Kokuseichosa izen nihon jinkou tokei shusei (Population surveys before the national census)*, Tokyo: Toyo shorin.,
Ministry of Internal Affairs and Communications, Statistics Bureau. 2006. *Nihon choki tokei soran: dai 1 kan (Historical statistics of Japan: Volume 1)*, Tokyo: Nihon Tokei Kyokai (Japan Statistical Association).

[20] The classic reference is Granovetter (1973).

The Iwakura mission, which comprised of over 100 young generation officials visiting the United States and Europe between 1871 and 1873, became very influential because of its establishment of 'weak ties' with the West.[21] Its objective was a systematic consideration, or search for wisdom, of institutional models in the Western societies for the new government of Japan.[22]

In order to modernise Japan based on the authority of the Meiji Emperor, Japan adopted a Prussian type constitution. The idea was at least partly inspired by the meeting the members of the Iwakura Mission had with Bismarck in Prussia. According to a record of the mission, Bismarck encouraged the young Japanese leaders to follow the Prussian model of industrialization.

Hirofumi Ito, who later became the first Prime Minister of Japan, was responsible for designing the constitution for modern Japan.[23] Besides participating in the Iwakura mission, he had studied at universities in Germany. Many of those who took part in the mission not only contributed to the government as officials but also went on to establish new schools, laying the foundations of the universities in Japan today.[24]

There are various pieces of evidence that Christian missionaries have affected the individuals who later became influential officials and politicians in forming modern Japan. One such individual is Hisoka Maejima, who laid the foundations of the postal service system in Japan after studying in the United States and in Britain. It was a Christian missionary in Nagasaki who taught the languages and inspired him to set abroad. There is another case in which a Christian missionary directly facilitated the communication between the Japanese and the Westerners who used Alphabets. James Hepburn arrived at Yokohama in 1859 as a missionary, and being a medical doctor he started his activities in Japan by providing medical care to the locals. He later edited the first Japanese-English dictionary and translated the Bible into Japanese. During the course of these works, his style of expressing Japanese words using Alphabets became to be known as ‘Hepburn style’, which has become today’s standard.

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[21] The mission was proposed by the Dutch missionary and engineer Guido Verbeck who was one of the most influential foreign advisors serving the Meiji government. It was headed by Prince Iwakura Tomomi, one of the most prestigious members of the new generation rulers.

[22] The mission resulted in a five-volume, 2000 page chronicle of the observations about the West.

[23] The German scholars Hermann Roesler and Albert Mosse were hired by the Japanese government as legal advisors to draft the Meiji Constitution.

[24] Examples include Shigenobu Okuma, Umeko Tsuda and Arinori Mori, who founded Waseda University, Tsuda College, and Hitotsubashi University, respectively.

The introduction of new institutions did not take place without any confusion. Not everything was precisely planned. For example, the railroad tracks which British engineers brought to Japan were narrow rail, which hindered Japan's transportation capacity. Shigenobu Okubo later admitted that this was his biggest mistake. Another example that persists until today is that Japan has an inconsistency in the electricity frequency between the eastern and western half of the nation. This is because the first power company in eastern Japan bought the German AEG 50Hz, while the company in western Japan introduced a General Electric 60Hz generator from the United States.

Japan has, in general, successfully introduced and implemented Western institutions. It is also important to note, however, that not every institution was demolished or converted to Western ones. The Japanese family tradition, or patriarchy, in which the eldest son was required to succeed his father on the farm, hindered the mobility of resources from the agricultural to the modern sectors until the Second World War. This is considered to have led to a lower growth rate compared to the post-War period.[25]

An institutional heritage of the Tokugawa era – the Terakoya education system

Human capital development of a nation is important in modern economic growth. Early nineteenth century regional data suggest that Protestantism was a distinctive driving force in the advancement of female education in Prussia.[26] This is likely to have contributed as a basis to the industrialization of Germany. Parallel to the case of Germany, Confucian ethics supported the people's strong interest and belief in education in Japan. Even during the era of the Tokugawa feudal regime, when the vast majority of the people had little hope for improving their conditions through education in a class society, basic literacy and arithmetic were still considered important for life. In the Tokugawa era, small private schools called the Terakoyas, typically run by the samurai class and Buddhist priests, were set up in various places to provide opportunities for children of all classes to learn.

Japan introduced modern compulsory education in 1872, and in 1875 already 54 percent of boys and 19 percent of girls of school age were attending schools. The heritage of Terakoya, schools for commoners from the Tokugawa era, enabled this. The literacy rate in Japan in 1879

[25] See Hayashi and Prescott (2008).
[26] See Becker and Woessmann (2008).

was considerably higher than in most of the underdeveloped countries today. It probably compared favourably even then with the forerunners in Europe.[27] Education contributed to Japan's technological progress and enabled its modern economic growth.

One may then wonder why it was Japan that became the first non-Western society to industrialize, and not China which was the origin of Confucian ethics. Research on productivity of silkworm cocoons comparing Japan and China from the late nineteenth century suggests that Japan had the appropriate institutional foundations for improving production technology. Japan made the most of available technological information from the West by sending people to European silk producing countries such as Italy. This was accompanied by the establishment of government sponsored research laboratories and university departments. Modern insurance and transportation networks allowed Japanese cocoon farmers and distant raw silk manufacturers to overcome the bottleneck of geography.[28] The comparison between Japan and China in this era suggests that the combination of the initial condition (level of education) and proper institutions are important for modern industrial development: China did have the ethical background of education, but was late in introducing the necessary systems or institutions.

5. Conclusion

Successful introduction and implementation of Western institutions, the take-off of Japan’s modern economic growth, and the successive victories in the imperial wars enabled Japan’s revision of the unequal treaties with the West after half a century from the opening up. Although the Tokugawa regime closed itself to the outside world, it still developed a well-functioning market economy and institutions such as the Terakoya education of commoners. The combination of such heritages from the Tokugawa era and appropriate institutions from the Western forerunners made Japan’s development as a modern nation possible. New links between individuals in Japan and the Western world after the opening up is likely to have facilitated the process of learning and introducing institutions from the West.

References

Atsumi, Toshihiro. 2010. “Silk, regional rivalry, and the impact of the port openings in nineteenth century Japan”, *Journal of the Japanese and International Economies*, Vol 24, No.4, pp. 510-539.

[27] See Dore (1965).
[28] See Ma (2004).

Becker, Sascha and Ludger Woessmann. 2008. “Luther and the girls: religious denomination and the female education gap in nineteenth-century Prussia”, *Scandinavian Journal of Economics*, Vo. 110, No. 4, pp. 777-805.

Bernhofen, Daniel M. and John C. Brown. 2004. “A direct test of the theory of comparative advantage: The case of Japan”, *Journal of Political Economy*, Vol. 112, No. 1, pp. 48-67.

Bernhofen, Daniel M. and John C. Brown. 2005. “An empirical assessment of the comparative advantage gains from trade: Evidence from Japan”, *American Economic Review*, Vol. 95, No. 1, pp. 208-225.

Dore, Ronald. 1965. *Education in Tokugawa Japan*, University of California Press, Berkeley.

Granovetter, Mark. 1973. “The strength of weak ties", *American Journal of Sociology* Vol. 78 No. 6, pp. 1360-1380.

Hayashi, Fumio and E. C. Prescott. 2008. “The depressing effect of agricultural institutions on the prewar Japanesee economy”, *Journal of Political Economy*, Vol. 116, No. 4, pp. 573-632.

Ma, Debin. 2004. “Why Japan, not China, was the first to develop in East Asia: lessons from sericulture, 1850-1937”, *Economic Development and Cultural Change*, Vol. 52, No. 2, pp. 369-394.

Maehira, Fusaaki. 1990. “Higashi ajia ni okeru ryukyu no kiito boueki (Ryukyu’s raw silk trade in East Asia)”, in Kyushu daigaku kokugakushi kenkyushitsu (National history study group, Kyushu University) ed., *Kinsei kindaishi ronshu (Papers in modern and pre-modern history)*, Tokyo: Yoshikawa kobunkan.

Murase, Shinya. 1976. “The most-favored-nation treatment in Japan’s treaty practice during the period 1854-1905.” *The American Journal of International Law*. Vol. 70 (2): 273-297.

Pauer, Erich. 1991. “The years economic historians lost: Japan, 1850-1890". *Japan Forum* 3(1), 1-9.

Romer, Paul. 1993. "Idea gaps and object gaps in economic development", *Journal of Development Economics* 32: 543-573.

Sansom, George. 1973. The Western World and Japan: A study in the interaction of European and Asiatic cultures. New York: Vintage Books.

Sasaki, Ginya. 1994. *Nihon chuusei no ryutsu to taigaikannkei (Distribution and foreign relations in medieval Japan)*, Tokyo: Yoshikawa kobunkan.

Totman, Conrad. 1980. “From sakoku to kaikoku, the transformation of foreign-policy attitudes, 1853-1868.” *Monunmenta Nipponica*. Vol. 35 No. 1: 1-19.

Yamawaki, Teijiro. 2002. *Kinu to momen no edojidai (Silk and cotton fabrics in the Edo era)*, Tokyo: Yoshikawa kobun kan.