

JAPAN'S EXPORT TRADE, 1859-1899,

WITH SPECIAL REFERENCE TO

SILK, TEA AND COAL

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ABSTRACT

My intention is to contribute to an understanding of Japan's economic development in the context of changes in the world economic structure during the second half of the nineteenth century, and to clarify the role of exports of primary products in industrialization. I focus on Japan's export trade with reference to her three main export articles of raw silk, tea and coal, which played a strategic role as the main source of finance for her industrialization. I have reviewed the interrelationship between the overseas market and the development of these export industries, in both its quantitative and qualitative aspects, examining in particular the question of international competitiveness. Exports of raw silk and tea, which were products of traditional industries, developed in connection with the European and American markets, where they competed with Chinese products; coal was developed as a modern industry by the Zaibatsu for the Asian market, and sold in competition with exports from Britain and Australia. The development of these industries was encouraged by various forms of institutional support from the Meiji government. I conclude that success in exporting depended on the degree to which exports could compete in the overseas market. This in turn basically depended on factors of quality, supply and price. In the case of silk and coal, Japan was able to increase exports through adjustment to overseas demand, mainly adjustments in production costs and technology. She was aided by favourable international economic factors such as the depreciation in the value of silver. Tea provides a contrasting example of a case where Japan failed to maintain competitiveness, due to unfavourable market conditions.

Primary material has come mainly from British and United States consular reports, the Jardine Matheson Archive, papers in the Public Record Office, Japanese and Chinese records, and official statistics.



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## EXPLANATORY NOTES

ABBREVIATIONS

BPP, JAPAN: Irish University Area Studies Series, British Parliamentary Papers, JAPAN, 10 vols. (Shannon: Irish University Press, 1971)

BPP, CHINA: Irish University Area Studies Series, British Parliamentary Papers, CHINA, 42 vols. (Shannon: Irish University Press, 1971)

CR: British Consular Report (Commercial Report)

DCRTF: Diplomatic and Consular Report on Trade and Finance

IMC: China, Imperial Maritime Customs

JMA: Jardine Matheson Archive

LTES: Choki Keizai Tokei

MZSHS: Meiji Zenki Sangyo Hattatsu Shi Shiryo

NCH: The North China Herald and Supreme Court and Consular Gazette

PCMR: Prices Current and Market Reports in the Jardine Matheson Archive

MEASUREMENT

1 picul = 100 kin = 60.52 kg. = 133.33 lb.

1 kan = 3.75 kg. = 8.27 lb.

1 bale (of Japanese silk) = about 100 lb.

1 cho = 99.174 acres

Japanese names are given in the customary Japanese order of family name followed by given name, except when giving the Japanese authors of works published in English.

CR is cited by year and place: for instance, "CR 1869, Kanagawa" indicates "Commercial Report on the Trade of Kanagawa for the Year 1869".

## INTRODUCTION

The opening of Japan to foreign trade in 1859 stipulated that her consequent economic development took place in the changing international economic situation of the second half of the nineteenth century.<sup>(1)</sup> A study of Japanese modern economic development must therefore take into consideration not only domestic factors such as the previous development in agriculture and rural industries but also international economic and political factors.<sup>(2)</sup> At the starting point of her industrialization Japan faced an international environment similar to that encountered by other contemporary developing countries; her trade therefore had to begin on "colonial" or "monocultural" lines, exporting the primary products of traditional industries and importing manufactured goods in accordance with the existing international division of labour.<sup>(3)</sup>

Many studies have been made of the role of exports as a leading sector of economic development.<sup>(4)</sup> Exports played such a strategic and crucial role in Japan's industrialization that the main financial source of the foreign currencies needed for industrialization came from exports of the products of traditional industries.<sup>(5)</sup> The state functioned as a coordinator or organizer of the whole economy, supplementing the low rate of capital accumulation in the private sector and facilitating industrialization by direct or indirect support.<sup>(6)</sup>

My primary concern in this thesis is to analyse Japan's attainment of modern economic development in the context of a worldwide economic and historical perspective.<sup>(7)</sup> I will focus on the exporting of silk, tea and coal, which played a decisive role in Japan's early

industrialization, considering the interrelationship between the overseas market and the development of these export industries, from the viewpoints of both demand and supply, and clarify the role of primary products exports in industrialization. Raw silk and tea were products of traditional industries and developed in connection with the European and American markets, while coal was the product of an extractive industry developed by Zaibatsu(financial cliques) such as Mitsubishi and Mitsui for the Asian market.

The period which I will cover deals with the opening of Japan in 1859 up until 1899, when Japan obtained at least partial tariff autonomy. This will allow comparison of Japan with China because during this period the two countries were in a similar economic situation, both lacking tariff autonomy, both responding to a Western challenge and both exporting the same articles, raw silk and tea.

Chapter 1 reviews the international economic situation facing the Far East during the period under consideration, Chapter 2 the economic and trade policies of the Bakufu and the Meiji government and the nature of treaty port trade, and Chapter 3 looks at the general trend of Japan's prewar foreign trade. In Chapters 4, 5 and 6, the development of silk, tea and coal exports will be quantitatively and qualitatively analysed, placing the domestic development of each industry in the context of international competition on the overseas market.



## CHAPTER I

## The Far East in the International Economy

Britain was the pivot of the international economy throughout the nineteenth century.<sup>(1)</sup> In the 1850s and 1860s world trade expanded on the basis of Britain's free-trade policy with increasing developments in not only transportation and technology but also resources and markets.<sup>(2)</sup> The total estimated value of world trade rapidly increased from £800 millions in 1850 to £1,450 millions in 1860, £2,890 millions in 1872-73 and £3,900 millions in 1895-99.<sup>(3)</sup> The annual average growth rate of world trade was 4.84 per cent for the period 1840-60, reaching 5.53 per cent for the period 1860-70.<sup>(4)</sup> Britain retained her position as "the workshop of the world",<sup>(5)</sup> specializing her trade pattern of exporting manufactured goods and importing raw materials and foodstuffs, and organizing less industrialized and undeveloped countries into the interrelated international division of labour. By 1870s, Britain had become dependent on external transactions,<sup>(6)</sup> just when her competitive position was being made steadily more difficult as newly industrialized countries such as Germany and the United States developed without following Britain's free-trade policies.<sup>(7)</sup> These countries increased their interest in the non-European world both as an export market and as an essential source of primary products.<sup>(8)</sup> In the 1870s, therefore, the demand for primary products rapidly grew due to the spread of industrialization in Europe and the United States. This forced the worldwide supply and demand relationship between the primary producing and the developed countries into a different and more complicated pattern.<sup>(9)</sup> The share of primary products in world trade was 62.3-64.4 per cent on average for the period 1876-80 to

1896-1900 taken in quinquennial terms<sup>(10)</sup>; international trade in primary products increased in volume at a rate of about 17 per cent per quinquennium from the mid-1880s to World War I.<sup>(11)</sup> The ratio of primary products as exports of underdeveloped countries was as high as 97.6 per cent for the period 1876-80 and 91.6 per cent for the period 1896-1900.<sup>(12)</sup>

In the face of intensified competition from newly industrialized countries, Britain gradually lost her competitiveness in the established market<sup>(13)</sup> and was compelled to modify her trade pattern both in terms of commodities and areas.<sup>(14)</sup> Britain responded in the short term by shifting her major export markets from Europe and North America to other markets, particularly to India and the Far East,<sup>(15)</sup> while increasing exports of capital to North and South America and her colonies.<sup>(16)</sup> By the first decade of the twentieth century, India and the Far East were becoming key elements in the British trading system and the multilateral settlement.<sup>(17)</sup>

The decline in exports of manufactured goods led Britain's visible merchandise trade into continuous deficit. The deficit reached an annual average of £124,560,000 over the period 1876-80, but this increasing trade deficit was more than compensated for by the invisible earnings from interest receipts and business services such as banking, insurance and shipping.<sup>(18)</sup> Britain was able to adjust her role in the international economy by changing her trade patterns and increasing the strength of her international financial position. The remarkable development of long-distance communication by telegraph and cable and the formation of a network of marine transportation by British shipping companies enabled Britain to maintain her importance to the mechanisms of international trade

and finance into the late nineteenth century.<sup>(19)</sup> London became "the world's main centre of international banking, finance and insurancing"<sup>(20)</sup> and the greater part of international trade was conducted in sterling.<sup>(21)</sup> By the 1890s, "the network of multilateral trade was well advanced along the lines of development which were turning it into a single complex inter-locking pattern."<sup>(22)</sup> While her dependence on heavy imports of foodstuffs and raw materials continued to increase after 1890,<sup>(23)</sup> this position in the international economy was changing Britain's trade patterns. In the 1890s the structure of her export trade changed in the direction of further reliance on exports of a few industries such as textiles, iron and steel, and coal, restricting her trading opportunities.<sup>(24)</sup> Furthermore, aggravating terms of trade for primary producing countries from 1870 caused a decline in purchasing power in these countries and affected the growth of manufactured goods exports.<sup>(25)</sup> This led to a retardation in Britain's industrial growth and competitive power.<sup>(26)</sup>

The development of telegraphic communication and of means of transportation lay behind Britain's change of role in the late nineteenth century.<sup>(27)</sup> These developments completely altered the pattern of Far Eastern trade by creating direct links with the European and American markets.<sup>(28)</sup> In particular, as we shall see later, the opening of the Suez Canal and the completion of the Trans-Continental Railway in the United States, both in 1869, had a crucial influence on the expansion of Japan's foreign trade.<sup>(29)</sup>

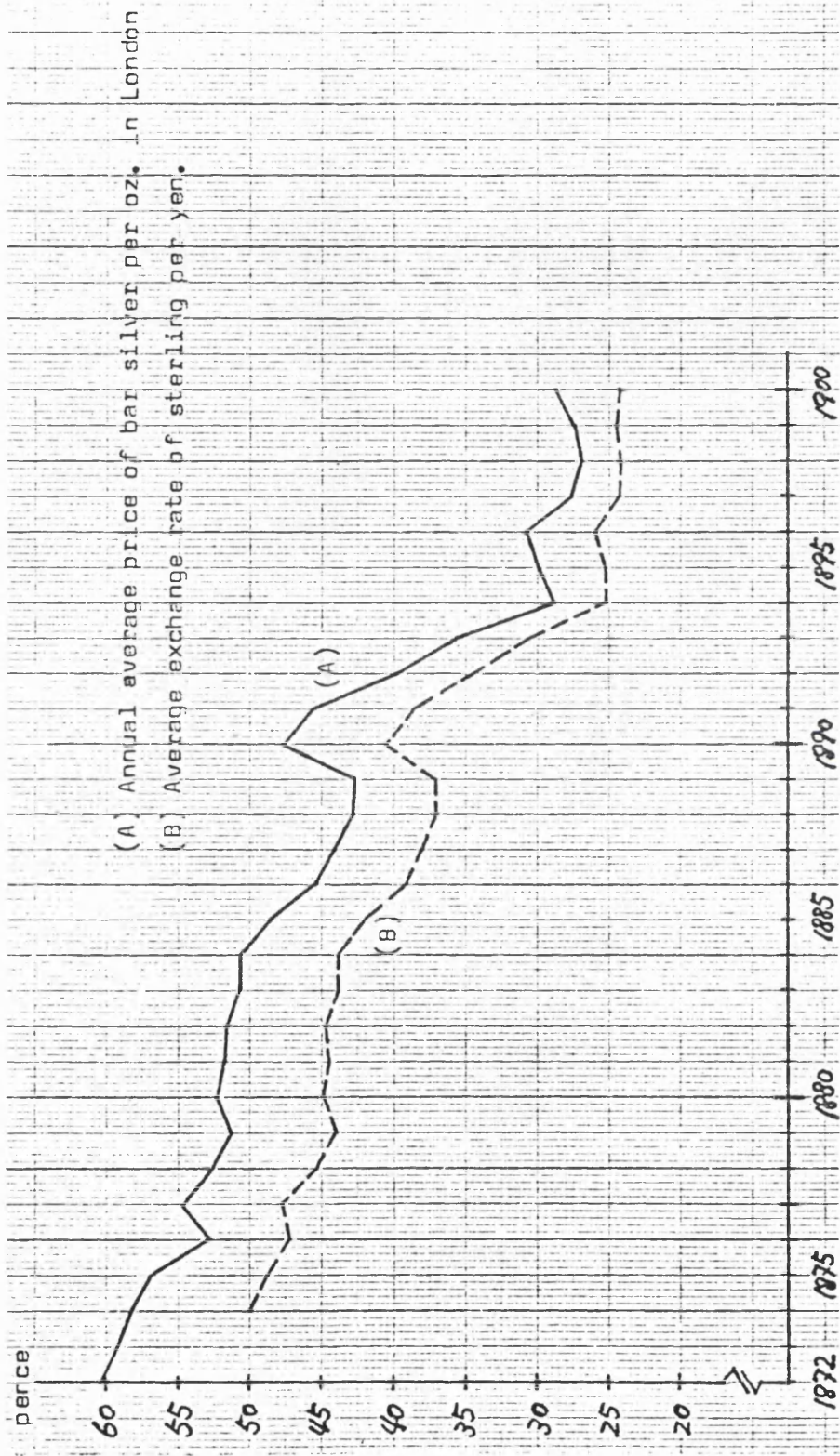
The Far East was directly linked to the European market by the extension of telegraphic communication in the early 1870s. A cable between Singapore and Hongkong was constructed in 1871 by the Eastern

Extension Australasia and China Telegraph Co.(British); the Great Northern Telegraph Co.(Danish) extended a line across Siberia to Nagasaki and thence to Shanghai and Hongkong.<sup>(30)</sup> This extension of the telegraph network changed the established commercial pattern and the nature of financial procedures through allowing the use of telegraphic transfers and the reception of immediate information about current prices on the European market.<sup>(31)</sup>

The Far East was also brought closer to the European and American markets by the development of ocean shipping routes.<sup>(32)</sup> The Peninsular and Oriental Steam Navigation Co. began a fortnightly service to China in 1853 and started a regular service between Shanghai and Nagasaki in 1859 which was extended further to Yokohama in 1864.<sup>(33)</sup> Messageries Imperiales opened a regular monthly service between Shanghai and Yokohama as an extension of the Marseilles-Shanghai line in 1865.<sup>(34)</sup> The Pacific Mail Steamship Co. began a regular service between San Francisco and Hongkong in 1867.<sup>(35)</sup> Other shipping companies such as the Blue Funnel, Castle, and Glen lines entered the sphere of Far Eastern trade in the 1860s and 1870s.<sup>(36)</sup> Later, in 1887, Canadian Pacific started a regular monthly service between Vancouver and Hongkong via Yokohama and Shanghai.<sup>(37)</sup> Freight rates rapidly fell in the 1860s and 1870s, in general as a result of the increasing competition among shipping companies. This damaging and fierce competition led to the establishment of shipping conferences as a device "to regulate competition in order to maintain rates of freight" and "to concert measures to meet competition from ship-owners outside the Conference."<sup>(38)</sup>

Another important factor in relation to the Far East was a continuous decline in silver value to gold. Figure 1 shows the depreciation in silver value to gold and the average exchange rate

Fig. 1. Depreciation in Silver Value 1872-1900.



Sources: 1) (A): A. J. H. Latham, The International Economy and the Undeveloped World 1865-1914 (London, 1978), Appendix 2, p. 194.  
 2) (B): Nihon Tokei Kenkyu-jo ed., Nihon Keizai Tokei Shu (Tokyo, 1958), p. 171.

of sterling per yen. This decline occurred as a result of the adoption of the gold standard by Germany in 1871 and by the United States in 1872.<sup>(39)</sup> This decline in silver value, particularly in the first half of the 1890s, combined with a decline in ocean freight rates, made it possible for those Asian countries which were on the silver standard to increase exports to the gold standard countries, while discouraging an increase in imports from them.<sup>(40)</sup> The average value of silver per ounce fell from 60.3 pence in 1872 to 42.7 pence in 1889 and drastically declined in the early 1890s to 28.9 pence in 1894. This made it possible for Japan to increase her exports to gold standard countries and to compete on easier terms with their products including silk from France and Italy, and coal from Britain, as we shall see later.<sup>(41)</sup>

China and Japan were considered not only as markets for exports but also as sources of primary products in the changing international economy.<sup>(42)</sup> Table 1 shows comparative figures for Japan and China of two main export articles, silk and tea. Japan's exports had therefore first to challenge Chinese predominance in the world silk and tea trade.<sup>(43)</sup> Their importance gradually declined with regard to the total exports of both countries, but even in 1895 silk and tea exports combined amounted to 44 per cent of total exports in the case of Japan and 50 per cent in the case of China.

Table 1. Silk and Tea Exports from Japan and China 1870-1900.

<u>JAPAN</u>		(in '000 yen)			
	Total Exports(A)	Silk(B)	B/A	Tea(C)	C/A
1870	14,543	7,246	(49.8%)	4,512	(31.0%)
1875	18,611	6,469	(34.8)	6,863	(36.9)
1880	28,395	11,065	(39.0)	7,438	(26.2)
1885	37,147	14,473	(39.0)	6,854	(18.5)
1890	56,604	16,377	(28.9)	6,327	(11.2)
1895	136,112	50,928	(37.4)	8,879	(6.5)
1900	204,430	48,818	(23.9)	9,036	(4.4)
<u>CHINA</u>		(in '000 Haikwan tael)			
	Total Exports(D)	Silk(E)	E/D	Tea(F)	F/D
1870	55,295	21,976	(39.7%)	30,766	(55.6%)
1875	68,913	20,695	(30.0)	36,698	(53.3)
1880	77,884	24,176	(31.0)	35,728	(45.9)
1885	65,006	15,256	(23.5)	32,269	(49.6)
1890	87,144	24,491	(28.1)	26,663	(30.6)
1895	143,293	38,724	(27.0)	32,450	(22.6)
1900	158,997	39,732	(25.0)	25,445	(16.0)

- Sources: 1) The Oriental Economist, Nihon Boeki Seiran (Tokyo: Toyo Keizai Shinpo-sha, 1935), pp. 2, 13, 15, 51-55.  
 2) Hsiao Liang-lin, China's Foreign Trade Statistics 1864-1949 (Cambridge, Mass.: East Asian Research Center, Harvard University, 1974), pp. 22-23, 109, 117-18.

- Notes: 1) Silk piece goods and products are excluded.  
 2) Average exchange rate during the period 1874-1896 was 1.53 taels per yen.

## CHAPTER II

## Japan's Trade Policy and Her Industrialization

## 1. Treaties and Tariffs

Japan was incorporated into the world economy in mid-1859 when the three treaty ports of Kanagawa, Nagasaki and Hakodate were opened to foreign trade following the commercial treaties with the United States, Holland, Russia, Britain and France of the previous year.<sup>(1)</sup> These treaties were based on the principle of free trade and their main provisions were fundamentally 'unequal', comprising extraterritoriality, conventional tariff rates and the most-favoured nation clause.<sup>(2)</sup> This set a general framework for Japan's subsequent economic development.

According to trade regulations which stipulated tariff rates by article, all export duties were set at 5 per cent ad valorem and import duties were in general at 20 per cent, though ranging from 5 per cent for ship-building materials etc. to 35 per cent for alcohol.<sup>(3)</sup> In 1866, in response to renewed foreign pressures, chiefly concerning imperial ratification of the 1858 treaties and the promised opening of Hyogo (Kobe), Japan consented to tariff revision.<sup>(4)</sup> Import duties were reduced from 20 per cent to 5 per cent which encouraged imports.<sup>(5)</sup> Both export and import duties were fixed principally at 5 per cent ad valorem; tariff rates were equivalent to those stipulated by the 1858 Tientsin Treaty with China. Imports of metals, and cotton and woollen manufacture goods were subject to specific duties, while those of coal, coined or uncoined gold and silver, and grain were duty-free, and opium was prohibited. Exports of silk, tea and coal were subject to specific duties, gold and silver coins were duty-free, while rice, paddy, wheat and barley



were included in prohibited goods.<sup>(6)</sup> These export and import duties of 5 per cent ad valorem were in effect deflated to 2-2.5 per cent by inflation in the early Meiji period.<sup>(7)</sup>

The attainment of tariff autonomy and the abolition of extra-territoriality were the main targets of treaty revision.<sup>(8)</sup> The tariff rates stipulated in 1866 lasted up until 1899, when Japan obtained partial tariff autonomy through the coming into force of the Fixed Tariff Law (Teiritsu Kanzei Ho) as a result of the treaty revision carried out successfully with Britain in 1894.<sup>(9)</sup>

## 2. Bakufu Trade Policy: Restriction and Control

The opening of trade caused structural changes in the traditional economy, most rapidly and drastically in those sectors concerned with the main export and import industries. As silk exports increased, for instance, local merchants in producing districts began to purchase raw silk to sell at great profit in Yokohama, bypassing the traditional distribution system which had been controlled by privileged guild merchants in Kyoto and Edo. This direct delivery of silk from producing areas to the treaty ports, mainly Yokohama, by local consigners or producers meant the dissolution of the traditional distribution system. In consequence, silk guild merchants in Kyoto and Edo lost their control of distribution, and silk manufacturers in Kyoto, Kiryu and other districts were severely damaged by a shortage of silk for domestic use and a subsequent rapid rise in price.<sup>(10)</sup> Table 2 shows the volume of raw silk handled by the silk guild in Edo for domestic use and export before and after the opening of the ports. Raw silk for domestic use rapidly declined towards 1863 and prices rose sharply to the level of those in the international

Table 2. Volume of Raw Silk handled by the Silk Guild in Edo 1856-1863.

Year	For Domestic Use		For Export	
	bales	ryo	bales	ryo
1856	259	10,078		
1857	514	24,160		
1858	567.5	28,375		
1859	1,758	140,640		
1860			11,585.5	
1861	1,667.5	141,737	12,523	1,189,685
1862	1,072	96,480	35,235	3,523,500
1863	238	28,560	26,314	3,420,820

Sources: 1) 1856-58, 1861-63: 'Kiito Yokohama Yushutsu Shirabe', 3-1, in Yokohama-shi Shi, Shiryō Hen, Vol. 1, (112), pp. 269-71.

2) 1859: 'Gaikoku Boeki Shoshiki Ikken', Kan no 1, in ibid., (63), p. 73.

3) 1860: 'Kiito Yokohama Yushutsu Shirabe', 1-1, in ibid., (9), p. 165.

Note: Figures for 1860 are from April to December.

market after the opening of Japan.<sup>(11)</sup> The Yokohama prices of Maebashi and Shinshu silk, which were mainly for export, rose from 460 dollars per picul in 1862 to 520 dollars in 1863 and 620 dollars in 1864.<sup>(12)</sup> Other export articles such as tea and marine products behaved in a way similar to raw silk. Commodity prices also rose rapidly in large cities during the years after 1857.<sup>(13)</sup>

Faced with rapid price rises and a shortage of general necessities, in 1860 the Bakufu was compelled to issue a decree to the effect that five selected goods (grain, rapeseed oil, wax, cloth and raw silk) should be passed to Edo wholesalers, prohibiting the direct transfer from producing areas to Yokohama.<sup>(14)</sup> This was an attempt to maintain and strengthen the traditional domestic distribution system through the control of the guilds in Edo. In the case of raw silk, the main target of this decree, it had little effect since the interests of the guild merchants in Edo were opposed to those of the export merchants in Yokohama and opinions of the Bakufu officials responsible for governing Edo city (Edo Machi Bugyo) were moreover not shared by those responsible for foreign affairs (Gaikoku Bugyo).<sup>(15)</sup> In practice, business was transacted by export merchants in Yokohama ordering from local consignors in producing areas, the raw silk being sent directly to Yokohama with an invoice from the guild merchants in Edo.<sup>(16)</sup> With regard to raw silk, therefore, the Bakufu's intention of maintaining Edo control of trade resulted in obvious failure.<sup>(17)</sup>

After this failure, the Bakufu did not take further substantial measures to restrain trade until the second half of 1863, when it once again started strong moves to restrict raw silk exports.<sup>(18)</sup>

British Consul Lieutenant-Colonel Neale described the situation as

follows:

Two millions of dollars have been brought here [Yokohama] for the purchase of silk, and are lying idle. Steamers arrive from China to ship the silk expected to have been ready for exportation, and return comparatively empty, thus occasioning great loss.<sup>(19)</sup>

Japanese merchants in Yokohama were menaced by anti-foreign extremists and some of them closed their shops.<sup>(20)</sup> In early 1864 the Bakufu adopted a new policy on silk deliveries to Yokohama by which the silk guild in Edo intervened in the transfer of silk for export by purchasing it from producing areas at an appropriate price. As a result of this measure, only 468 bales, that is, 16 bales a day, were transferred to Yokohama for export in early 1864.<sup>(21)</sup> The strengthening restrictions on the silk trade came not only from a general tradition of restrictive policies but also from difficulties in the relationship between the Bakufu and the Mikado which had occurred with regard to the closing of the port of Yokohama.<sup>(22)</sup> The restrictions aimed not only at distribution but also at raw silk production itself. In 1864, new plantations of mulberry trees and the production of raw silk and tea for export were strictly prohibited.<sup>(23)</sup> Though raw silk continued to be exported in small quantities under the protection of the Satsuma clan<sup>(24)</sup> and smuggling was also active,<sup>(25)</sup> Japan's silk trade as a whole sharply declined. However, as a result of the operations of the allied squadrons at Shimonoseki and the strong opposition of the Western powers, the Bakufu was forced to abolish this purchasing system by the silk guild in Edo later in the same year.<sup>(26)</sup> This signified the complete failure of the Bakufu's attempt to build its trade policy on the traditional system.<sup>(27)</sup> This led to a new policy of reorganising the domestic economy and strengthening direct control in producing

areas.<sup>(28)</sup> In 1866 the Bakufu adopted an official seal system on raw silk and silkworm eggs for export, through which all silk and silkworm eggs, both for export and for domestic use, had to be sealed, and transactions of goods without an official seal were prohibited.<sup>(29)</sup>

The Bakufu was not completely opposed to trade and, while enforcing a restrictive trade policy, took some positive measures in order to monopolize what trade there was. It sent ships to the Amur River in 1861 and to Shanghai in 1862 and 1863 to market mainly marine products.<sup>(30)</sup> In 1865, plans for a Franco-Japanese trading company were drawn up, chiefly to deal in silk under government patronage,<sup>(31)</sup> while the Bakufu made native merchants in Hyogo and Osaka form trading firms.<sup>(32)</sup>

### 3. The Economic and Trade Policies of the Meiji Government

In 1868 the Bakufu was overthrown and the new Meiji government established. The urgent task of the new government was to consolidate the nation into a unified modern state within the framework set by the treaties, while maintaining political and economic independence from the Western powers; this required rapid industrialization. The government strove to build the institutional framework and infrastructure needed for industrialization through the organized, systematic economic policy which was characterized by the slogan "enrich the country, strengthen the army" (fukoku-kyohei). The early financial policy of the Meiji government was an extension of Bakufu economic policy and based on the han system.<sup>(33)</sup> While introducing the infrastructure for industrialization, the government intended

to gain complete control of the distribution network, in order to strengthen its financial situation through issuing paper money in large quantities and borrowing from wealthy city merchants such as Mitsui, Shimada and Ono-gumi.<sup>(34)</sup> As part of this economic policy, the Commercial Bureau (Shoho-shi) and Commercial Associations (Shoho-kaisho) were established in 1868 to encourage commerce and increase indirect tax revenue by lending paper money to wealthy city merchants.<sup>(35)</sup> However, these organizations did not work effectively and this policy failed in a year. Okuma Shigenobu then became responsible for state finance with the intention to establish a fiscal basis for the government and in 1869 the Trade Bureau (Tsusho-shi) succeeded the Shoho-shi in order to control foreign trade in the treaty ports. Simultaneously Foreign Trade Companies (Tsusho-kaisha) and Exchange Companies (Kawase-kaisha) were formed at the three open cities and five open ports in order to expand both domestic and foreign commerce under government supervision.<sup>(36)</sup>

The government's industrial policy towards the introduction of Western science and technology began with the establishment of the Ministry of Industry (Kobu-sho) in 1870 which took over the factories, shipping yards and arsenals of the Tokugawa regime.<sup>(37)</sup> The Kobu-sho emphasized not the encouragement of traditional industries but the construction of railways and the development of mining, ship-building and other modern industries. In fact, 50 per cent of its total expenditure of 29,622,448 yen was directed to railway construction and 30 per cent to the mining industry.<sup>(38)</sup> It should be also noted that the government took a hostile attitude towards foreign investments outside the treaty ports from a fear of "colonization" and purchased

back rights for railway construction and mining which foreigners had obtained, refusing the encroachment of foreign capital.<sup>(39)</sup>

In particular, by issuing the Mining Regulations (Kozan Kokoroe Gaki) in 1872 and the Japanese Mining Law (Nihon Koho) in 1873, the government purchased private mines not only to secure materials for coinage but also to prevent foreigners from participating in the mining industry.<sup>(40)</sup>

The other important aspect was the reluctance of the Meiji government to use foreign borrowing. Up until the end of the Sino-Japanese War, only two loans were raised. The 1870 loan, for the construction of the Tokyo-Yokohama railway, was needed to enable foreign requests for construction rights to be refused; the other loan, made in 1873, provided the finance needed for the liquidation of the feudal system.<sup>(41)</sup>

As shown in Table 3, Japan's foreign trade, especially her imports, rapidly grew despite the various restrictions on commerce, and from 1869 Japan came to suffer from a continuously unfavourable balance of payments. This actually resulted in the outflow of specie from Japan in large quantities. Government officials responsible for finance saw this outflow as a great problem which might endanger the foundation of the newly established government.<sup>(42)</sup> The government had to seek a solution for this difficulty of an unfavourable balance of trade, while pursuing domestic economic growth.<sup>(43)</sup> Lacking tariff autonomy, the only measure open to the government was a policy of promoting exports while preventing an increase in imports. The first positive step in this direction was the establishment of the Home Ministry (Naimu-sho) in 1873 by Okubo Toshimichi, who had felt the need to encourage industry during his visits to the United States and Europe as a member of the

Table 3. Japan's Total Trade 1868-1930. (in thousand yen)

Year	Commodities			Coin and Bullion		
	Exports	Imports	Balance	Exports	Imports	Balance
1868	15,553	10,693	4,860			
1869	12,909	20,784	(-) 7,875			
1870	14,543	33,742	(-) 19,199			
1871	17,969	21,917	(-) 3,948			
1872	17,027	26,175	(-) 9,148	4,481	3,692	(-) 789
1873	21,635	28,107	(-) 6,472	5,123	3,081	(-) 2,042
1874	19,317	23,462	(-) 4,145	13,995	1,072	(-) 12,923
1875	18,611	29,976	(-) 11,365	14,664	298	(-) 14,366
1876	27,712	23,965	3,747	10,676	8,267	(-) 2,408
1877	23,349	27,421	(-) 4,072	9,441	2,173	(-) 7,268
1878	25,988	32,875	(-) 6,887	8,329	2,189	(-) 6,140
1879	28,176	32,953	(-) 4,777	12,779	3,135	(-) 9,644
1880	28,395	36,627	(-) 8,231	13,223	3,638	(-) 9,585
1881	31,059	31,191	(-) 132	7,491	1,856	(-) 5,634
1882	37,722	29,447	8,275	4,430	6,161	1,731
1883	36,268	28,445	7,823	3,157	5,452	2,295
1884	33,871	29,673	4,199	5,005	5,612	607
1885	37,147	29,357	7,790	4,256	7,547	3,290
1886	48,876	32,168	16,708	9,626	9,172	(-) 455
1887	52,408	44,304	8,103	11,035	8,871	(-) 2,164
1888	65,706	65,455	250	7,833	8,732	899
1889	70,061	66,104	3,957	5,189	14,173	8,985
1890	56,604	81,729	(-) 25,125	13,779	1,201	(-) 12,578
1891	79,527	62,927	16,600	1,453	13,889	12,436
1892	91,103	71,326	19,777	9,730	22,884	13,154
1893	89,713	88,257	1,456	12,289	11,186	(-) 1,103
1894	113,246	117,482	(-) 4,236	34,379	26,784	(-) 7,595
1895	136,112	129,261	6,852	27,302	5,874	(-) 21,428
1896	117,843	171,674	(-) 53,832	11,599	39,142	27,543
1897	163,135	219,301	(-) 56,166	19,219	81,467	62,248
1898	165,754	277,502	(-) 111,748	86,987	42,564	(-) 44,424
1899	214,930	220,402	(-) 5,472	11,178	20,164	8,985
1900	204,430	287,262	(-) 82,832	56,707	11,518	(-) 45,189
1905	321,534	488,538	(-) 167,004	16,355	31,507	15,152
1910	458,429	464,234	(-) 5,805	25,175	17,672	(-) 7,503
1915	708,307	532,450	175,857	44,566	24,297	(-) 20,270
1920	1,948,395	2,336,175	(-) 387,780	3,897	404,727	400,829
1925	2,305,590	2,572,658	(-) 267,068	22,305	178	(-) 22,128
1930	1,469,852	1,546,071	(-) 76,219	311,008	9,687	(-) 301,321

Source: Nihon Boeki Seiran (Tokyo: Toyo Keizai Shinpo-sha, 1935), pp. 2, 3.

- Notes: 1) Figures for exports and imports of commodities are valued both in gold and silver yen for the period prior to 1887, in silver yen for 1888-1897, and in gold yen for the period after 1898.
- 2) Figures for coins and bullion up to 1871 are not available.
- 3) Sakhalin is included, but Formosa is not included.



Iwakura mission.<sup>(44)</sup> In 1875, he made a series of proposals for stopping the outflow of specie and alleviating the stringent financial situation facing the government, partly to redeem foreign loans and partly to prevent an increase in imports along with promoting direct exporting by Japanese firms.<sup>(45)</sup> The government tried to attain these objects by concentrating on traditional industries such as silk reeling and tea, which had developed as export industries, and primary products such as coal and copper. These traditional rural industries and mining were regarded as a source of export articles which could play an important and strategic role in early industrialization through obtaining the main foreign currencies which were needed to introduce and facilitate modern industries. As we shall see later, a deterioration in quality was widely acknowledged as a common phenomenon in traditional industries in Japan during this period; the government had therefore to make great efforts to improve the quality of their products.<sup>(46)</sup> From 1877, while the Kobu-sho concentrated on rearing modern industries, the Naimu-sho stressed the encouragement of traditional industries.<sup>(47)</sup> The Naimu-sho took the initiative in encouraging industries not only by direct investment in silk reeling, tea and sugar but also by holding expositions to encourage domestic enterprise (Naikoku Kangyo Hakuran-kai) and participating in international exhibitions.<sup>(48)</sup>

The other important policy was the policy of direct export first proposed in Okubo's 'Kaigai Chokubai no Kigyo o Hiraku no Gi' (The Proposal on the Opening of Direct Export) on the occasion of bankruptcy of the merchant house of Ono-gumi in 1875. Pointing out that foreign trade was in the hands of foreign merchants

because Japanese merchants lacked experience and knowledge of international trade and had insufficient capital, Okubo thought that his most urgent task was to establish Japanese direct exporting companies with financial assistance from the government. This did not mean the exclusion of foreign merchants from trade. The main purpose of direct exporting was to obtain specie for the redemption of foreign loans.<sup>(49)</sup>

Despite these strenuous efforts by the government, the balance of trade record did not improve in the second half of the 1870s, with the exception of 1876 and the outflow of specie continued.<sup>(50)</sup> Okuma ascribed economic difficulties such as the rise in prices after the Satsuma Rebellion in 1877 and the wide difference between the value of notes and silver coin to an excess of imports over exports based on the underdevelopment of industry and the lack of tariff autonomy, and argued for the need to encourage export industries through a protectionist trade policy.<sup>(51)</sup> In 1881, after many long controversies within the government,<sup>(52)</sup> Okuma was expelled and Matsukata Masayoshi succeeded him as Finance Minister.<sup>(53)</sup> His financial policy was to readjust the country to the international economic and political order by taking strict deflationary economic measures in order to balance the state budget.<sup>(54)</sup>

The chief objective of Matsukata's policy was to accumulate a specie reserve in order to redeem the inconvertible paper money by reforming the monetary system. Since Matsukata's basic view of Japan's economic difficulties was similar to Okuma's, it is possible to see his financial policy as an extension of Okuma's.<sup>(55)</sup> The only difference between Okuma and Matsukata's analysis was that,

while Okuma attributed the difficulties to the imbalance of the exchange rate between gold and silver, and the Mexican dollar, Matsukata ascribed it to the fall in paper money value and the insufficient specie reserves which had resulted from the lack of a well-established currency and credit system.<sup>(56)</sup> The Bank of Japan was accordingly established in 1882 to act as a central bank. From 1882, as shown in Table 3, the trade balance became favourable as a result of Matsukata's retrenchment policy. This also forced a review of previous industrial policies. Although the government had decided to sell all government-owned enterprises other than those concerned with armaments, transportation and telecommunication to private firms, and therefore issued the General Regulations for Selling Government Factories (Kojo Haraisage Gaisoku) in 1880, it was decided to establish the Ministry of Agriculture and Commerce (Noshomu-sho) as a organ for encouraging industries in 1881.<sup>(57)</sup> From 1882 to 1896 all government-owned mines, ship-yards, and cotton spinning and other factories were sold to several people who were therefore called "Sei-sho" (political merchants) generally at a relatively cheap price and favourable terms.<sup>(58)</sup>

The Yokohama Specie Bank founded in 1880 was developed as part of Matsukata's policy of accumulating specie and developing foreign trade finance with government support in opposition to the established trade system controlled by foreign banks and merchants.<sup>(59)</sup> It started foreign exchange business as its main activity from 1880, depending on funds from the Treasury Reserve, and supplied funds not only to direct exporting firms such as Boeki Shokai and Mitsui Bussan Kaisha but also to local producers through local banks for purposes of internal exchange for export goods. In 1883 the business

of drawing foreign exchange for foreign merchants started.

In 1889 when financial support from the government for foreign exchange business was brought to an end, the Bank of Japan started capital supply for it by rediscounting foreign bills of exchange. This system continued until 1911. Payments for export articles in the overseas market were sent to London in exchange for specie or bills of exchange in sterling through overseas branches of the Yokohama Specie Bank.<sup>(60)</sup>

The well-organized credit system under the Bank of Japan played a decisive role in financing the early development of both exports and imports. We will see an example of this financial mechanism in the development of the silk reeling industry.<sup>(61)</sup>

From the early 1880s, in addition to selling, silk export merchants in Yokohama started financing associations of producers, not individual producers, by making charges forward of documentary bills and giving them loans for silk without such documentary bills.

From the late 1880s, they also began to make advances to producers for purchasing cocoons to help provide the large amounts of capital needed around June when new cocoons appeared on the market. Local banks started financing silk producers in their districts as well. Export merchants could hardly obtain sufficient funds from their own financial sources and in general borrowed it from their banks in Yokohama by discounting promissory notes which they had received from producers in order to loan to producers at a favourable interest rate. These banks in Yokohama including the Yokohama Specie Bank obtained funds for this from the Bank of Japan by rediscounting bills of exchange which they had discounted for export merchants. Local producers were financed for around 80 per cent of the estimated

sales value of silk until the middle of the first decade of the twentieth century. Loans supplied from local banks were financed by the Bank of Japan through the head office or its local branches by rediscounting these same bills. Similarly, to obtain finance for cotton imports, cotton spinning companies were dependent on funds from the Yokohama Specie Bank and the Bank of Japan which were circulated from exports of raw silk and silk manufactures.<sup>(62)</sup>

This organized credit system guaranteed by the Bank of Japan solved not only the problem of insufficient capital accumulation, but also prevented a further encroachment of foreign capital into the domestic market.<sup>(63)</sup> Around 1884, with the favourable trade balance and consolidation of the domestic market system by export merchants, government trade policy changed its emphasis from direct exports to expansion in line with the treaty port trade system.<sup>(64)</sup>

The Meiji government also put a special emphasis on developing the transportation system, both for military and commercial purposes. The development of marine transportation in particular was regarded as a most important and urgent task for reasons of international and domestic politics.<sup>(65)</sup> Foreign and coastal trade was in the hands of foreign shipping lines. Table 4 shows the number and tonnage of foreign vessels entering the open ports of Japan. Until 1875, when the steamers and properties of the Pacific Mail were sold to Mitsubishi Kaisha, America accounted for over half of the total tonnage.<sup>(66)</sup> After that time British shipping lines held an overwhelming position in terms of both number and tonnage of foreign vessels. The share carried in British vessels of Japanese total foreign trade was about 55 per cent annually on average between 1882 and 1889.<sup>(67)</sup>

Table 4. Number and Tonnage of Foreign Vessels entering the Open Ports of Japan 1870-1890.

Year	American ton	British ton	French ton	German ton	Others ton	Total ton
1870	426 (644,483)	661 ( 319,471)	94 ( 46,635)	252 (105,191)	130 (45,495)	1,563 (1,161,175)
1875	331 (617,331)	350 ( 252,146)	37 ( 46,399)	71 ( 21,881)	42 (13,766)	831 ( 951,523)
1880	104 (168,229)	493 ( 419,519)	28 ( 43,509)	63 ( 27,466)	46 (36,400)	734 ( 695,123)
1885	77 (133,460)	568 ( 731,980)	53 ( 58,414)	223 (159,279)	54 (51,589)	975 (1,134,722)
1890	66 (122,697)	1,042 (1,737,333)	79 (191,399)	313 (315,770)	57 (49,515)	1,557 (2,416,714)

Sources: 1) 1870: Trade Summary for the Year 1870, Inclosure 5 and 6, pp. 121-22, in BPP, JAPAN, Vol 4, pp. 647-48.

2) 1875: [Summary of the Foreign Trade of Japan for the Year 1875], H. Parkes to the Earl of Derby, Yedo, 18 July 1876, p. 95, in ibid., Vol. 5, p. 677.

3) 1880: General Report on the Foreign Trade of Japan for the Year 1880, p. 82, in ibid., Vol. 6, p. 746.

4) 1885: DCRTF, No. 47, Foreign Trade of Japan for the Year 1885, p. 7, in ibid., Vol. 8, p. 57.

5) 1890: DCRTF, No. 961, Foreign Trade of Japan for the Year 1890, p. 11, in ibid., Vol. 8, p. 627.

Notes: 1) Mail steamers are included.

2) Japanese junks are not included.

In 1870 Kaiso Kaisha, established under the supervision of Tsusho-shi, opened the inland shipping line, which was taken over by Yubin Jokisen Kaisha in 1871. Mitsubishi Kaisha founded by Iwasaki Yataro in 1870 took the opportunity of becoming a leading shipping company at the time of the Formosan Expedition in 1874, and took the initiative in coastal trade with financial assistance from the government.<sup>(68)</sup> In 1875 the government ordered Mitsubishi to open a weekly service between Shanghai and Japan which created fierce competition with Pacific Mail in 1875 and P. & O. in 1876.<sup>(69)</sup> Mitsubishi ousted these foreign shipping lines from Japanese coastal trade and expanded regular services to Asia. In 1882 Kyodo Unyu Kaisha was established to challenge the Mitsubishi monopoly.<sup>(70)</sup> After cut-throat competition in freight rates between Mitsubishi and Kyodo Unyu, both companies amalgamated to form Nihon Yusen Kaisha in 1885.<sup>(71)</sup> Another large shipping company, Osaka Shosen Kaisha, was established in 1884 by small and medium shipping owners in the Kansai district. In 1885, the share of export and import goods transported by Japanese vessels was only 9.2 per cent.<sup>(72)</sup> In 1891, Nihon Yusen Kaisha opened a regular route between Kobe and Bombay to increase importing cotton from India, up until then which had been monopolized by P. & O.<sup>(73)</sup> European and American routes were monopolized by foreign shipping companies. It must however be noted that the government concentrated on developing Asian routes which were closely connected with markets where Japanese interests were involved. In 1896 after the Sino-Japanese War, the government issued the Laws for the Encouragement of Navigation (Kokai Shorei Ho) and Shipbuilding (Zosen Shorei Ho) respectively which considerably facilitated the development of Japanese shipping.<sup>(74)</sup> The number of vessels and total tonnage increased from 146 ships and 34,571 tons

in 1873 to 331 ships and 70,366 tons in 1880, 1,451 ships and 145,692 tons in 1890, and 5,171 ships and 863,830 tons in 1900.<sup>(75)</sup> In 1890, 986 Japanese vessels with a total tonnage of 892,291 entered the open ports of Japan for foreign trade, accounting for 38.8 per cent and 27.0 per cent of the total number and tonnage of 2,543 ships and 3,309,005 tons.<sup>(76)</sup>

#### 4. Treaty Port Trade

Far Eastern trade developed within the institutional framework of the treaty port system.<sup>(77)</sup> Japan trade was in general considered as a part of China trade and therefore developed in connection with it.<sup>(78)</sup> Western firms engaged in Japan trade had experience in China trade. They were commission or agency houses such as Jardine, Matheson & Co., Dent & Co., Walsh, Hall & Co., Russell & Co., and Butterfield & Swire.<sup>(79)</sup> They engaged in the buying and selling of commodities either on their own account or on commission for the European and American markets, while providing other facilities for trade such as shipping insurance and banking.<sup>(80)</sup> The decade of the 1860s was a crucial period for Western merchants engaged in China trade.<sup>(81)</sup> The development of the overland Suez route made it possible for merchants with small capital to join in Far Eastern trade and compete with the large Western firms. This led to severe competition among Western merchants in addition to a trend for Chinese compradores who had acted as managers to start to do business independently on their own account.<sup>(82)</sup> This intensified competition from small merchants made business unfavourable for the agency house system. Branches and agency houses were generally given instructions about the types of



commodity to deal in and limits of quantity and price by their head office or by supervisory branches in Hongkong or Shanghai. However, these instructions tended to be delayed, because of rapid changes in the market for silk and tea and incessant fluctuations in the exchange rate of the Mexican dollar.<sup>(83)</sup> This meant that they frequently missed a chance to enter the market.<sup>(84)</sup> Western merchants suffered severely from decreasing profits.<sup>(85)</sup> They ceased buying and selling commodities and became more concerned with shipping, insurance, banking and treaty port utilities.<sup>(86)</sup> While continuing produce trade on a joint account with other firms,<sup>(87)</sup> they stepped forward in the direction of capital investment in the late 1860s and early 1870s.<sup>(88)</sup> This was the situation in which they embarked on Japan trade.

Table 5 shows the number of firms and of foreign residents in Japanese treaty ports and open cities by nationality from 1870 to 1895. British firms accounted for over 40 per cent of the total number of Western firms and British residents formed just under 50 per cent of the total number of Western residents during this period. So far as firms are concerned, while the percentage of British firms remained constant, American firms gradually increased in number and the importance of both French and German firms gradually decreased towards the end of the century.

Table 6 gives details of the number and location of Western firms in 1870 and 1880. In 1870, 46.5 per cent of the Western firms were located in Yokohama, 29.3 per cent in Hyogo and Osaka, and only 9.4 per cent in Nagasaki. In 1880, 61.6 per cent of the Western firms were located in Yokohama, 30.6 per cent in Hyogo and Osaka, and 4.7 per cent in Nagasaki. Figures for the number of Chinese

Table 5. Number of Firms and Residents at the Treaty Ports by Nationality 1870-1890.

FIRMS

Year	American	British	French	German	Others	Total (European)	Chinese	Grand Total
1870	33	101	39	45	38	256		
1875	30	109	42	43	33	257		
1880	40	108	37	41	32	258	102	360
1885	46	91	18	33	22	210	139	349
1890	53	113	30	36	27	259	305	564

RESIDENTS

Year	American	British	French	German	Others	Total (European)	Chinese	Grand Total
1870*	229	782	158	164	253	1,586		
1875	353	1,282	254	279	415	2,583		
1880	407	1,057	184	309	402	2,359	3,584	5,943
1885	447	1,065	201	269	316	2,298	3,876	6,174
1890	495	1,236	236	333	507	2,807	4,373	7,180

Sources: 1) 1870: Returns of Foreign Residents, &c., at Treaty Ports, pp. 123-26, in BPP, JAPAN, Vol. 4, pp. 649-52.

2) 1875: Parkes to Derby, Yedo, 18 July 1876, (H), p. 96, in BPP, JAPAN, Vol. 5, p. 678.

3) 1880: General Report on the Foreign Trade of Japan for the Year 1880, (H), p. 83, in BPP, JAPAN, Vol. 6, p. 747.

4) 1885: DCRTF, No. 47, Foreign Trade of Japan for the Year 1885, p. 5, in BPP, JAPAN, Vol. 8, p. 55.

5) 1890: DCRTF, No. 961, Foreign Trade of Japan for the Year 1890, pp. 11-12, in BPP, JAPAN, Vol. 8, p. 627.

Notes: 1) \* Females other than British are excluded. 2) The term "firm" is liable to a different interpretation at different ports. (Summary of Commercial Reports for the Year 1876, p. 10, in BPP, JAPAN, Vol. 6, p. 216), and "includes not only mercantile establishments but also storekeepers and other concerns of every description." (DCRTF, No. 47, p. 5) 3) "All the foreigners employed by the Japanese Government in the interior are probably not included." (Summary of Commercial Reports for the Year 1876, p. 10.)

Table 6. Number of Western Firms at the Treaty Ports by Nationality in 1870 and 1880.

Nationality	1870						1880															
	Kanagawa		Nagasaki		Niigata		Edo		Total		Kanagawa		Hyogo, Nagasaki		Hakodate		Niigata		Edo		Total	
American	14	9	2	2	-	6	33	24	13	3	-	-	-	-	-	-	-	-	-	-	-	40
Austro-Hungarian	-	-	-	-	-	-	-	1	2	-	-	-	-	-	-	-	-	-	-	-	-	3
Belgian	1	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1
British	54	31	9	2	-	5	101	53	47	4	3	-	-	-	-	-	-	-	-	-	-	108
Danish	-	-	1	1	-	-	2	1	-	1	-	-	-	-	-	-	-	-	-	-	-	2
Dutch	3	9	5	-	1	4	22	5	5	-	-	-	-	-	-	-	-	-	-	-	-	10
French	21	12	-	2	-	4	39	34	2	1	-	-	-	-	-	-	-	-	-	-	-	37
German	22	12	5	-	1	5	45	24	10	3	1	2	1	41	-	-	-	-	-	-	-	41
Italian	4	-	-	-	-	-	4	4	-	-	-	-	-	-	-	-	-	-	-	-	-	4
Portuguese	-	-	2	-	-	1	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Russian	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Swiss	-	2	-	-	-	4	6	11	-	-	-	-	-	-	-	-	-	-	-	-	-	11
Total	119	75	24	7	2	29	256	159	79	12	4	2	2	258	-	-	-	-	-	-	-	258

Sources: 1) 1870: Returns of Foreign Residents, & c., at Treaty Ports, pp. 125-26, in BPP, JAPAN, Vol. 4, pp. 651-52.

2) 1880: General Report on the Foreign Trade of Japan for the Year 1880, (H), p. 83, in BPP, JAPAN, Vol. 6, p. 747.

Note: See Note 2) in Table 5.

firms seem unreliable, but in 1884, out of a total of 346 Chinese firms, 209 firms were located in Yokohama, 56 in Hyogo and Osaka, 70 in Nagasaki, 7 in Hakodate and 4 in Tokyo.<sup>(89)</sup>

In the year 1864-65, British merchants handled 4,830,650 dollars of the total imports of 6,267,510 dollars (77 per cent) and 8,386,780 dollars of the total exports of 13,240,601 dollars (63 per cent). American merchants handled 690,760 dollars (11 per cent of the total imports) and 1,328,715 dollars (10 per cent of the total exports).<sup>(90)</sup> In the year 1865-66, British merchants handled 7,763,250 dollars of the total imports of 10,592,341 dollars (73 per cent) and 9,037,940 dollars of the total exports of 16,186,110 dollars (56 per cent), American merchants 996,721 dollars in imports (9 per cent) and 3,015,807 dollars in exports (19 per cent).<sup>(91)</sup>

Table 7 shows shares in exports and imports of foreign and Japanese merchants. The position of foreign merchants was stronger in exports than in imports. Japanese merchants increased their share of both exports and imports from the second half of the 1890s.<sup>(92)</sup> However, even in 1900, foreign merchants took up 63.0 per cent of exports and 60.4 per cent of imports, and it was not until 1912 that Japanese merchants handled over half of the trade.<sup>(93)</sup>

Table 8 shows the percentage of exports and imports by Western firms in Yokohama according to nationality in 1889. Swiss firms had an important role in silk exports,<sup>(94)</sup> British firms having only 21 per cent<sup>(95)</sup>; British firms took up two-thirds of tea exports and American firms a third.

Table 7. Exports and Imports by Japanese and Foreign Merchants 1877-1900.

Year	EXPORTS		IMPORTS			
	By Japanese	By Foreigners	By Government	By Japanese	By Foreigners	
	yen %	yen %	yen %	yen %	yen %	
1877	842,242 ( 3.7)	21,688,617 (96.3)	410,385 ( 1.5)	425,583 ( 1.5)	26,994,510 (97.0)	
1880	4,485,785 (16.3)	23,020,025 (83.7)	664,773 ( 1.8)	1,939,109 ( 5.2)	35,031,107 (93.1)	
1885	3,394,398 ( 9.8)	31,390,019 (90.2)	1,257,735 ( 4.3)	2,344,986 ( 8.0)	25,724,778 (87.7)	
1890	6,123,962 (11.2)	48,767,636 (88.8)	1,173,706 ( 1.4)	19,521,765 (23.9)	61,033,110 (74.7)	
1895	26,328,816 (19.7)	107,188,169 (80.3)	1,999,734 ( 1.5)	38,829,338 (30.0)	88,431,506 (68.4)	
1900	73,381,634 (37.0)	124,681,913 (63.0)	1,090,913 ( 0.4)	112,737,050 (39.2)	173,433,883 (60.4)	

Sources: 1) 1877, 1880: Dai Ni-kai Nihon Teikoku Tokai Nankan (for the Year 1880), p. 210. For imports by the government, Nihon Teikoku Dai-Shichi Tokai Nankan (for the Year 1888), pp. 214-15.  
 2) 1885, 1890, 1895: Dai-Nihon Gaikoku Boeki Nanyo, corresponding years.  
 3) 1900: Nihon Teikoku Dai-Niju Tokai Nankan (for the Year 1901), p. 532

Notes: 1) Re-exports and re-imports are excluded.  
 2) For ship's use in exports is excluded.

Table 8. Approximate Percentage of the Principal Articles of Import and Export at Yokohama in 1889 by Nationality of Firms.

IMPORTS

Articles	British	German	American	French	Japanese
Cotton Yarn (English)	95	3	-	-	-
do. (Bombay)	95	3	1	-	-
Cotton (raw)	20	3	-	-	33
Italians	82	14	-	-	-
Mousselines	50	42	-	-	5
Shirtings	90	6	-	-	-
Handkerchiefs	32	12	5	-	47
Sugar (brown & black)	75	-	-	-	14
do. (white & refined)	99	-	-	-	-
Wines	14	15	-	55	-
Oil (Kerosene)	38	-	62	-	-
Iron (bar, round &c.)	50	25	-	-	12
Steel (rails)	33	43	-	-	-

EXPORTS

Articles	British	German	American	French	Swiss	Japanese
Silk	21	10	12	10	42	6
Tea	67	3	30	-	-	-
Rice	25	-	-	-	-	-
Copper	82	9	-	-	-	-
Silk Handkerchiefs	14	25	12	8	-	23
Peppermint Oil	29	50	11	-	-	-
do. Crystal	27	57	-	-	-	-
Paper (copying)	80	-	19	-	-	-
Straw Braid	95	-	4	-	-	-
Sulphur	11	-	86	-	-	-
Tabacco Leaf	81	18	-	-	-	-
Awabi Shells	26	60	-	-	-	-
Birds, Stuffed	12	6	5	-	-	9
Fish Oil	37	36	-	28	-	-

Source: DCRTF, No. 754, Yokohama for the Year 1889, pp. 37-38, in BPP, JAPAN, Vol. 8, pp. 479-80.

- Notes: 1) The unenumerated percentages are either too small or those of other nationalities, principally Chinese.  
2) As for silk and tea in exports, fractions are rounded.

The methods of transacting trade applied in Japan were adopted from China. Routine transactions were therefore carried out in the following way. Export articles were purchased by Western merchants through Japanese merchants in the treaty ports, who were entrusted by local consignors or producers for selling; import articles were sold by Western merchants to Japanese import merchants, who distributed them to domestic markets.<sup>(96)</sup> An important difference from China was the existence of associations formed by Japanese merchants, who had been local merchants or upper-class farmers, from producing districts according to common export or import articles in the treaty ports. This well-organized system called Urikomi-sho Taisei in the case of exports, which has no counterpart in China, acted as a barrier in mitigating the economic penetration of the Western powers and protecting the domestic market from control by Western merchants.<sup>(97)</sup>

We will review the general pattern of silk business in Yokohama as an example.<sup>(98)</sup> Raw silk was delivered from the producing district through local consignors or the producers themselves to export merchants in Yokohama, who sold them to Western merchants.<sup>(99)</sup> This was the only way for local producers without sufficient knowledge of the international market to dispose of their products. Prices of silk were first negotiated on the basis of samples between Western merchants and Japanese export merchants. When they agreed on prices, Western merchants brought all the raw silk which they were thinking of purchasing to their godowns without remitting any payments or issuing any documents. This was only a preliminary to the actual transaction. Japanese merchants were not able to obtain a sale until quality inspection, weight measurement and

other procedures had been completed. Western merchants frequently held silk in their godowns for several days and sometimes for over ten days before inspecting it, while they waited for favourable market quotations. When they were informed of bright prospects in the overseas market, they purchased the silk by completing the remaining procedures. However, when market prospects were dull, they cancelled on the pretext of finding faults in the silk. In any case, when business was completed, payments were usually made in cash.<sup>(100)</sup>

There were other practices. When a Western merchant wanted to purchase 500 bales of raw silk, he might promise at first to buy 800 bales. After bringing them into his godown, he would use them to gain finance from foreign banks, and cancel them afterwards. Export merchants had to bear all expenses for transportation both to and from godowns and therefore suffered heavy losses from any cancellation. It is said that, when Japanese merchants accused Western ones of such activities, they were often menaced with violence. Western merchants also used various means to defraud Japanese merchants in the measuring of commodities.<sup>(101)</sup>

It was reported to be customary for Western merchants consciously to use the following complicated tactics in exporting silk to the United States in order to make a large profit through price manipulation.<sup>(102)</sup> They would send a circular to their American customers, advising them to abstain from purchasing Japanese silk as there was a sign that prices would fall in the near future. Manufacturers in the United States did not hesitate to follow their suggestion and suspended their purchases. When Yokohama was informed of the inactivity of the United States market,



Japanese merchants started to sell their silk at even cheaper prices. Western merchants would gradually collect silk and then take steps to raise prices in the Yokohama market artificially. They made their agents send a telegram to Japan stating that demand in America was rising again. This stimulated the Yokohama market. Western merchants would then purchase some silk at a relatively high price in order to raise quotations for Japanese silk and send back a telegram to the United States saying that prices were rising. Thinking that prices would soon shoot up, American manufacturers hastily ordered from Western merchants at current Japanese prices. Finally, Western merchants were able to sell at a relatively high price to American manufacturers the silk which they had bought cheaply.

After the fall in the price of silk around 1877, Japanese export merchants willingly went out to Western firms to dispose of silk. This situation naturally increased the ascendancy of Western merchants over Japanese merchants in business matters.<sup>(103)</sup>

Customs in tea transaction were similar to those in silk.<sup>(104)</sup> Coal was generally transacted in the following, more straightforward way: when a seller and a buyer of coal agreed on price and quantity on the basis of samples, they exchanged contract or oral agreement on purchase and remittance was made in exchange for purchase.<sup>(105)</sup>

Since foreigners were on principle permitted to go freely only within an area of 10 ri (24.4 miles) around the open ports, Western merchants did not have the right to travel into the interior of Japan. They attempted to encroach on the inland market by sending Japanese employees to obtain export articles and offering

advances to Japanese merchants.<sup>(106)</sup> It was in 1863, when the Bakufu took a restrictive policy towards the silk trade, that Western merchants began to make advances to Japanese merchants in order to secure silk for export through "country purchase".<sup>(107)</sup> So far as raw silk was concerned, Jardine, Matheson & Co. made constant advances to three Japanese merchants.<sup>(108)</sup> Gower, Jardine's Yokohama agent, was instructed to increase purchase of silk in the interior and made advances, although expressing the fear that "I am rather afraid of encreasing too much the already large amount sent into the country."<sup>(109)</sup> After loans to Takasu-ya Seibei had caused Jardine's great pecuniary inconvenience in mid-1863,<sup>(110)</sup> Gower seemed to be even more cautious about advances<sup>(111)</sup> and suggested that "With reference to advances, it is my decided opinion that great risk is increased by advancing to Japanese Merchants and that it is much better to adhere strictly to cash transactions".<sup>(112)</sup> Total advances to Takasu-ya amounted to \$879,443<sup>(113)</sup> and Nambu Mino-no-kami was given advances amounting to \$210,000 in the first half of the year 1865 alone.<sup>(114)</sup> Whatever profit Jardine, Matheson & Co. might gain from selling silk procured by advances, it did not free them from pecuniary troubles after all. Takasu-ya's debt had reached \$84,566 by 1865,<sup>(115)</sup> Hambei's debt \$8,451.21, Nambu's debt \$16,580.28, Taguchi-ya's debt \$99.83; other debts in silk advances account for \$15,556.95.<sup>(116)</sup> Even so, it was the only prompt economic response, excluding diplomatic channels, which Western merchants were able to make in the face of restrictions on silk trade and the confinement of their activities to the treaty ports.<sup>(117)</sup>

As we have already seen, foreign trade, in other words the control of commercial rights, was in the hands of Western merchants who were guaranteed and protected by extraterritoriality. This meant that Japanese merchants were frequently cajoled and defrauded, being placed in a subordinate position to Western merchants.<sup>(118)</sup> Therefore, a direct exporting policy developed together with an upsurge in economic nationalism in the form of movements towards commercial rights recovery.<sup>(119)</sup> This movement reached a climax in the campaign of the Yokohama Allied Silk Warehousing Association (Yokohama Rengo Kiito Niazukarisho) in 1881, when silk export merchants in Yokohama, with support from local producers, suspended silk transactions for two months in order to demand equal terms of business with Western merchants.<sup>(120)</sup> Japanese merchants were not able to procure a substantial reform in transaction procedures. However, Western merchants had to accept the existence of the export merchants' system in order to continue business, although it functioned against the penetration of Western economic power.

The standard coin for trade in East Asia was the Mexican silver dollar.<sup>(121)</sup> The exchange rate of currencies were set on the principal of the same weight and same description. 100 Mexican dollars were to be equivalent to 311 silver ichibus, which were of greater purity than Mexican dollars. This caused an outflow of large amounts of gold coin from Japan in the second half of 1859 due to the discrepancy in the gold-silver exchange rate.<sup>(122)</sup> The outflow of gold was stopped by the Bakufu currency reform of 1860, which adjusted the gold-silver ratio in Japan to the international official standard.<sup>(123)</sup> After that date the Mexican dollar obtained a position as a trade currency<sup>(124)</sup>

and Japanese currency was "simply a marketable commodity like anything else, rising and falling with the supply and demand existing among the native trade population."<sup>(125)</sup> As Japanese merchants were not willing to accept Mexican dollars, Western merchants had to exchange them with silver ichibus before purchasing goods. Banks which were well-established in East Asia, such as the Chartered Mercantile Bank of India, London and China, the Oriental Banking Corporation, the Hongkong and Shanghai Banking Corporation and Comptoir d'Escompte de Paris, opened branches in Yokohama in the 1860s<sup>(126)</sup> and played an important role in financing foreign trade either by the buying and selling of bills of exchange on London, Shanghai and Hongkong or by providing Mexican dollars and issuing their own bank notes.<sup>(127)</sup> The Hongkong and Shanghai Banking Corporation which was founded in 1865 and opened its Yokohama branch in 1866 had a particularly strong influence and financed most foreign trade during the first two decades of the Meiji period.<sup>(128)</sup> The currency problem remained the most severe obstacle to Japan's trade, until the Meiji government adopted the gold standard in 1871.<sup>(129)</sup> However, since the government simultaneously started to mint a silver yen for trading purposes, the monetary system was in fact on bi-metalism until 1897, when Japan fully moved to the gold standard.<sup>(130)</sup>

## CHAPTER III

## The Development of Foreign Trade

As we have seen in Chapter 1, the increasing demand for primary products and the subsequent changes in the world supply and demand pattern provided favourable conditions for an increase in exports from Japan. During the period under consideration, stable growth of Japanese exports was helped by the depreciation of foreign exchange rates and stable growth of world trade as a whole.<sup>(1)</sup> The world trade elasticity of demand for exports is estimated at as much as 2.9 for the period 1879-1896. This indicates that the export demand for Japanese traditional semi-manufactured products was very elastic and contributed to a great extent to the increase in exports from Japan.<sup>(2)</sup> The rate of contribution from exports to economic growth was 8 per cent for the period 1876/80-1894/98,<sup>(3)</sup> and the annual growth rate of Japanese exports was as high as 7.5 per cent during the period 1881/85-1911/13.<sup>(4)</sup>

As has already been pointed out in earlier studies,<sup>(5)</sup> trade returns during the period 1859-1867 do not include smuggling, imports of ships and armaments, and the outflow of gold. Smuggling seemed very active, but figures are not, of course, available. The total number of ships which the Bakufu and feudal lords purchased or produced amounted to 138, of which 111 ships were purchased, mainly from Britain and the United States, at a cost of 7,830,000 dollars and 8,100 ryo between 1854 and 1867.<sup>(6)</sup> In addition to the incomplete figures, merchandise declared to the Japanese Custom House was generally undervalued owing to the continuous depreciation in silver value to gold.<sup>(7)</sup> It is therefore impossible to reconstruct accurate

Table 9. Japan's Foreign Trade 1860-1880.  
(in dollars)

Year	Imports	Exports	Total
1860	2,495,152	6,708,861	9,204,013
1861	2,711,556	4,365,532	7,077,088
1862	5,088,465	9,478,427	14,566,892
1863	4,840,731	11,808,217	16,648,948
1864	7,509,826	11,151,968	18,661,794
1865	14,076,938	18,490,230	32,567,168
1866*	-	-	-
1867	15,952,388	12,123,674	28,076,062
1868	15,000,371	20,435,133	35,435,504
1869	17,356,631	11,475,645	28,832,276
1870	31,120,641	15,143,246	46,263,887
1871	17,745,605	19,184,805	36,930,410
1872	26,188,441	24,294,532	50,482,973
1873	27,443,368	20,660,994	48,104,362
1874	24,226,629	20,164,585	44,391,214
1875	28,174,194	27,917,845	46,092,039
1876	23,969,004	27,578,851	51,547,855
1877	25,900,541	22,866,708	48,767,249
1878	33,334,392	26,259,419	59,593,811
1879	32,603,838	27,372,976	59,976,814
1880	36,622,243	27,419,629	64,041,872

Sources: 1) 1860-1878: Summary of Foreign Trade in Japan for the Year 1878, p. 25, in BPP, JAPAN, Vol. 6, p. 571.

2) 1879-1880: General Report on the Foreign Trade of Japan for the Year 1880, p. 71, in BPP, JAPAN, Vol. 6, p. 735.

Note: \* Figures for the year 1866 are not available, owing to the destruction of Kanagawa records.

trade statistics for this period.<sup>(8)</sup>

Table 9 shows Japan's export and import trade for the period 1860-1880 according to British consular reports.<sup>(9)</sup> Main export articles during the late Tokugawa period were raw silk, tea, copper and marine products<sup>(10)</sup>; main import articles were cotton and woollen manufactures. This commodity structure in exports and imports lasted up until the middle of the Meiji period without any great changes.

In this chapter, I will review the general trends in prewar Japanese foreign trade in terms of merchandise trade, according to the statistics which are currently available, though attempts are in progress to reconstruct complete trade statistics including invisible trade.<sup>(11)</sup> Figures for Japan's foreign trade after 1868 are available on the basis of official statistics.<sup>(12)</sup> There is, however, a problem in the valuation of imports in these statistics during the period 1873-1887. Imports from gold standard countries were converted in terms of Japanese gold yen, while those from silver standard countries were calculated in terms of Japanese silver yen, and these figures were simply totalled despite the difference in value between gold and silver. It is therefore necessary to correct these official import statistics, so that they stand wholly on the basis of the silver yen.<sup>(13)</sup>

Table 10 shows the annual average of exports and imports by commodity category in quinquennial terms for the period 1868-1935. So far as total foreign trade is concerned, the two periods of 1896/1900 and 1916/20 mark major turning-points in the development of Japan's foreign trade: the former was the period after the Sino-Japanese War, when Japan was starting to strengthen her political and economic spheres, and the latter was the period affected by

Table 10. Annual Average of Japan's Foreign Trade by Commodity Category 1868-1935.

EXPORTS (in thousand yen)

Year	Foodstuffs %	Raw Materials %	Semi-manufactured goods %	Finished goods %	Others %	Total
1868-1870	4,475 (31.2)	3,557 (24.8)	5,873 (41.0)	156 ( 1.1)	272 (1.9)	14,335 (100)
1871-1875	7,386 (39.1)	3,311 (17.5)	6,922 (36.6)	578 ( 3.1)	713 (3.8)	18,912 (100)
1876-1880	10,155 (38.0)	3,163 (11.8)	11,095 (41.5)	1,288 ( 4.8)	1,022 (3.8)	26,725 (100)
1881-1885	11,090 (31.5)	4,176 (11.9)	16,050 (45.6)	2,825 ( 8.0)	1,067 (3.0)	35,210 (100)
1886-1890	15,554 (26.5)	6,877 (11.7)	26,461 (45.0)	7,677 (13.1)	2,197 (3.7)	58,767 (100)
1891-1895	18,859 (18.5)	10,002 ( 9.8)	45,531 (44.7)	23,942 (23.5)	3,604 (3.5)	101,940 (100)
1896-1900	22,481 (13.0)	20,247 (11.7)	80,686 (46.6)	44,516 (25.7)	5,285 (3.0)	173,218 (100)
1901-1905	35,215 (12.2)	26,998 ( 9.4)	132,856 (46.1)	85,422 (29.6)	7,697 (2.7)	288,190 (100)
1906-1910	47,318 (11.2)	39,240 ( 9.3)	196,558 (46.7)	131,619 (31.2)	6,455 (1.5)	421,191 (100)
1911-1915	62,576 (10.8)	45,354 ( 7.8)	287,175 (49.4)	177,738 (30.6)	8,412 (1.4)	581,256 (100)
1916-1920	155,769 ( 8.9)	98,339 ( 5.6)	721,693 (41.3)	737,412 (42.2)	34,755 (2.0)	1,747,968 (100)
1921-1925	107,157 ( 6.3)	102,611 ( 6.1)	809,210 (47.9)	649,540 (38.4)	21,616 (1.3)	1,690,133 (100)
1926-1930	149,003 ( 7.7)	104,654 ( 5.4)	810,855 (42.1)	824,960 (42.8)	36,021 (1.9)	1,925,494 (100)
1931-1935	146,731 ( 8.1)	75,453 ( 4.2)	533,751 (29.4)	1,012,371 (55.7)	49,498 (2.7)	1,817,803 (100)

(cont.)



IMPORTS

(in thousand yen)

Year	Foodstuffs %	Raw materials %	Semi-manufactured goods %	Finished goods %	Others %	Total
1868-1870	9,638 (44.3)	929 (4.3)	4,041 (18.6)	6,778 (31.2)	355 (1.6)	21,741 (100)
1871-1875	3,713 (14.3)	976 (3.8)	5,566 (21.5)	14,669 (56.6)	984 (3.8)	25,909 (100)
1876-1880	4,140 (13.5)	1,138 (3.7)	8,477 (27.6)	15,969 (51.9)	1,033 (3.4)	30,758 (100)
1881-1885	5,652 (19.1)	1,185 (4.0)	8,576 (29.0)	13,537 (45.7)	666 (2.2)	29,618 (100)
1886-1890	11,408 (19.7)	4,317 (7.5)	16,566 (28.6)	24,524 (42.3)	1,121 (1.9)	57,939 (100)
1891-1895	20,366 (21.7)	19,559 (20.8)	18,842 (20.1)	32,750 (34.9)	2,360 (2.5)	93,879 (100)
1896-1900	54,775 (23.3)	62,900 (26.7)	41,609 (17.7)	72,756 (30.9)	3,186 (1.4)	235,228 (100)
1901-1905	84,380 (24.8)	112,271 (32.9)	52,989 (15.5)	86,232 (25.3)	5,043 (1.5)	340,916 (100)
1906-1910	64,527 (14.6)	175,408 (39.7)	81,742 (18.5)	116,247 (26.3)	3,663 (0.8)	441,588 (100)
1911-1915	72,228 (12.1)	310,637 (51.9)	108,953 (18.2)	102,056 (17.1)	4,207 (0.7)	598,083 (100)
1916-1920	163,505 (10.3)	841,102 (52.8)	388,433 (24.4)	189,528 (11.9)	11,435 (0.7)	1,594,003 (100)
1921-1925	298,041 (14.2)	1,048,380 (49.9)	370,815 (17.6)	371,151 (17.7)	14,163 (0.7)	2,102,550 (100)
1926-1930	290,363 (13.8)	1,152,317 (54.8)	336,071 (16.0)	308,041 (14.6)	16,259 (0.8)	2,103,052 (100)
1931-1935	171,904 (9.2)	1,125,152 (60.2)	319,132 (17.1)	237,451 (12.7)	14,200 (0.8)	1,867,838 (100)

Source: Nihon Ginko Tokai-kyoku, Meiji-iko Honpo Shuyo Keizai Tokai (Tokyo, 1966), pp. 280-81.

Notes: 1) Figures in parentheses are the percentage in total exports and imports.

2) Trade returns with Korea, Formosa and South Sakhalin are excluded.

3) Totals both in exports and imports are not necessarily consistent with total figures of each item due to rounding of numbers.

4) "Semi-manufactured goods" mean manufactures for further use in manufacturing such as raw silk and cotton yarn.

World War I. Exports of foodstuffs such as tea, rice and marine products maintained a 31-39 per cent share of total exports up until 1881/85 and after this period gradually decreased. Exports of raw materials such as coal and copper gradually declined. Semi-manufactured goods such as raw silk and cotton yarns took up a consistently important share of from 37 to 49 per cent during the whole period. Exports of manufactured goods gradually increased, making great progress in the period 1891/95. It must be noted, as a general trend in exports by commodity category, that, while semi-manufactured goods maintained their importance during the whole prewar period, the decrease in the percentage of exports of foodstuffs and raw materials was in line with the increase in those of manufactured goods, the turning-point occurring in the 1890s. Imports of foodstuffs and semi-manufactured goods took up a stable share of 9-25 per cent and 16-29 per cent respectively during the prewar period. Imports of raw materials such as cotton rapidly increased after 1891/95 and reached a 50-60 per cent share of total imports after 1911/15. By contrast, imports of manufactured goods decreased from 52-57 per cent in the 1870s to 31 per cent in 1896/1900 and less than 20 per cent after 1911/15. This contrast between the rapid increase in imports of raw materials and the rapid decrease in those of finished goods which began in 1891/95 reflected Japan's industrial development and the change in her industrial structure.

Table 11 shows the annual average of exports and imports by region and main trade partner in quinquennial terms during the period 1873-1935. In exports, while North America, chiefly the United States, took a constant share of 30-44 per cent until as late

Table 11. Annual Average of Japan's Foreign Trade by Region 1873-1935. (in thousand yen)

Year	Asia						North America					
	Total		China		India		Total		U.S.A.			
	Exports	Imports	Balance	Exports	Imports	Exports	Imports	Exports	Imports	Balance	Exports	Imports
1873-1875	4,209 (21.8)	8,916 (32.8)	(-)4,707	4,209 (21.8)	8,916 (32.8)	-	-	6,193 (32.1)	1,328 (4.9)	4,865	6,194 (32.1)	1,328 (4.9)
1876-1880	6,408 (24.4)	6,804 (22.1)	(-)396	5,727 (21.8)	5,928 (19.3)	782 (3.0)	1,088 (3.5)	7,959 (30.3)	2,294 (7.5)	5,665	7,959 (30.3)	2,294 (7.5)
1881-1885	7,268 (21.2)	8,992 (30.4)	(-)1,724	6,547 (19.1)	6,237 (21.1)	386 (1.1)	2,545 (8.6)	13,486 (39.4)	2,684 (9.1)	10,802	13,486 (39.4)	2,685 (9.1)
1886-1890	13,811 (24.2)	19,448 (33.6)	(-)5,637	8,532 (15.0)	8,704 (15.0)	698 (1.2)	6,553 (11.3)	22,533 (39.5)	5,083 (8.8)	17,450	22,533 (38.9)	5,072 (8.8)
1891-1895	28,396 (28.4)	39,160 (41.7)	(-)10,764	7,570 (7.6)	15,780 (16.8)	2,586 (2.6)	8,903 (9.5)	40,382 (40.4)	7,861 (8.4)	32,521	38,713 (38.7)	7,835 (8.3)
1896-1900	72,876 (43.1)	95,209 (40.5)	(-)22,333	27,294 (16.1)	27,957 (11.9)	6,200 (3.7)	32,091 (13.6)	51,832 (30.6)	37,045 (15.7)	14,787	49,553 (29.3)	36,876 (15.7)
1901-1905	127,423 (44.2)	153,679 (45.1)	(-)26,256	64,285 (22.3)	44,147 (12.9)	8,043 (2.8)	64,043 (18.8)	89,420 (31.0)	60,609 (17.8)	28,811	86,105 (29.9)	60,020 (17.6)
1906-1910	180,486 (42.9)	187,469 (42.5)	(-)6,983	100,003 (23.7)	66,507 (15.1)	14,042 (3.3)	71,151 (16.1)	135,173 (32.1)	68,463 (15.5)	66,710	130,862 (31.1)	67,405 (15.3)
1911-1915	258,183 (44.4)	286,420 (47.9)	(-)28,237	157,209 (27.0)	91,682 (15.3)	28,417 (4.9)	143,104 (23.9)	184,938 (31.8)	107,025 (17.9)	77,913	179,318 (30.9)	105,996 (17.7)
1916-1920	819,902 (46.9)	734,934 (45.1)	84,968	442,107 (25.3)	322,143 (20.2)	136,926 (7.8)	277,200 (17.4)	571,889 (32.7)	570,832 (35.8)	1,057	548,405 (31.4)	565,875 (35.5)
1921-1925	729,638 (43.2)	886,276 (42.2)	(-)156,638	420,265 (24.9)	355,711 (16.9)	118,023 (7.0)	346,306 (16.5)	736,155 (43.6)	632,810 (30.1)	103,345	717,091 (42.4)	603,706 (28.7)
1926-1930	843,852 (43.8)	857,088 (40.8)	(-)13,236	449,805 (23.4)	359,856 (17.1)	159,372 (8.3)	283,014 (13.5)	818,393 (42.5)	680,595 (32.4)	137,798	788,226 (40.9)	615,263 (29.3)
1931-1935	920,965 (50.7)	657,976 (35.2)	262,989	400,776 (22.0)	276,829 (14.8)	204,374 (11.2)	210,017 (11.2)	489,412 (26.9)	658,187 (35.2)	(-)168,775	459,432 (25.3)	610,389 (32.7)

(cont.)

(in thousand yen)

Year	Europe									
	Total		Britain		France		Germany			
	Exports	Imports	Exports	Imports	Exports	Imports	Exports	Imports		
1873-1875	8,176 (42.3)	16,292 (59.9)	3,638 (18.8)	12,372 (45.5)	3,305 (17.1)	2,719 (10.0)	84 (0.4)	1,194 (4.4)		
1876-1880	11,634 (44.4)	21,440 (69.7)	4,790 (18.3)	16,513 (53.7)	5,822 (22.2)	3,362 (10.9)	47 (0.2)	1,057 (3.4)		
1881-1885	13,038 (38.1)	17,816 (60.1)	3,939 (11.5)	13,673 (46.2)	8,383 (24.5)	1,891 (6.4)	376 (1.1)	1,494 (5.0)		
1886-1890	18,660 (32.7)	31,904 (55.1)	5,938 (10.4)	22,611 (39.0)	11,082 (19.4)	2,994 (5.2)	1,178 (2.1)	4,666 (8.1)		
1891-1895	29,276 (29.3)	45,064 (48.0)	5,677 (5.7)	31,215 (33.3)	18,850 (18.8)	3,858 (4.1)	1,727 (1.7)	7,793 (8.3)		
1896-1900	40,937 (24.2)	98,916 (42.1)	9,562 (5.6)	60,768 (25.8)	22,827 (13.5)	6,735 (2.9)	3,000 (1.8)	21,550 (9.2)		
1901-1905	64,712 (22.5)	118,118 (34.6)	15,211 (5.3)	68,010 (19.9)	30,477 (10.6)	4,414 (1.3)	4,728 (1.6)	30,474 (8.9)		
1906-1910	93,797 (22.3)	170,562 (38.6)	24,678 (5.9)	101,256 (22.9)	40,603 (9.6)	5,646 (1.3)	9,350 (2.2)	44,122 (10.0)		
1911-1915	116,802 (20.1)	170,957 (28.6)	37,613 (6.5)	100,085 (16.7)	44,236 (7.6)	5,006 (0.8)	9,653 (1.7)	47,357 (7.9)		
1916-1920	247,897 (14.2)	148,091 (9.3)	131,484 (7.5)	120,800 (7.6)	88,505 (5.1)	7,175 (0.5)	226 (0.0)	4,465 (0.3)		
1921-1925	124,022 (7.3)	432,019 (20.5)	49,676 (2.9)	238,759 (11.4)	56,831 (3.4)	23,701 (1.1)	5,987 (0.4)	109,408 (5.2)		
1926-1930	139,150 (7.2)	381,202 (18.1)	61,661 (3.2)	146,797 (7.0)	46,324 (2.4)	23,736 (1.1)	11,232 (0.6)	134,721 (6.4)		
1931-1935	177,244 (9.8)	270,244 (14.5)	86,056 (4.7)	75,370 (4.0)	31,434 (1.7)	18,681 (1.0)	15,326 (0.8)	94,225 (5.0)		

(cont.)

Year	(in thousand yen)					
	South America, Africa & Oceania			Grand Total		
	Exports	Imports	Balance	Exports	Imports	Balance
1873-1875	-	-	-	19,312 (100)	27,181 (100)	(-) 7,869
1876-1880	135 (0.5)	46 (0.1)	89	26,226 (100)	30,768 (100)	(-) 4,542
1881-1885	261 (0.8)	73 (0.2)	188	34,217 (100)	29,622 (100)	4,595
1886-1890	601 (1.1)	193 (0.3)	408	56,979 (100)	57,952 (100)	(-) 973
1891-1895	1,159 (1.2)	488 (0.5)	671	100,042 (100)	93,850 (100)	6,192
1896-1900	3,240 (1.9)	2,394 (1.0)	846	169,272 (100)	235,228 (100)	(-) 65,956
1901-1905	5,897 (2.0)	5,464 (1.6)	433	288,190 (100)	340,916 (100)	(-) 52,726
1906-1910	9,486 (2.3)	10,180 (2.3)	(-) 694	421,191 (100)	441,588 (100)	(-) 20,397
1911-1915	18,931 (3.3)	25,565 (4.3)	(-) 6,634	581,256 (100)	598,083 (100)	(-) 16,827
1916-1920	108,064 (6.2)	121,859 (7.6)	(-) 13,795	1,747,968 (100)	1,594,003 (100)	153,965
1921-1925	84,524 (5.0)	135,549 (6.4)	(-) 51,025	1,690,133 (100)	2,102,550 (100)	(-) 412,417
1926-1930	124,095 (6.4)	172,957 (8.2)	(-) 48,862	1,925,494 (100)	2,103,052 (100)	(-) 177,558
1931-1935	230,182 (12.7)	253,275 (13.6)	(-) 23,093	1,817,803 (100)	1,867,838 (100)	(-) 50,035

Source: Nihon Ginko Tokei-kyoku, Meiji-iko Honpo Shuyo Keizai Tokei (Tokyo, 1966), pp. 290-297.

Notes: 1) Figures in parentheses are the percentage of total exports and imports.

2) Figures in each region before 1914 are totals of those with main countries.

3) Figures in exports before 1896/1900 and those in imports before 1891/95 are not consistent with figures in Table 10 because of different original sources.

4) Figures before 1873 are not available.

as 1926/30, Asia replaced Europe in 1896/1900. The share of the Asian market in total exports increased from 28 per cent in 1891/95 to 43 per cent in 1896/1900, and this increasing importance of the Asian market for Japan's export trade was further strengthened in the early 1930s. China, in particular, was important as an export market in Asia, taking up 15-27 per cent of Japan's total exports with the exception of the period 1891/95 which included the Sino-Japanese War. In contrast, exports to Europe gradually decreased to below 25 per cent of the total after 1896/1900. As is shown in Table 11, though Britain took up 18-19 per cent of total exports up until 1880, she lost importance as an export market, as the central silk market had changed from London to Lyons. In contrast, France took up 17-25 per cent of total exports until 1891/95, particularly in the 1870s, as an export market for raw silk and silkworm eggs. The United States was the most important export market, taking up 29-42 per cent of total exports up until 1926/30. In particular, the United States share remained at 39 per cent during the period 1881/85-1891/95 which possibly helped Japan to its secular favourable balance of trade.<sup>(14)</sup> Thus, over the period 1896/1900, export trade by country changed from the pattern of the United States and Europe, mainly Britain and France, to one of the United States and Asia, chiefly China.

The characteristics of the import trade are different from those of the export trade. The combined shares of Asia and Europe took up over 75 per cent of total imports up until 1911/15, although imports from Asia surpassed those from Europe in 1901/05. Imports from the United States increased with the outbreak of World War I

to replace the decline in imports from Europe. As for Asia, the main trading country changed from China to India in 1896/1900 and then back from India to China in 1921/25 because of shifts in cotton imports. Britain's overwhelming position in the import trade decreased as Japan became able to supply herself with the manufactured goods which she had previously imported from Britain. This could all be summarised by stating that Britain, China and/or India had an importance in Japan's import trade up until World War I and that after that period a new pattern was formed involving Asia and the United States.<sup>(15)</sup>

Table 11 also shows the balance of trade according to region. The trade pattern in terms of balance of trade shows that the excess of imports from Asia and Europe was to some extent compensated for by the excess of exports to the United States up until 1930, with the exception of 1916/20. In Asia, as imports from India increased, China became increasingly important as an export rather than an import market. After 1901/05, in particular, it was necessary for Japan to increase her exports to China in order to reduce the unfavourable balance of trade with India. In Europe, though the balance of trade with Britain continued to be against Japan, this was partly compensated for by the excess of exports to France until the mid-1890s. However, after 1896/1900, with the exception of 1916/20, as the increase in exports to France slowed down, Japan came to suffer from a continuous large trade deficit with Europe. Imports from the United States increased with the outbreak of World War I. As they remained at a high level even after 1921/25, it became difficult to maintain a stable trade pattern of reducing the deficit with Asia and Europe by means of a favourable large

trade balance with the United States. This meant that Japan had in consequence to strengthen her close relationship with the Asian market. In the 1930s, Japan expanded her export market to India, South East Asian, and other countries. This played a part in reducing an unfavourable trade balance caused partly by a stagnation in exports to China.<sup>(16)</sup>

Table 12 shows exports and imports of principal articles. The main export articles were primary and semi-manufactured products such as raw silk, tea and coal, until cotton yarns and cotton and silk manufactures emerged after 1900, while the main import articles were cotton yarns, cotton and woollen manufactures and sugar during the period up until the turn of the century.

From the above considerations of Japan's foreign trade by commodity and country, it should be possible to draw an interesting parallel between general trends in the trade pattern and the development of domestic industries. In terms of the trade pattern, as we have already seen, the Sino-Japanese War and World War I, in 1894-95 and 1916-19 respectively, provided two important opportunities for the expansion of Japan's foreign trade. During the first stage, up until the mid-1890s, Japan exported primary and semi-manufactured products such as raw silk and tea, which came mainly from a rural industrial base, to the United States, and imported manufactured goods, such as cotton and woollen manufactures and machinery, from Britain. The period from the mid-1880s to the mid-1890s was characterised by a rapid development of domestic industries such as cotton spinning, which began in the second half of the 1880s.<sup>(17)</sup> This provided the opportunity to change the trade pattern from a dependent colonial trade structure to a more



Table 12. Principal Articles of Export and Import 1868-1930.

EXPORTS

Year	(in thousand yen)									
	Raw Silk	Tea	Cotton Yarns	Cotton Manufactures	Silk Manufactures	Coal	Copper	Rice	Total	%
1868	6,253(40.2)	3,582(23.0)		6(0.0)	1(0.0)	84(0.5)	28(0.2)		15,553(100)	%
1870	4,279(29.4)	4,512(31.0)		4(0.0)	1(0.0)	298(2.0)	208(1.4)		14,543(100)	%
1875	5,425(29.1)	6,863(36.9)		10(0.1)	7(0.0)	1,011(5.4)	443(2.4)	16(0.1)	18,611(100)	%
1880	8,607(30.3)	7,498(26.4)		33(0.1)	38(0.1)	1,086(3.8)	474(1.7)	211(0.7)	28,395(100)	%
1885	13,034(35.1)	6,854(18.5)		178(0.5)	58(0.2)	1,976(5.3)	1,859(5.0)	767(2.1)	37,147(100)	%
1890	13,859(24.5)	6,327(11.2)	2(0.0)	174(0.3)	1,181(2.1)	4,796(8.5)	5,378(9.5)	1,322(2.3)	56,604(100)	%
1895	47,866(35.2)	8,879(6.5)	1,034(0.8)	2,316(1.7)	10,061(7.4)	7,605(5.6)	5,189(3.8)	7,207(5.3)	136,112(100)	%
1900	44,657(21.8)	9,036(4.4)	20,589(10.1)	5,724(2.8)	18,604(9.1)	20,032(9.8)	12,922(6.3)	3,577(1.7)	204,430(100)	%
1905	71,844(22.3)	10,584(3.3)	33,246(10.3)	11,492(3.6)	30,259(9.4)	14,268(4.4)	16,186(5.0)	3,127(1.0)	321,534(100)	%
1910	130,182(28.4)	14,542(3.2)	45,347(9.9)	20,463(4.5)	32,797(7.2)	16,301(3.6)	21,176(4.6)	5,900(1.3)	458,429(100)	%
1915	151,774(21.4)	15,402(2.2)	66,211(9.3)	38,511(5.4)	43,219(6.1)	19,237(2.7)	46,163(6.5)	9,677(1.4)	708,307(100)	%
1920	382,222(19.6)	17,113(0.9)	152,394(7.8)	335,266(17.2)	158,416(8.1)	45,200(2.3)	12,721(0.7)	5,903(0.3)	1,948,395(100)	%
1925	877,722(38.1)	14,763(0.6)	123,117(5.3)	432,850(18.8)	116,985(5.1)	33,201(1.4)	2,421(0.1)	3,976(0.2)	2,305,590(100)	%
1930	416,647(28.3)	8,387(0.6)	15,033(1.0)	272,117(18.5)	65,775(4.5)	21,783(1.5)	21,281(1.4)	6,571(0.4)	1,469,852(100)	%

Source: Toyo Keizai Shinpo-sha, Nihon Boeki Seiran (Tokyo, 1935), pp. 2, 5, 13, 15, 50, 55, 72, 77, 106, 115.

(cont.)

IMPORTS

	Cotton		Cotton Yarns		Cotton Manufactures		Wollen Manufactures		Sugar	Rice	Coal	Total
	$\frac{m}{\%}$	$\frac{m}{\%}$	$\frac{m}{\%}$	$\frac{m}{\%}$	$\frac{m}{\%}$	$\frac{m}{\%}$	$\frac{m}{\%}$	$\frac{m}{\%}$				
1868	422( 3.9)	1,240(11.6)	2,543(23.8)	1,948(18.2)	886( 8.3)	436( 4.1)	34(0.3)	10,693(100)				
1870	628( 1.9)	4,522(13.4)	2,982( 8.8)	2,696( 8.0)	3,048( 9.0)	14,598(43.3)	25(0.1)	33,742(100)				
1875	371( 1.2)	4,058(13.5)	5,046(16.8)	5,777(19.3)	3,425(11.4)	22( 0.1)	148(0.5)	29,976(100)				
1880	171( 0.5)	7,700(21.0)	5,523(15.1)	5,792(15.8)	3,536( 9.7)	434( 1.2)	156(0.4)	36,627(100)				
1885	809( 2.8)	5,190(17.7)	2,884( 9.8)	2,685( 9.1)	4,671(15.9)	674( 2.3)	85(0.3)	29,357(100)				
1890	5,365( 6.6)	9,928(12.1)	4,129( 5.1)	6,726( 8.2)	8,410(10.3)	12,303(15.1)	110(0.1)	81,729(100)				
1895	24,822(19.2)	7,083( 5.5)	6,894( 5.3)	9,104( 7.0)	11,747( 9.1)	4,357( 3.4)	853(0.7)	129,261(100)				
1900	59,472(20.7)	7,043( 2.5)	18,438( 6.4)	17,757( 6.2)	25,607( 9.3)	9,022( 3.1)	2,100(0.7)	287,262(100)				
1905	110,623(22.6)	1,702( 0.3)	17,927( 3.7)	20,900( 4.3)	13,706( 2.8)	47,981( 9.8)	5,465(1.1)	488,538(100)				
1910	159,222(34.3)	344( 0.1)	13,668( 2.9)	12,380( 2.7)	13,140( 2.8)	8,644( 1.9)	1,497(0.3)	464,234(100)				
1915	217,316(40.8)	171( 0.0)	4,679( 0.9)	3,623( 0.7)	14,805( 2.8)	4,886( 0.9)	4,458(0.8)	532,450(100)				
1920	721,437(30.9)	4,453( 0.2)	15,024( 0.6)	31,270( 1.3)	60,212( 2.6)	18,059( 0.8)	19,918(0.9)	2,336,175(100)				
1925	923,355(35.9)	1,857( 0.1)	10,307( 0.4)	57,182( 2.2)	75,089( 2.9)	120,499( 4.7)	24,526(1.0)	2,572,658(100)				
1930	362,047(23.4)	1,904( 0.1)	4,999( 0.3)	11,434( 0.7)	25,973( 1.7)	19,583( 1.3)	34,204(2.2)	1,546,071(100)				

Source: Toyo Keizai Shinpo-sha, Nihon Boeki Seiran, pp. 154, 165, 228-30, 241, 249, 269.

complex structure adjusted to the international economic environment.<sup>(18)</sup> This process was completed during the period between the mid-1890s and the outbreak of World War I. The new trade pattern consisted of two different faces: trade with Asia in which Japan played the role of an industrialized country by exporting light manufactured goods and importing raw materials, and trade with Europe and the United States, in which she played the role of a primary producing backward country by exporting primary and semi-manufactured products and importing manufactured goods such as machinery.<sup>(19)</sup> Japan's victory in the Sino-Japanese War gave an opportunity for exporting manufactures to the China market.

World War I was an occasion for Japan to strengthen her trade relationship with the United States both in exports and imports, bringing about a change in her trade pattern to one of exporting raw silk and silk manufactures to the United States and manufactured goods such as cotton products to China and of importing raw materials from Asia and the United States.<sup>(20)</sup>

Finally, terms of trade in general improved from the late 1870s to the middle of the first decade of the twentieth century, but towards the late 1910s began a steady change for the worse.<sup>(21)</sup>

## CHAPTER IV

## The Development of Silk Exports\*

## 1. The Development of Raw Silk Exports 1859-1899: A Quantitative Survey

Raw silk was Japan's single most important export article from 1859 to around 1930. Table 13 shows the world raw silk supply structure during the second half of the nineteenth century, when Japan had become involved in the world market. On average over the whole period from 1871 onwards, Europe, mainly France and Italy, took a 35 per cent share of world raw silk production, Levant and Central Asia 7 per cent, and East Asia, mainly China and Japan, 58 per cent.

In the second half of the nineteenth century, Italy, China and Japan were the main suppliers of raw silk to the world market, as France, the major silk manufacturing country, was still affected by silkworm disease (pebrine). This facilitated imports of raw silk to Europe from China and Japan in the 1860s. As we shall see later, the United States emerged as a major silk manufacturing country after 1870, but, since France was primarily producing high quality silk fabrics for the European and British markets, while the United States concentrated production on ordinary silk fabrics for its ample domestic market, the silk manufacturing of the two countries was

\* Section 2 of this chapter appeared as an article entitled 'Bakumatsu Meiji Shoki ni okeru Kiito Yushutsu no Suryo-teki Sai-kento' (Shakai Keizai Shigaku, Vol. 45, No. 3, Oct. 1979, pp. 30-57). Section 3 is based on the author's unpublished MA thesis entitled 'Kiito Yushutsu to Nihon Shihonshugi: Meiji Zen-Chu-ki ni okeru Kiito Yushutsu no Doko to Amerika Kinuorimonogyo' (Waseda University, Tokyo, Mar. 1975).

Table 13. Annual Average of World Raw Silk Production 1871-1900.

(in thousand kilogrammes)

Year	Europe		Levant and Central Asia		East Asia (export only)			Total World Production
	France	Italy Others Total	Central Asia	China		Japan (Yokohama)	India Total	
				(Shanghai)	(Canton)			
1871-75	658 (7)	2,880 (30) 138 (1) 3,676 (39)	676 (7)	2,996 (31) 945 (10) 3,941 (41)	691 (7)	562 (6)	5,194 (54)	9,546 (100)
1876-80	510 (6)	1,900 (21) 65 (1) 2,475 (28)	639 (7)	3,288 (37) 887 (10) 4,175 (47)	1,033 (12)	532 (6)	5,740 (65)	8,854 (100)
1881-85	631 (7)	2,760 (29) 239 (3) 3,630 (38)	700 (7)	2,448 (26) 894 (9) 3,342 (35)	1,360 (14)	406 (4)	5,108 (54)	9,438 (100)
1886-90	692 (6)	3,311 (29) 337 (3) 4,340 (37)	738 (6)	2,758 (24) 1,277 (11) 4,035 (35)	2,056 (18)	432 (4)	6,522 (56)	11,600 (100)
1891-95	747 (5)	4,428 (29) 343 (2) 5,518 (36)	1,107 (7)	4,030 (26) 1,373 (9) 5,403 (35)	3,006 (20)	261 (2)	8,670 (57)	15,295 (100)
1896-1900	650 (4)	4,215 (25) 355 (2) 5,220 (31)	1,552 (9)	4,508 (26) 2,021 (12) 6,529 (38)	3,459 (20)	293 (2)	10,281 (60)	17,053 (100)

Source: J. Schober, translated by R. Cuthill, Silk and Silk Industry (London, 1930), p. 102.

Notes: 1) Totals are not always consistent because of rounding of figures.

2) Figures in parentheses show the percentage of total world production.

not necessarily competitive.<sup>(1)</sup> The raw silk producing countries of Italy, China and Japan became involved in the development of the silk industry and the demand for raw silk in the silk manufacturing countries of France and the United States, through competition over quality and price in the world market.

During the Bakumatsu period raw silk was mainly exported from Yokohama, which dealt with 97-99 per cent of total raw silk exports in quantity and 99 per cent in value.<sup>(2)</sup> Table 14 shows the quantity of raw silk exports and the price per picul for the seasons 1860/61-1875/76 in relation to indexes calculated by the author and based on the season 1860/61. The volume of raw silk exports was stagnant throughout the Bakumatsu and early Meiji periods, and value varied in accordance with price fluctuations.<sup>(3)</sup> The price of raw silk rose until 1868/69, when it reached 882 dollars, and then fell sharply. The increase in the value of raw silk exports was thus dependent on the rapidly rising price rather than on any increase in quantity. This reflected the fact that productivity in the silk reeling industry had reached its limit and was actually hindering an increase in exports.<sup>(4)</sup>

Table 15 shows the distribution of raw silk exports by country from 1860/61 to 1872/73, mainly on the basis of the Yokohama Prices Current and Market Report which was published under the direction of the Yokohama General Chamber of Commerce.<sup>(5)</sup> This table enables us to establish the detailed distribution of raw silk exports by country, a breakdown which is not available from Japanese official statistics before 1873. Comparing Table 15 with Table 14, total figures are completely consistent after 1867/68 and even before this year only small differences can be seen. Exports to "other countries" were

Table 14. Raw Silk Exports from Japan 1860/61-1875/76.

Year	Quantity	Value		Average Price per picul	
		bales	dollars	dollars	dollars
1860-61	11,318	(100)	3,369,864	(100)	372 (100)
1861-62	11,915	(105)	3,844,023	(114)	403 (108)
1862-63	25,891	(229)	9,493,400	(282)	459 (123)
1863-64	15,931	(141)	6,374,685	(189)	500 (134)
1864-65	16,523	(146)	8,153,031	(242)	617 (166)
1865-66	11,619	(103)	6,916,559	(205)	744 (200)
1866-67	13,564	(120)	8,304,969	(246)	765 (206)
1867-68	12,306	(109)	7,295,044	(216)	741 (199)
1868-69	14,984	(132)	10,582,938	(314)	882 (237)
1869-70	14,436	(128)	9,781,100	(290)	847 (228)
1870-71	8,467	(75)	5,397,203	(160)	796 (214)
1871-72	14,635	(129)	9,171,270	(272)	783 (210)
1872-73	14,428	(127)	7,897,300	(234)	684 (184)
1873-74	14,520	(128)	6,798,800	(202)	585 (157)
1874-75	11,941	(106)	4,663,790	(138)	488 (131)
1875-76	13,591	(120)	4,874,320	(145)	450 (121)

Source: Review of the Japan Silk Trade from 1874 to 1877, Summary of Commercial Reports for the Year 1876, Inclosure 2, pp. 39-40, in BPP, JAPAN, Vol. 6, pp. 245-47.

Notes: 1) Year means from 1 July to 30 June of the next year.

2) A bale equals 106.67 lb.

3) Figures in parentheses relate to indexes based on the year 1860/61 which have been calculated by the author.

Table 15. Distribution of Raw Silk Exports from Japan by Country 1860/61-1872/73.

Year	Britain		France		U.S.A.		Other Countries		Total
	Quantity	%	Quantity	%	Quantity	%	Quantity	%	
1860-61	2,002	(18.0)	-	-	-	-	9,136	(82.0)	11,138
1861-62	3,139	(26.3)	-	-	-	-	8,776	(73.7)	11,915
1862-63	6,862	(26.5)	-	-	143	(0.6)	18,881	(72.9)	25,886
1863-64	8,979	(56.4)	205	(1.3)	55	(0.3)	5,692	(35.7)	15,931
1864-65	9,492	(57.4)	4,479	(27.1)	-	-	2,556	(15.5)	16,527
1865-66	7,300	(63.0)	4,082	(35.2)	55	(0.5)	149	(1.3)	11,586
1866-67	8,656	(63.9)	4,684	(34.6)	123	(0.9)	91	(0.7)	13,554
1867-68	5,463	(44.4)	6,195	(50.3)	647	(5.3)	1	(0.0)	12,306
1868-69	8,010	(53.5)	6,156	(41.1)	799	(5.3)	19	(0.1)	14,984
1869-70	8,372	(58.0)	5,804	(40.2)	260	(1.8)	-	-	14,436
1870-71	7,120	(84.1)	896	(10.6)	353	(4.2)	98	(1.1)	8,467
1871-72	7,946	(54.3)	6,203	(42.4)	56	(0.4)	430	(2.9)	14,635*
1872-73	7,365	(51.0)	5,516	(38.2)	172	(1.2)	1,375	(9.5)	14,428**

Sources: 1) 1860/61, 1861/62: M. Paske-Smith, Western Barbarians in Japan and Formosa in Tokugawa Days (Kobe: J. L. Thompson, 1930), p. 215.

2) 1862/63-1867/68: Yokohama Prices Current and Market Report, No. 36, 10 July 1868, in JMA, PCMR 46; 1868/69: ibid., No. 62, 10 July 1869, in JMA, PCMR 74; 1869/70, 1870/71, ibid., No. 110, 8 July 1871, in JMA, PCMR 74; 1871/72: ibid., No. 134, 5 July 1872, in JMA, PCMR 75; 1872/73: ibid., No. 157, 5 July 1873, in JMA, PCMR 76.

Notes: 1) Year means from 1 July to 30 June of the next year.

2) A bale equals 106.67 lb.

3) \* excluding 650 bales from Hyogo; \*\* excluding 145 bales from Hyogo. In both cases, destination is unknown.



mostly destined for Shanghai.<sup>(6)</sup> 70-80 per cent of raw silk was first directed to Shanghai up to 1862/63 and, as we shall see later, thence re-exported to Britain. Exports to Shanghai fell to less than a third in volume and to half of their previous share in the market in 1863/64 compared with 1862/63. In contrast, direct exports to Britain increased after 1862/63, taking a share of 56 per cent in 1863/64. This was a result of the extension of the regular P. & O. service, which rendered reshipment from Shanghai unnecessary. In 1864/65, exports to Shanghai were reduced by half again, falling to only 125 bales in 1865/66.<sup>(7)</sup> By contrast, exports to Marseilles increased rapidly. This reflected the fact that French foreign policy towards Japan had become positive particularly as regards the silk trade in order to relieve the depression in the French silk industry caused by the wide spread of silkworm disease.<sup>(8)</sup>

The actual port of destination in Britain was not London but Southampton.<sup>(9)</sup> According to the United States consular reports, raw silk exports to Britain amounted to 5,149 bales destined for Southampton and none for London in 1863/64, and 9,122 bales for Southampton and 401 bales for London in 1864/65.<sup>(10)</sup> Though exports to Marseilles exceeded those to Britain temporarily in 1867/68, during the Bakumatsu period 60 per cent of the total raw silk exported from Japan went to Britain and slightly more than 30 per cent was exported to France.

As we have seen, in the 1860s Shanghai was the centre for transshipment to Britain and the United States for trade in general as well as the silk trade in particular.<sup>(11)</sup> During the period from 1860/61 to 1863/64, 68-78 per cent of the raw silk exported from Japan to Shanghai was reshipped from Shanghai, but most of this was

Table 16. Annual Average of Silk Exports from Shanghai 1860-1899.

Year	(in piculs)		
	Britain	France	U.S.A.
1860/61-1864/65	41,482 (83.0) %	6,080 (12.2) %	500 ( 1.0) %
1865/66-1869/70	25,978 (75.9)	7,315 (21.4)	297 ( 0.9)
1870-1874	26,343 (64.1)	10,375 (25.3)	2,500 ( 6.1)
1875-1879	18,613 (37.7)	22,321 (45.2)	5,324 (10.8)
1880-1884	10,965 (25.4)	23,491 (54.5)	6,324 (14.7)
1885-1889	4,659 (12.5)	24,693 (66.5)	5,787 (15.6)
1890-1894	3,626 ( 8.5)	27,552 (64.9)	5,477 (12.9)
1895-1899	2,392 ( 7.7)	19,150 (61.5)	239 ( 0.8)
Total			

Sources: 1) 1860/61-1865/66: Holdsworth Silk Circular, Shanghai, 4 July 1866, in JMA, PCMR 46.  
 2) 1866/67: *ibid.*, 4 July 1867, in JMA, PCMR 46.

3) 1867/68: Jardine, Matheson & Co's (General Circular), Shanghai, 5 June 1868, in JMA, PCMR 72.  
 4) 1868/69 and 1869/70: Shanghai Price Current and Market Report, No. 138, Shanghai, 2 June 1871, in JMA, PCMR 74.

5) 1870-1881: IMC, Returns of Trade at the Treaty Ports, Part II, Shanghai, corresponding years.  
 6) 1882-1886: IMC, Returns of Trade at the Treaty Ports, and Trade Reports, Part II, Shanghai, corresponding years.

7) 1887-1899: IMC, Returns of Trade and Trade Reports, Part II, Shanghai, corresponding years.

Notes: 1) Figures for 1860/61-1866/67 are from 1 July to 30 June. Those for 1867/68-1869/70 are from 1 June to 31 May.

2) The figures given for France in 1871 and 1872 were in fact cited under the heading of "Continent of Europe".

3) Figures for 1860/61-1869/70 are calculated taking a bale as 103 lb. and a picul as 133.33 lb.  
 4) Figures until 1866/67 include thrown and coarse silk.

not landed at Shanghai.<sup>(12)</sup> The percentage of total raw silk exports from Shanghai taken up by Japanese silk was around 10 per cent in 1860/61 and 1861/62, and 26-32 per cent from 1862/63 to 1866/67.<sup>(13)</sup>

Table 16 shows the distribution of raw silk exports from Shanghai by country in quinquennial terms during the period 1860-1899. Until the first half of the 1870s, raw silk exported from Shanghai was mostly directed to Britain. In contrast, the share of exports to France increased from the second half of the 1870s; those to the United States were stagnant from 1875/79 to 1890/94 and thereafter sharply decreased, as we shall see later, due to a decline in the competitiveness of Chinese silk on the American market. As a whole, the export market for Chinese silk gradually became linked to France towards the end of the nineteenth century.

Table 17 shows raw silk exports from Japan during the period 1868-1899 in terms of both quantity and value. The items of silk considered comprise raw silk, waste silk ("kibiso" and "noshi"), floss silk (including waste floss silk), dupion, cocoons (including waste cocoons) and silkworm eggs, but exclude silk piece goods and manufactures.<sup>(14)</sup> As Figure 2 shows, the increase in total Japanese exports was dependent on silk exports. The ratio of silk exports shows a relative decline, since total exports were expanding at a higher rate. However, the value of silk exports increased from 9,785 thousand yen (46 per cent of total exports) in the 1870s to 19,033 thousand yen (43 per cent) in the 1880s, and 41,572 thousand yen (35 per cent) in the 1890s.

Raw silk was the main item of silk export, although exports of silkworm eggs were also important until 1873. Figures in Table 17 indicate the existence of four distinct periods in the development of raw silk exports: 1868-75, 1876-81, 1882-87, and 1888-99. For

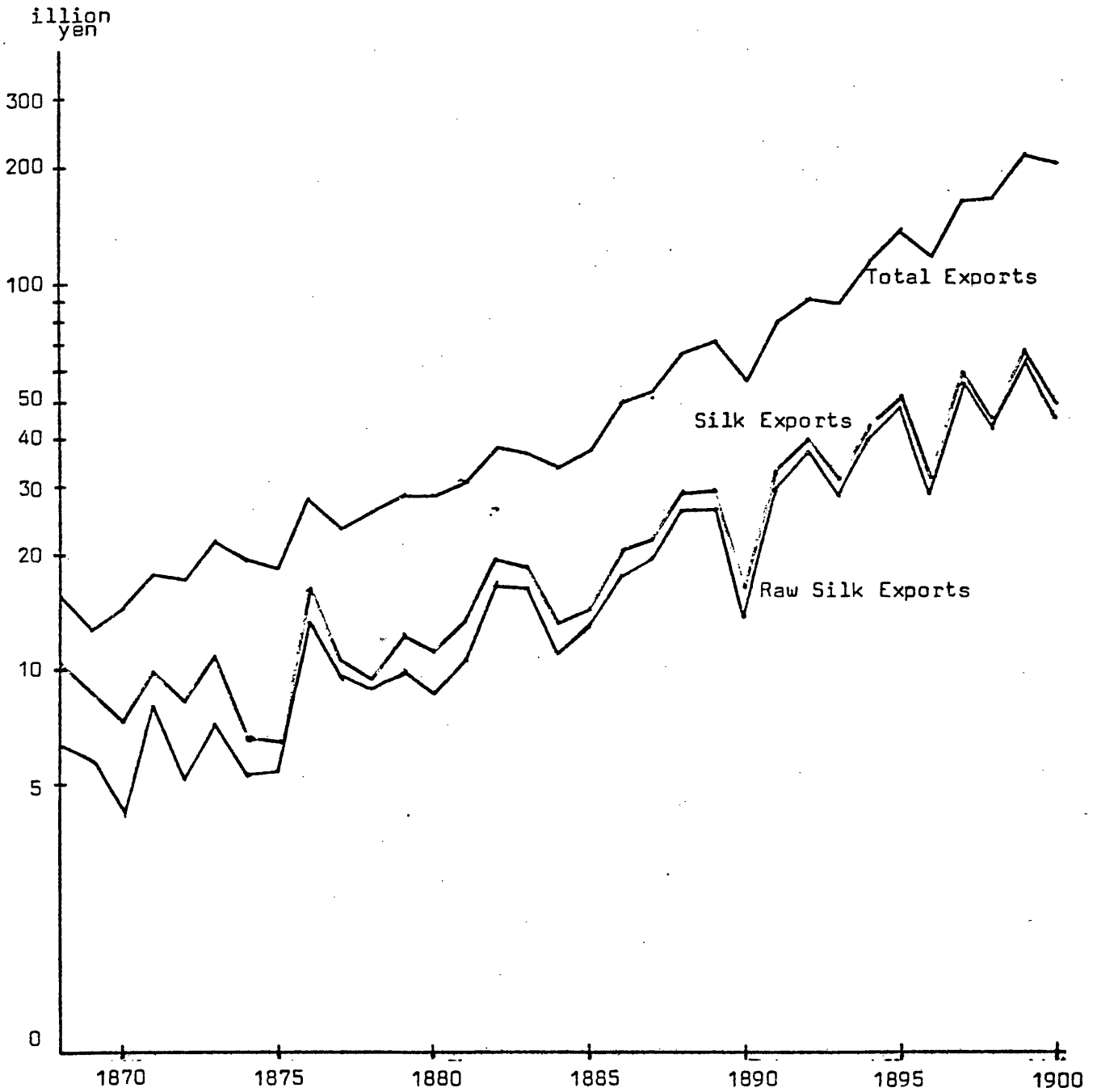
Table 17. Silk Exports from Japan 1868-1899.

Year	Total Silk Exports		Raw Silk		Waste Silk		Silkworm Eggs		Cocoons	
	(A)	(B)	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
	thousand yen	thousand yen	thousand kin	thousand yen	thousand kin	thousand yen	thousand sheets	thousand yen	thousand kin	thousand yen
	(A)	(B)	(A)	(C)	(A)	(C)	(D)	(E)	(A)	(F)
			%	%	%	%	%	%	%	%
			(A)	(C)	(A)	(C)	(D)	(E)	(A)	(F)
			(A)	(C)	(A)	(C)	(D)	(E)	(A)	(F)
1868	15,553	10,364	(66.6)	1,124	6,253	(40.2)	82	3,712	(23.9)	167
1869	12,909	8,639	(66.9)	726	5,720	(44.3)	216	2,500	(19.4)	202
1870	14,543	7,246	(49.8)	683	4,279	(29.4)	178	2,567	(17.7)	140
1871	17,969	9,919	(55.2)	1,323	8,004	(44.5)	304	1,285	(7.2)	401
1872	17,027	8,203	(48.2)	896	5,205	(30.6)	581	2,247	(13.2)	445
1873	21,635	10,899	(50.1)	1,202	7,208	(33.3)	600	3,063	(14.2)	374
1874	19,317	6,602	(34.2)	979	5,302	(27.4)	541	727	(3.8)	396
1875	18,611	6,469	(34.8)	1,181	5,425	(29.1)	459	475	(2.6)	300
1876	27,712	16,211	(58.5)	1,864	13,198	(47.6)	708	1,902	(6.9)	546
1877	23,349	10,660	(45.7)	1,723	9,627	(41.2)	559	1,176	(1.5)	358
1878	25,988	9,436	(36.3)	1,451	7,889	(30.4)	544	650	(2.5)	286
1879	28,176	12,192	(43.3)	1,637	9,735	(34.6)	595	814	(2.1)	528
1880	28,395	11,065	(39.0)	1,462	8,607	(30.3)	589	530	(3.5)	153
1881	31,059	13,429	(43.2)	1,801	10,647	(34.3)	591	374	(1.0)	477
1882	37,722	19,261	(51.1)	2,884	16,232	(43.0)	563	177	(0.3)	578
1883	36,268	18,563	(51.2)	3,122	16,184	(44.6)	518	75	(0.2)	260
1884	33,871	13,282	(39.2)	2,098	11,007	(32.5)	525	60	(0.1)	255
1885	37,147	14,473	(39.0)	2,457	13,034	(35.1)	530	42	(0.1)	166
1886	48,876	20,300	(41.5)	2,635	17,321	(35.4)	657	5	(0.0)	479
1887	52,408	21,921	(41.8)	3,104	19,280	(36.8)	621	2	(0.0)	309
1888	65,706	28,784	(43.8)	4,678	25,917	(39.4)	554	1	(0.0)	320
1889	70,061	29,250	(41.7)	4,127	26,617	(38.0)	645	10	(0.0)	288
1890	56,604	16,377	(28.9)	2,110	13,859	(24.5)	657	8	(0.0)	155
1891	79,527	32,176	(40.5)	5,325	29,356	(36.9)	551	3	(0.0)	275
1892	91,103	39,915	(43.8)	5,407	36,270	(39.8)	671	4	(0.0)	374
1893	89,713	31,592	(35.2)	3,712	28,167	(31.4)	759	5	(0.0)	410
1894	113,246	42,893	(37.9)	5,484	39,353	(34.8)	718	1	(0.0)	268
1895	136,112	50,928	(37.4)	5,810	47,866	(35.2)	824	1	(0.0)	177
1896	117,843	31,666	(26.9)	3,919	28,831	(24.5)	736	1	(0.0)	60
1897	163,135	58,683	(36.0)	6,920	55,630	(34.1)	804	1	(0.0)	50
1898	165,754	44,769	(27.0)	4,837	42,047	(25.4)	869	1	(0.0)	50
1899	214,930	66,718	(31.0)	5,947	62,628	(29.1)	1,053	1	(0.0)	50

Source: Toyo Keizai Shinpo-sha ed., *Nihon Doeki Seiran* (Tokyo, 1935), pp. 3, 52, 53, 55.

Note: Average price per picul (100 kin) are slightly lower than those in Table 14 above, because different sources have had to be consulted.

Fig. 2. Japan's Total Exports and Silk Exports 1868-1900.



Sources: 1) Toyo Keizai Shinpo-sha ed., Nihon Boeki Seiran (Tokyo, 1935), p. 2.

2) Noshomu-sho, Nomu-kyoku, Dai-Niji Yushutsu Juyohin Yoran, Nosan no Bu, Sanshi (1901), pp. 1-5.

Note: 'Silk' includes raw silk, dupion, waste silk, cocoons, silkworm eggs, floss silk.

the period 1868-1875, raw silk exports stood at an annual average of 10,144 piculs. 1876, however, saw an increase of 68 per cent on 1875. This reflected the sudden rise in imports of Japanese raw silk into the United States in 1876, replacing Chinese silk which was being criticized for its poor quality. Raw silk exports remained stagnant from 1876 to 1881, annual exports averaging 16,564 piculs. Exports increased again in 1882 and then remained stagnant up to 1887 with annual export figures of 27,168 piculs. Exports did not increase to a great extent after 1888; annual average exports were 48,563 piculs for the period 1888-1899,<sup>(15)</sup> the steadily rapid expansion in value being accounted for by sharp price rises influenced by the depreciation in silver value.

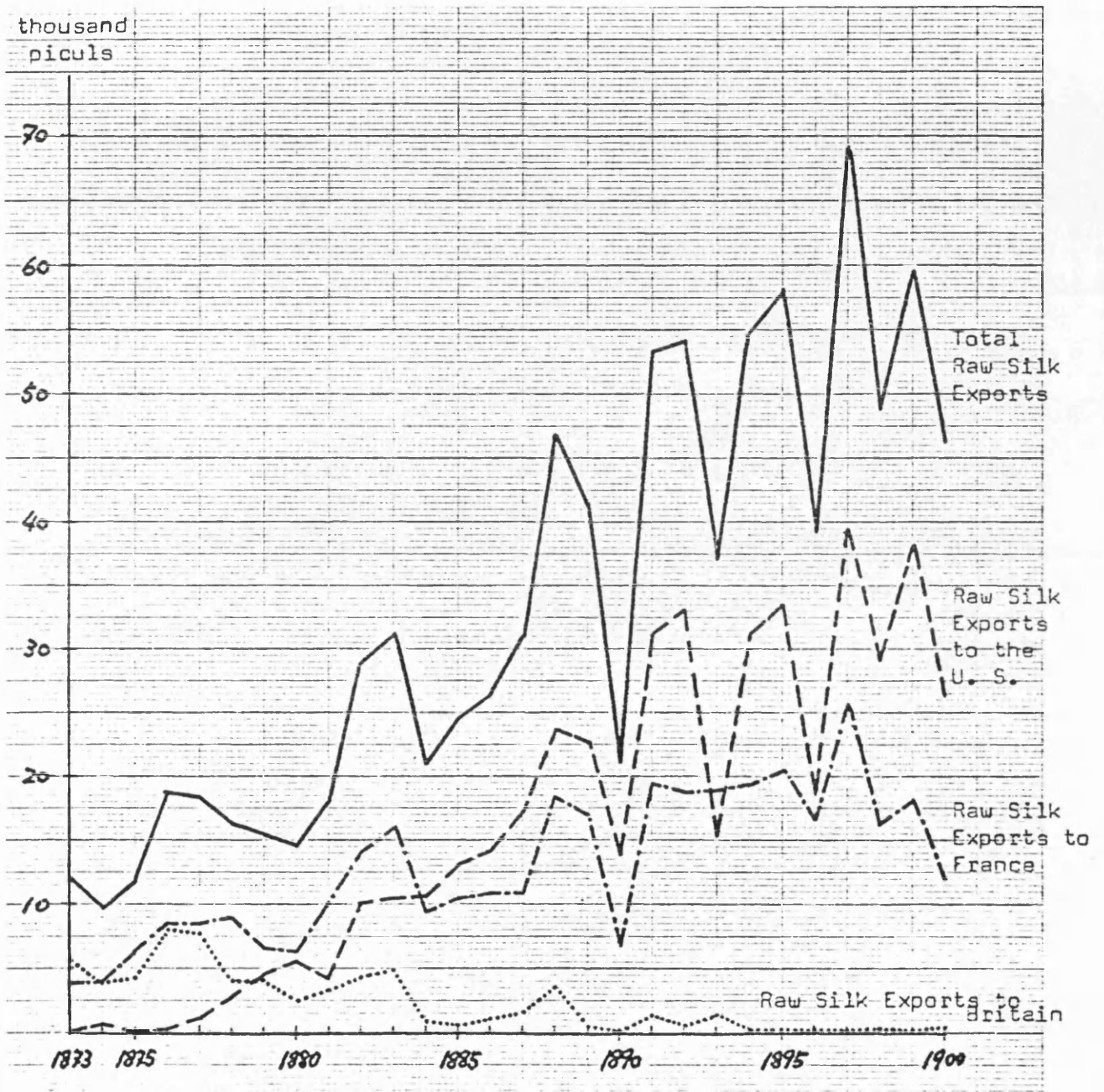
Table 18 shows the geographical distribution of raw silk exports for the period 1873-1899. As it is based on a different source, the total figures are slightly different from those in the above-quoted tables. Figure 3 shows the quantity of raw silk exported from Japan to the United States, France and Britain. Raw silk exports obviously correlated with exports to France before 1884, and with those to the United States after 1884. Exports to the United States surpassed those to France in 1884, signifying a shift in the export markets of Japanese silk from Europe to the United States. The sharp contrasts between the three destination countries can easily be seen: the rapid increase of exports to the United States, the gradual decline of those to France, and the sharp decrease of those to Britain.

Table 18. Distribution of Raw Silk Exports from Japan by Country 1873-1930.  
(in picule)

Year	U. S.		France		Britain		China		Total	
	Value	%	Value	%	Value	%	Value	%	Quantity	Value
1873	66	(0.6)	3,870	(32.2)	5,674	(47.2)	1,660	(13.8)	12,021	(100)
1874	748	(7.6)	4,007	(40.9)	3,896	(39.8)	823	(8.4)	9,791	(100)
1875	47	(0.4)	6,375	(54.0)	4,261	(36.1)	820	(6.9)	11,813	(100)
1876	342	(1.8)	8,493	(45.6)	8,144	(43.7)	Italy		18,642	(100)
1877	1,236	(6.7)	8,474	(46.0)	7,673	(41.6)	963	(5.2)	18,441	(100)
1878	2,865	(17.4)	8,983	(54.6)	4,011	(24.4)	487	(3.0)	16,447	(100)
1879	4,634	(29.9)	6,576	(42.4)	4,130	(26.6)	52	(0.3)	15,523	(100)
1880	5,495	(37.6)	6,410	(43.9)	2,515	(17.2)	-		14,616	(100)
1881	4,342	(24.1)	10,185	(56.6)	3,410	(18.9)	72	(0.4)	18,011	(100)
1882	10,042	(34.8)	14,066	(48.8)	4,328	(15.0)	360	(1.3)	28,840	(100)
1883	10,365	(33.2)	15,981	(51.2)	4,937	(15.8)	135	(0.4)	31,219	(100)
1884	10,603	(50.5)	9,412	(44.9)	930	(4.4)	29	(0.1)	20,983	(100)
1885	13,216	(53.8)	10,489	(42.7)	620	(2.5)	149	(0.6)	24,572	(100)
1886	14,209	(53.9)	10,858	(41.2)	1,116	(4.2)	136	(0.5)	26,352	(100)
1887	17,333	(55.9)	10,885	(35.1)	1,556	(5.0)	776	(2.5)	31,035	(100)
1888	23,642	(50.5)	18,357	(39.2)	3,632	(7.8)	612	(1.3)	46,777	(100)
1889	22,714	(55.0)	17,025	(41.3)	546	(1.3)	647	(1.6)	41,267	(100)
1890	13,929	(66.0)	6,757	(32.0)	97	(0.5)	180	(0.9)	21,103	(100)
1891	31,150	(58.5)	19,522	(36.7)	1,387	(2.6)	707	(1.3)	53,251	(100)
1892	33,040	(61.1)	18,796	(34.8)	718	(1.3)	1,254	(2.3)	54,068	(100)
1893	15,312	(41.3)	18,925	(51.0)	1,472	(4.0)	1,248	(3.4)	37,122	(100)
1894	31,236	(57.0)	19,366	(35.3)	288	(0.5)	3,141	(5.7)	54,840	(100)
1895	33,478	(57.6)	20,520	(35.3)	311	(0.5)	3,500	(6.0)	58,100	(100)
1896	18,617	(47.5)	16,609	(42.4)	334	(0.9)	2,859	(7.3)	39,189	(100)
1897	39,451	(57.0)	25,654	(37.1)	269	(0.4)	2,945	(4.3)	69,198	(100)
1898	29,112	(60.2)	16,306	(33.7)	364	(0.8)	2,186	(4.5)	48,373	(100)
1899	38,204	(64.2)	18,034	(30.3)	286	(0.5)	2,602	(4.4)	59,469	(100)
1900	26,429	(57.1)	12,008	(25.9)	456	(1.0)	6,694	(14.5)	46,309	(100)
1905	54,045	(74.6)	11,273	(15.6)	2	(0.0)	6,924	(9.6)	72,419	(100)
1910	104,182	(70.2)	24,700	(16.6)	334	(0.2)	14,534	(9.8)	148,461	(100)
1915	148,634	(83.4)	24,115	(13.5)	973	(0.5)	262	(0.1)	178,141	(100)
1920	147,027	(84.2)	24,818	(14.2)	1,919	(1.1)	44	(0.0)	174,687	(100)
1925	422,984	(96.5)	13,466	(3.1)	821	(0.2)	-	-	438,449	(100)
1930	448,674	(95.5)	10,372	(2.2)	3,350	(0.7)	-	-	469,896	(100)
										71,843
										130,832
										152,030
										382,716
										879,657
										416,646

Source: Yokohama-shi Shi, Shiryō Hen, Vol. 2 (Nihon Boeki Tokai), pp. 165-66.

Fig. 3. Raw Silk Exports to the United States, France and Britain 1873-1900.



Source: Yokohama-shi Shi, Shiryo Hen, Vol. 2 (Nihon Boeki Tokei), (Yokohama, 1962), p. 165.



## 2. Silk Exports and the European Markets

London was the distribution centre of the silk trade until the mid-1880s, when it was replaced by Lyons in Europe and New York became very important for the United States. Raw silk exported from China and Japan was first transported to London, and thence distributed to the silk manufacturing districts of Europe.<sup>(16)</sup> France was the largest silk manufacturing country in the world at that time and the consumption of raw silk in France increased from 1.4 million kilogrammes in 1844 to 2.4 million kilogrammes in 1854 and to 3.5 million kilogrammes in 1864.<sup>(17)</sup> The production of cocoons in France and Italy decreased drastically due to the prevalence of the silkworm disease which appeared first in France in 1840 and then spread to Italy, reaching a peak in 1852. In France the production of cocoons was reduced from 26 million kilogrammes in 1853 to only 5.5 million kilogrammes in 1865.<sup>(18)</sup> France was not able to supply sufficient raw silk to meet domestic demand and came to depend significantly on imported raw silk.<sup>(19)</sup> An important feature in the silk trade of the early 1860s was consequently the considerable increase in exports of Asiatic silk to the European continent.<sup>(20)</sup>

As is shown in Table 15, direct exports of raw silk to Marseilles were promoted by the extension of the regular service by Messageries Imperiales to cover Shanghai and Yokohama in 1865, and the opening of the Suez Canal in 1869.<sup>(21)</sup> Table 19 shows the volume of raw silk which arrived at Marseilles from 1859 to 1872. Raw silk which arrived at Marseilles was mostly Asiatic silk from Persia, Bengal, China and Japan. In 1865, arrivals of raw silk doubled compared with those in 1864 to reach 39 thousand bales. This was a result of the large

Table 19. Arrivals of Raw Silk at Marseilles 1859-1872.

Year	Persia		Bengal		China and Japan		Others		Total
		%		%		%		%	
1859	6,010	(37.4)	1,250	(7.8)	7,600*	(47.3)	1,200	(7.5)	16,060
1860	7,100	(44.8)	308	(1.9)	7,200*	(45.4)	1,250	(7.9)	15,858
1861	-		-		-		-		13,088
1862	4,950	(31.2)	520	(3.3)	9,120	(57.5)	1,261	(8.0)	15,851
1863	6,830	(27.8)	1,710	(7.0)	13,921	(56.8)	2,066	(8.4)	24,527
1864	5,870	(38.3)	860	(5.7)	7,120	(46.5)	1,450	(9.5)	15,320
1865	5,944	(15.3)	3,741	(9.6)	27,134	(69.8)	2,063	(5.3)	38,882
1870	1,750	(5.7)	2,184	(7.1)	24,951	(81.1)	1,864	(6.1)	30,749
1871	910	(3.9)	429	(1.8)	18,987	(81.6)	2,946	(12.7)	23,272
1872	898	(3.4)	987	(3.7)	22,622	(84.4)	2,291	(8.5)	26,798

Sources: 1) 1859, 1860: Arlès-Dufour & Cie (Silk Circular), Lyons, 11 Jan. 1861, in JMA, PCMR 41.  
 2) 1861: Rosenburger & Cie. Silk Circular, Marseille, 4 Jan. 1862, in JMA, PCMR 41.  
 3) 1862-1864: Arlès-Dufour & Co. (Silk Circular), 11 Jan. 1865, in JMA, PCMR 41.  
 4) 1865: *ibid.*, 11 Jan. 1866, in JMA, PCMR 41.  
 5) 1870-1872: *ibid.*, 10 Jan. 1873, in JMA, PCMR 41.

Note: \* China only.

increase in imports from China and Japan. Chinese and Japanese silk had a share of 70 per cent of total arrivals in the second half of the 1860s which rose to 80 per cent in the early 1870s. Chinese and Japanese silk was not normally landed at Marseilles, however.<sup>(22)</sup> Many shipments for France from Japan were on an arrangement labelled "Marseilles optional", under which they were thence ordered on to London or Lyons.<sup>(23)</sup> The situation might have been the same regarding Chinese silk. Though it is difficult to estimate the volume of re-exports from Marseilles to London, it is thought that a large amount of raw silk was reshipped to London, exclusively by British vessels, until around 1880.<sup>(24)</sup> A British consular report stated with regard to re-exports of raw silk from France to Britain:

To Great Britain, on the other hand (though it is to be remembered that a not inconsiderable portion of the silk stated as being shipped for Marseilles is ultimately destined for the London, instead of the continental market), the export has almost steadily declined. From a shipment of 10,287 bales in 1876, and 9,928 in 1877, it had fallen to 4,104 bales in 1883, and to only 208 in the season 1884-85.<sup>(25)</sup>

Table 20 shows imports of silk into France from 1867 to 1869. Around 50 per cent of the total raw silk imports consisted of Asiatic silk sent from Britain; 10 per cent came from Italy, 13 per cent from Turkey and around 20 per cent from China, which seemed to include Japanese silk. The share of thrown and waste silk imports from Italy in the total imports were 90 per cent and 60 per cent respectively.

In regard to Britain's silk trade, figures are available in the Annual Statement of the Trade of the United Kingdom with Foreign Countries and British Possessions.<sup>(26)</sup> Before reviewing the structure of the London silk market, we will briefly look at the position of Britain as entrepôt in the world silk trade. Table 21 shows the imports and re-exports of raw silk into and from Britain during the

Table 20. Imports of Silk into France 1867-1869

	(in thousand lb.)		
	1867	1868	1869
<u>Raw Silk</u>			
		%	%
From U.K.	2,520 (49.3)	3,013 (53.5)	2,713 (51.4)
Italy	520 (10.2)	461 ( 8.2)	547 (10.4)
Turkey	695 (13.6)	711 (12.6)	610 (11.6)
China	676 (13.2)	1,077 (19.1)	1,124 (21.3)
Others	699 (13.7)	370 ( 6.6)	282 ( 5.3)
Total	5,109	5,633	5,276
<u>Thrown Silk</u>			
From U.K.	114 ( 5.3)	127 ( 6.6)	115 ( 3.9)
Italy	1,945 (89.5)	1,711 (88.0)	2,762 (93.4)
Switzerland	114 ( 5.3)	107 ( 5.5)	79 ( 2.7)
Total	2,173	1,945	2,957
<u>Waste Silk</u>			
From U.K.	332 (10.3)	206 ( 5.4)	293 ( 6.7)
Italy	1,729 (53.9)	2,278 (59.5)	2,826 (65.0)
Switzerland	737 (23.0)	871 (22.8)	915 (21.1)
Total	3,206	3,826	4,346

Source: The Silk Supply Journal, Vol. 1, No. 6, 15 June 1870, p. 93.

Notes: 1) Calculated from figures in kilogrammes.

2) Totals are not always consistent because of rounding of figures.

period 1859-1894. Annual imports of raw silk amounted to 8,338 thousand lb. on average during the period 1861-65, and 6,044 thousand lb. during 1866-70. Though annual imports for the period 1871-75 stood at 6,480 thousand lb. on average, they gradually decreased to 4,438 thousand lb. for the period 1876-80, 3,213 thousand lb. for the period 1881-85 and then 2,575 thousand lb. for the period 1886-90.

Re-exports of raw silk from Britain stood at 3,322 thousand lb. in the 1860s, and at 2,514 thousand lb. in the 1870s; the ratio of re-exports to the total imports of raw silk was 44 per cent on

Table 21. Imports and Re-exports of Raw Silk into and from Britain 1859-1894.

(in thousand lb.)

Year	Total Imports (A)	Total Re-exports (B)	$\frac{(B)}{(A)}$ %	Re-exports		
				France	Other European Countries	U.S.A.
1859	9,921	2,152	21.7	1,569 (72.9)	423 (19.7)	114 (5.3)
1860	9,179	3,154	34.4	2,714 (86.0)	320 (10.1)	67 (2.1)
1861	8,711	4,097	47.0	3,613 (88.2)	400 (9.8)	27 (0.7)
1862	10,372	5,206	50.2	4,636 (89.1)	449 (8.6)	101 (1.9)
1863	9,221	3,853	41.8	3,231 (83.9)	405 (10.5)	150 (3.9)
1864	5,655	3,922	69.4	3,164 (80.7)	314 (8.0)	131 (3.3)
1865	7,732	3,137	40.6	2,481 (79.1)	285 (9.1)	337 (10.7)
1866	5,454	1,965	36.0	1,453 (73.9)	233 (11.9)	238 (12.1)
1867	5,850	1,902	32.5	1,417 (74.5)	207 (10.9)	192 (10.1)
1868	7,036	2,930	41.6	2,612 (89.1)	150 (5.1)	132 (4.5)
1869	5,573	3,049	54.7	2,768 (90.8)	160 (5.2)	74 (2.4)
1870	6,308	2,644	41.9	1,953 (73.9)	385 (14.6)	244 (9.2)
1871	8,253	3,270	39.6	2,155 (65.9)	843 (25.8)	190 (5.8)
1872	7,302	3,213	44.0	2,457 (76.5)	502 (15.6)	158 (4.9)
1873	6,445	2,786	43.2	2,081 (74.7)	424 (15.2)	186 (6.7)
1874	5,912	2,742	46.4	1,899 (69.3)	551 (20.1)	220 (2.6)
1875	4,488	2,551	56.8	1,823 (71.5)	469 (18.4)	146 (5.7)
1876	6,017	3,065	50.9	2,533 (82.6)	323 (10.5)	144 (4.7)
1877	4,442	1,653	37.2	1,200 (72.6)	250 (15.1)	109 (6.6)
1878	4,171	1,842	44.2	1,391 (75.5)	236 (12.8)	132 (7.2)
1879	3,886	1,376	35.4	1,068 (77.6)	150 (10.9)	100 (7.3)
1880	3,674	947	25.8	751 (79.3)	97 (10.2)	52 (5.5)
1881	2,905	904	31.1	665 (73.6)	142 (15.7)	70 (7.7)
1882	3,377	916	27.1	693 (75.7)	181 (19.8)	-
1883	3,179	524	16.5	307 (58.6)	177 (33.8)	8 (1.5)
1884	4,523	377	8.3	178 (47.2)	140 (37.1)	14 (3.7)
1885	2,082	383	18.4	220 (57.4)	84 (21.9)	37 (9.7)
1886	2,231	529	23.7	449 (84.9)	43 (8.1)	19 (3.6)
1887	2,492	120	4.8	72 (60.0)	13 (10.8)	9 (7.5)
1888	3,066	167	5.4	122 (73.1)	11 (6.6)	6 (3.6)
1889	3,123	394	12.6	201 (51.0)	54 (13.7)	114 (28.9)
1890	1,961	262	13.4	185 (70.6)	38 (14.5)	21 (8.0)
1891	2,435	78	3.2	28 (35.9)	20 (25.6)	14 (17.9)
1892	1,503	165	11.0	123 (74.5)	8 (4.8)	10 (6.1)
1893	2,273	119	5.2	42 (35.3)	22 (18.5)	26 (21.8)
1894	1,437	112	7.8	75 (67.0)	-	14 (12.5)

Sources: Annual Statement of the Trade of the United Kingdom, corresponding years.

average throughout the 1860s and 1870s. Out of the total re-exports, around 80 per cent was transmitted to France and 12 per cent to other European countries on average during the same period. Britain's position in the world silk trade as entrepôt was thus dependent on the volume of raw silk transactions in London. In the late 1860s the silk trade in general suffered from a long-continued depression and the Silk Supply Association was consequently organized in London in 1869 in order to assist the silk trade out of its prolonged depression by stimulating world silk production.<sup>(27)</sup>

British trade returns are not satisfactory as a source of detailed figures on imports of raw silk into Britain by country for analyzing the structure of the London silk market, because up until 1873 they were arranged according to the ultimate country of shipment.<sup>(28)</sup> Thus, before 1870, more than half all imports of raw silk were shown as coming from Egypt, since Asiatic silk, mainly from China and Japan, was transported via Suez and therefore included under Egypt. In addition, Asiatic silk which appears to have been re-exported from France is not distinguished from exports of French silk and, though the expression "Produce of China" was used in connection with figures for imports from France for the period 1869-73, the figures under this heading seem also to have included Japanese silk.

Tables 22 and 23 show imports of raw silk into Britain during the periods 1831-56 and 1857-72 respectively, based on two silk dealers' circulars<sup>(29)</sup>; Table 24 shows the trend of raw silk imports after 1873 based on the Annual Statement of the Trade of the United Kingdom. Raw silk imports increased gradually after 1831 and those of Chinese silk in particular increased rapidly after 1845.<sup>(30)</sup> Before Japanese silk began to be imported in 1859, Chinese silk took

Table 22. Annual Average Imports of Raw Silk into Britain 1831-1856.

Year	(in thousand lb.)					
	China	Bengal	Persia	Brutia	Others	Total
1831-35	755 (23.9) %	971 (30.8) %	109 (3.5) %	301 (9.5) %	1,020 (32.4) %	3,156
1836-40	923 (24.1)	1,221 (31.9)	145 (3.8)	405 (10.6)	1,129 (29.5)	3,823
1841-45	483 (12.2)	1,444 (36.6)	142 (3.6)	548 (13.9)	1,326 (33.6)	3,943
1846-50	2,035 (44.9)	1,243 (27.4)	147 (3.2)	307 (6.8)	798 (17.6)	4,530
1851-56	4,091 (63.7)	1,523 (23.7)	212 (3.3)	127 (2.0)	467 (7.3)	6,420

Source: Durant & Co's Circular, 1 Jan. 1874, in JMA, PCMR 42.

Notes: 1) Calculated from figures in bales in the original table. Average net weights per bales were as follows: Chinese 103 lb., Bengal 150 lb., Persian 75 lb., Brutia 170 lb. (after 1842, 200 lb.), and Italian 250 lb. (after 1839, 250 lb.).

2) Imports at Liverpool are included.

3) After 1841, Canton silk is included in Chinese silk.

4) For Bengal silk, the figures are the total of "Company's" and "Private" and, after 1840, the volume of "private".

5) Thrown silk is excluded.

Table 23. Raw Silk Imports into Britain by Country 1857-1872. (in thousand lb.)

Year	China				Japan	Bengal	Italy	Others	Total
	Tsatlee	Taysaam	Canton	Total					
1857	4,274	3,712	551	8,537 (81)	-	1,354 (13)	403 (4)	231	10,525
1858	3,183	1,150	183	4,516 (72)	-	1,162 (18)	498 (8)	107	6,283
1859	4,853	2,134	189	7,175 (80)	55 (1)	1,252 (14)	363 (4)	171	9,015
1860	4,566	1,731	182	6,479 (73)	647 (7)	1,268 (14)	233 (3)	200	8,827
1861	3,782	2,151	192	6,125 (75)	744 (9)	900 (11)	322 (4)	109	8,200
1862	4,167	2,343	255	6,766 (73)	976 (11)	921 (10)	290 (3)	338	9,291
1863	3,086	1,075	234	4,395 (52)	2,294 (27)	1,108 (13)	497 (6)	195	8,488
1864	1,966	487	113	2,566 (46)	1,170 (21)	1,148 (21)	375 (7)	276	5,534
1865	2,396	1,141	344	3,881 (58)	1,179 (18)	1,347 (20)	117 (2)	208	6,732
1866	1,550	508	554	2,612 (55)	741 (15)	1,257 (26)	114 (2)	60	4,784
1867	2,289	608	483	3,381 (63)	698 (13)	1,126 (21)	67 (1)	55	5,326
1868	3,135	881	574	4,590 (70)	851 (13)	924 (14)	139 (2)	19	6,522
1869	2,130	373	561	3,065 (64)	875 (18)	727 (15)	97 (2)	20	4,784
1870	2,337	752	1,349	4,438 (70)	763 (12)	837 (13)	191 (3)	103	6,331
1871	3,130	602	1,418	5,150 (68)	1,077 (14)	1,056 (14)	200 (3)	115	7,598
1872	2,811	636	1,369	5,063 (75)	857 (13)	674 (10)	120 (2)	79	6,792

Source: H. W. Eaton & Sons' Circular, London, 1 Jan. 1873, Table A, in JMA, PCMR 41.

Notes: 1) Totals are not always consistent because of rounding of figures.  
2) Thrown silk is not included.



Table 24. Raw Silk Imports into Britain by Country 1873-1894.

Year	(in thousand lb.)							Total	
	France	Egypt	China	Hongkong	Japan	U.S.A.	Others		
								Quantity	Value
								(thousand pounds)	
1873	1,707	901*	3,133		62	12	630	6,445	6,758
1874	2,222	149	2,657		21	-	863	5,912	4,966
1875	326	64	3,455		251	-	392	4,488	3,444
1876	243	-	4,985		438	44	307	6,017	5,770
1877	567	-	3,178		449	-	249	4,442	4,452
1878	275	-	3,315		348	-	232	4,171	3,680
1879	296	-	3,142		240	-	208	3,886	3,385
1880	81	-	3,166		240	-	186	3,674	3,131
1881	60	-	2,326		291	-	228	2,905	2,466
1882	268	-	2,527		339	-	244	3,377	2,792
1883	69	-	2,246		324	8	531	3,179	2,575
1884	76	-	3,660**		256	-	531	4,523	3,344
1885	85	-	1,445	58	10	-	483	2,082	1,465
1886	125	-	1,217	466	120	-	303	2,231	1,532
1887	192	-	1,417	472	85	-	326	2,492	1,701
1888	268	-	1,722	281	479	-	316	3,066	1,883
1889	413	-	1,672	427	217	-	394	3,123	2,193
1890	250	-	1,048	410	12	-	241	1,961	1,392
1891	293	-	1,277	390	168	-	307	2,435	1,644
1892	250	-	767	133	58	-	295	1,503	984
1893	213	-	1,256	190	254	-	361	2,273	1,464
1894	267	-	729	3	157	-	280	1,437	938

Source: Annual Statement of the Trade of the United Kingdom with Foreign Countries and British Possessions, in British Parliamentary Papers, corresponding years.

Notes: 1) Total figures are not always consistent because of rounding of figures. 2) \* includes 660,000 lb. of Chinese silk. 3) \*\* includes Hongkong.

a share of 70-80 per cent of Britain's total raw silk imports and established a dominant position in the London silk market. Bengal silk took a 13-18 per cent share in the market.

When Japanese silk was first brought to Britain in mid-1859, it was welcomed with enthusiasm, because its quality was much higher than Chinese and Bengal silk.<sup>(31)</sup> J. M. Jaquemot, French silk merchant in Yokohama, wrote to the British Consul Howard Vyse that

When the first importation of Japanese raw silk arrived in England it caused a general curiosity, owing to its intrinsic excellent quality, being far superior to anything that had been before received, either from Bengal or China. The experiments which were made by practical men soon confirmed the first favourable impression, and a general demand ensued, which has been growing every day larger, and extends now to most of the consumers of raw silk in Europe and America.<sup>(32)</sup>

Imports of Japanese silk increased rapidly at first, from 55 thousand lb. in 1859 to 647 thousand lb. in 1860, 976 thousand lb. in 1862 and then 2,294 thousand lb. in 1863, which was 27 per cent of Britain's total raw silk imports. Durant & Co's circular commented on the features of the silk trade in 1860:

The chief feature of the year and almost the only feature, was the importation from Japan - a most welcome and seasonable addition to our sources of supply. The only drawback to its advantage is the very small "breaks" in which it comes forward, but this is comparatively unimportant, and will no doubt be remedied in time. The grand point [is], that it promises to be an increasing supply, and that the nature of the Silk is intrinsically good and much of it of a size to render it especially available.<sup>(33)</sup>

Imports of Japanese silk increased in quantity, but as "the quality has not been found equal to the expectations at its early introduction", it became less popular and consequently "the prices of this class [Japanese silk] show a very large reduction".<sup>(34)</sup>

In fact, as we shall see later, the highest price of Japanese silk fell from 31s. in 1860 to 24s. in 1862. Durant & Co's circular

commented on Japanese silk imported in 1862 that

The quality does not improve and speaking generally it denotes materially less care in the reeling - a greater mixture and greater variation in size of thread in the same skein than formerly ... (35)

Thus, the reputation of Japanese silk was lost within only two years from its first importation. Despite the continuous indications that there was "ample room for improvement in the sorting and packing" of Japanese silk,<sup>(36)</sup> there was no sign that this might in fact occur.

Throughout the period under consideration, raw silk was mostly imported into the London market from China, Bengal and Japan. Chinese silk, chiefly Tsatlee and Taysaam in the 1860s and Canton silk in the 1870s,<sup>(37)</sup> continued to be in demand "chiefly for manufacturing goods destined to America" in Lyons.<sup>(38)</sup> Imports of Chinese silk decreased from 6,766 thousand lb. in 1862 to 4,395 thousand lb. in 1863, which was described as "unusually small".<sup>(39)</sup> In 1864 it decreased to 2,566 thousand lb. and the Chinese share of total raw silk imports fell to less than 50 per cent, owing to the "abominable" inferiority in quality<sup>(40)</sup> and the decline of production due to the Taiping Rebellion.<sup>(41)</sup> The deterioration in quality and the decrease of imports of Chinese silk led to a reciprocal rapid increase in imports of Japanese silk. It was said that "the deficiency has to a great extent been supplied from Japan"<sup>(42)</sup> and therefore "Japan silk continues to be the leading article".<sup>(43)</sup> Durant & Co's circular commented on Japanese silk in the silk trade of 1863:

In Japan silk we had happily most opportunely a largely increased supply. The general size and character of this Silk is very available, so that notwithstanding manifest evidence of diminished care in the reeling it continues in great favor, too much confidence must not however be placed on this, as most assuredly it will be displaced by European Silk whenever the supply becomes more abundant unless the Japanese Reelers return to their previous standard of quality.<sup>(44)</sup>

As this indicates, the possibility of an expanding market for Japanese silk depended on its competitiveness not only with Chinese and Bengal silk, generally inferior in quality to Japanese silk, but also with European silk, which was generally superior. The demand for Asiatic silk was sensitive to the movements of European silk and, as the circular stated, consumption of Asiatic silk was reduced in 1863 "by the abundance and relative cheapness of European Silk."<sup>(45)</sup> In 1864 the circular noted "the unexpected and almost unprecedented failure of the European crop" which "tended to check any advance on Asiatic Silk ... from China and Japan".<sup>(46)</sup>

In the second half of the 1860s, annual imports of raw silk into Britain decreased on average from 8,070 thousand lb. during the period 1860-64 to 5,630 thousand lb. As imports of Chinese silk recovered, the market for Japanese silk became restricted and imports were not able to increase during this period.<sup>(47)</sup> In the second half of the 1860s and the early 1870s, Chinese silk took a 55-75 per cent share of total raw silk imports, Japanese silk took from 12 to 18 per cent, and Bengal took from 10 to 26 per cent. While imports of Chinese silk and its market share had recovered, the shares held by Japanese and Bengal silk had remained stagnant or declined. This was a result of the recovery of European silk in the late 1860s, of the increase in competition between the various types of Asiatic silk caused by the opening of the Suez Canal in 1869,<sup>(48)</sup> and of the fact that "Japans and Bengals ... are in more direct competition with European silk."<sup>(49)</sup>

Imports of Japanese silk had been relatively stagnant both as regards quantity and the extent of their share in the London market after the sudden increase of 1863. As we have already seen,

the deterioration in quality of Japanese silk had not been checked and Japanese silk was consequently in demand only when Chinese silk was in insufficient supply and poor quality, or there was a poor crop of cocoons in Europe.

Raw silk exported from Japan was mostly in the form of hanks in the 1860s.<sup>(50)</sup> Fine Maebashi was most in demand<sup>(51)</sup> and "freely bought by manufacturers in place of Italian silks at a much lower cost."<sup>(52)</sup> In the late 1860s it was said that "Japan silk appears to be gradually deteriorating in quality"<sup>(53)</sup> as the consequence of "the bad reeling and the immense export of silkworms' eggs of the best quality."<sup>(54)</sup> "Complaints respecting the quality of the silk were loud in 1868, they were much louder in 1869, and in 1870 the effect of the export of 700,000 to 800,000 annual cards (of silkworm eggs) in 1869 was more than ever visible in the deteriorated quality of the silk."<sup>(55)</sup> In most Japanese silk there was obvious irregularity in the size of thread,<sup>(56)</sup> and European buyers of Japanese silk complained bitterly that it could only be sold as waste silk.<sup>(57)</sup> Though the best and finest varieties continued to be in demand,<sup>(58)</sup> Japanese silk was largely replaced by Chinese silk, which was used for the same purposes,<sup>(59)</sup> and had been "almost always neglected".<sup>(60)</sup> The medium and lower sorts of Japanese silk were particularly difficult to sell and stocks therefore became large.<sup>(61)</sup>

It is interesting that manufacturers made a great effort "to induce fashion to adopt goods admitting more largely of the use of Asiatic silk"<sup>(62)</sup>; even fine silk was used to make cheap goods with Asiatic descriptions.<sup>(63)</sup> In 1872, it was noted temporarily that due to "a marked improvement both as regards fineness of size and firmness of thread", Japanese silk "occupied a more satisfactory

position", so that "the trade is willing again to employ the finer qualities of this Silk as a substitute for European."<sup>(64)</sup> Chinese silk, moreover, deteriorated seriously both in quality and in size in 1873; "in consequence some consumers have been compelled to abandon the use of Chinas in favor of European and best Japan."<sup>(65)</sup>

By the mid-1870s the deterioration in the quality of Japanese silk was widely acknowledged with a consequent decline in demand and consumption in Europe. In particular, as the production of fine silk recovered and increased both in France and Italy, Japanese silk was driven "in a great measure out of European market" by French and Italian competition and raw silk exports from Japan fell off accordingly.<sup>(66)</sup> Though the better classes of both Shinshu and Maebashi were the types of Japanese silk most in favour even in the early 1870s,<sup>(67)</sup> fine-reeled Japanese silk was "assimilated in a greater degree to French and Italian silk, and consequently ... suffers proportionately from the disfavour and decline of prices which have attacked the European products."<sup>(68)</sup> Japanese silk was also affected by changes in fashion in the context of keen competition among descriptions of raw silk. A British consular report stated that

The change in fashion has lately brought low priced goods into favour ... notably China silk, the import of which into Europe has been largely increasing for some years past, whilst the cost of it is so low as almost to defy rivalry.<sup>(69)</sup>

Japanese silk faced continuous direct competition in the European market from Chinese and Bengal silk up to the mid-1870s, chiefly owing to its steady deterioration in quality and the consequent decline in price, and also to the abundant and cheaper supply of European silk in the late 1870s and early 1880s. This affected the

American market as well.<sup>(70)</sup> Another British consular report noted:

In conclusion, it is well to place on record that Japan has to compete with Italy, particularly as regards filatures, but that she can easily do as to the cost of production, the main point being care and attention; in this she is very deficient.<sup>(71)</sup>

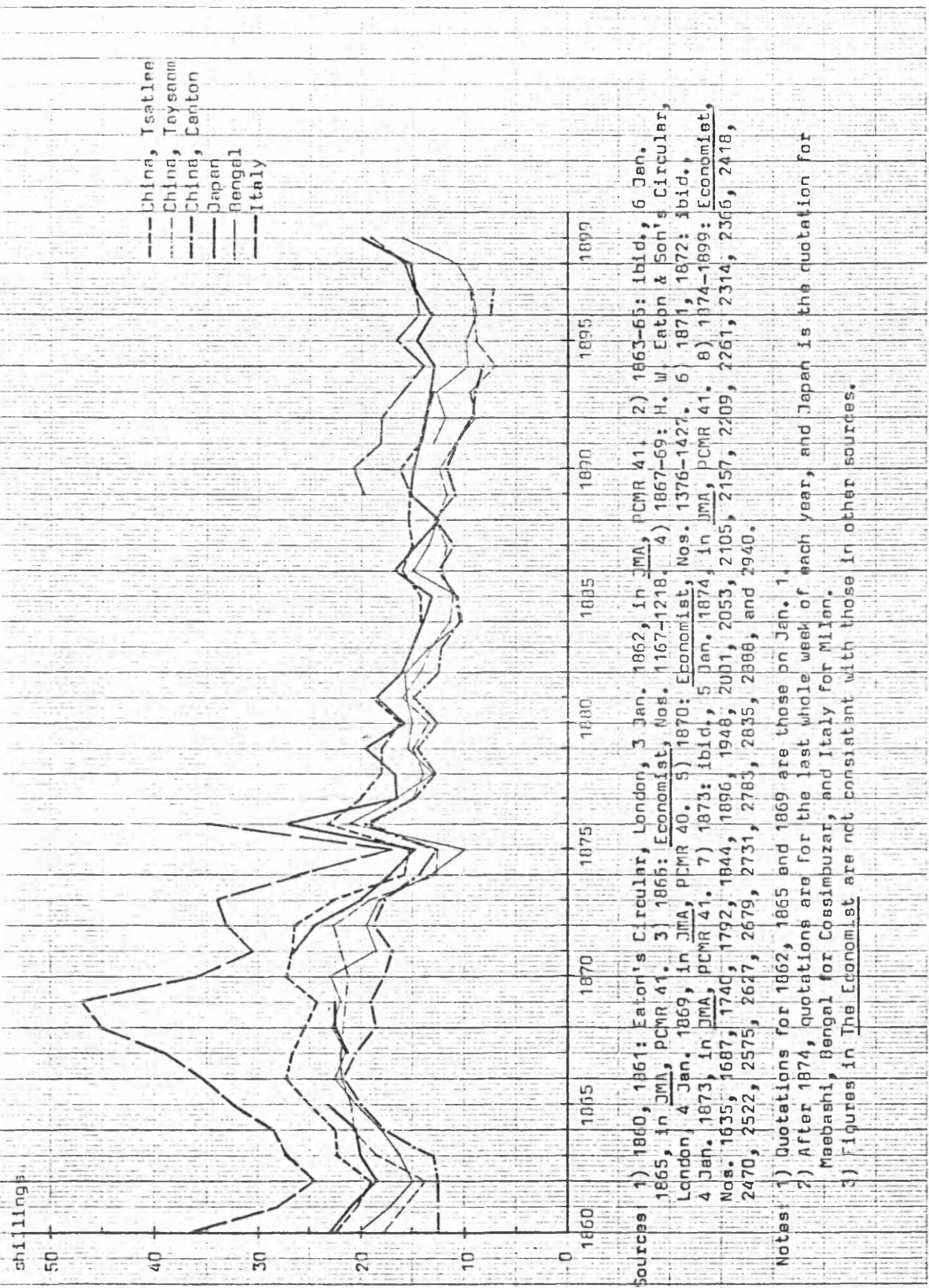
Japanese silk was placed between European and Chinese silk on the European market and the possibility that it might expand its market in Europe was restricted by its deterioration in quality.

Figure 4 shows price fluctuations of imported raw silk in the London market from 1860 to 1899.<sup>(72)</sup> A conspicuous characteristic of Japanese silk is that there was a wider fluctuation between the highest and lowest prices than was found in Chinese and Bengal silk. This implies that the quality of Japanese silk ranged from the very inferior to the very superior. This trend became more obvious in the late 1860s. For the period 1867-1869, while the lowest price of Japanese silk remained at 7s., the highest prices were from 35s.6d. to 39s. This price movement undoubtedly reflected the deterioration in quality of Japanese silk. Even in the early 1870s, when the price of Japanese silk temporarily recovered, it was stated that Japanese silk

... has been fluctuating heavily from time to time; business has generally had to be forced, and the only moments of activity have been speculative ... unfortunately, no real consuming demand has stepped in to help this silk, and importers have for months been helpless in a stagnant market.<sup>(73)</sup>

The price of Italian silk, imports of which were small, had been higher than other imported silk in the London market, but this tendency is quite different from its price movement in the Lyons market. Reviewing the average prices between the highest and the lowest of each description, the average price of Japanese silk remained at about 20s. through the 1860s and was consistently below Isatlee for the 12 years from 1862 to 1873. The difference

Fig. 4. Price Fluctuations of Imported Raw Silk in the London Market 1860-1899.



--- China, Tsatsee  
 - - - China, Teysanin  
 - - - China, Canton  
 - - - Japan  
 - - - Bengal  
 - - - Italy

Sources 1) 1860, 1861: Eator's Circular, London, 3 Jan. 1862, in JMA, PCMR 41. 2) 1863-65: *ibid.*, 6 Jan. 1865, in JMA, PCMR 41. 3) 1865: *Economist*, Nos. 1167-1218. 4) 1867-69: H. W. Eaton & Son's Circular, London, 4 Jan. 1869, in JMA, PCMR 40. 5) 1870: *Economist*, Nos. 1376-1427. 6) 1871, 1872: *ibid.*  
 4 Jan. 1873, in JMA, PCMR 41. 7) 1873: *ibid.*, 5 Jan. 1874, in JMA, PCMR 41. 8) 1874-1899: *Economist*, Nos. 1635, 1687, 1740, 1792, 1844, 1896, 1948, 2001, 2053, 2105, 2157, 2209, 2261, 2314, 2366, 2418, 2470, 2522, 2575, 2627, 2679, 2731, 2783, 2835, 2888, and 2940.

Notes 1) Quotations for 1862, 1865 and 1869 are those on Jan. 1.  
 2) After 1874, quotations are for the last whole week of each year, and Japan is the quotation for Maebashi, Bengal for Cossimbuzar, and Italy for Milan.  
 3) Figures in *The Economist* are not consistent with those in other sources.

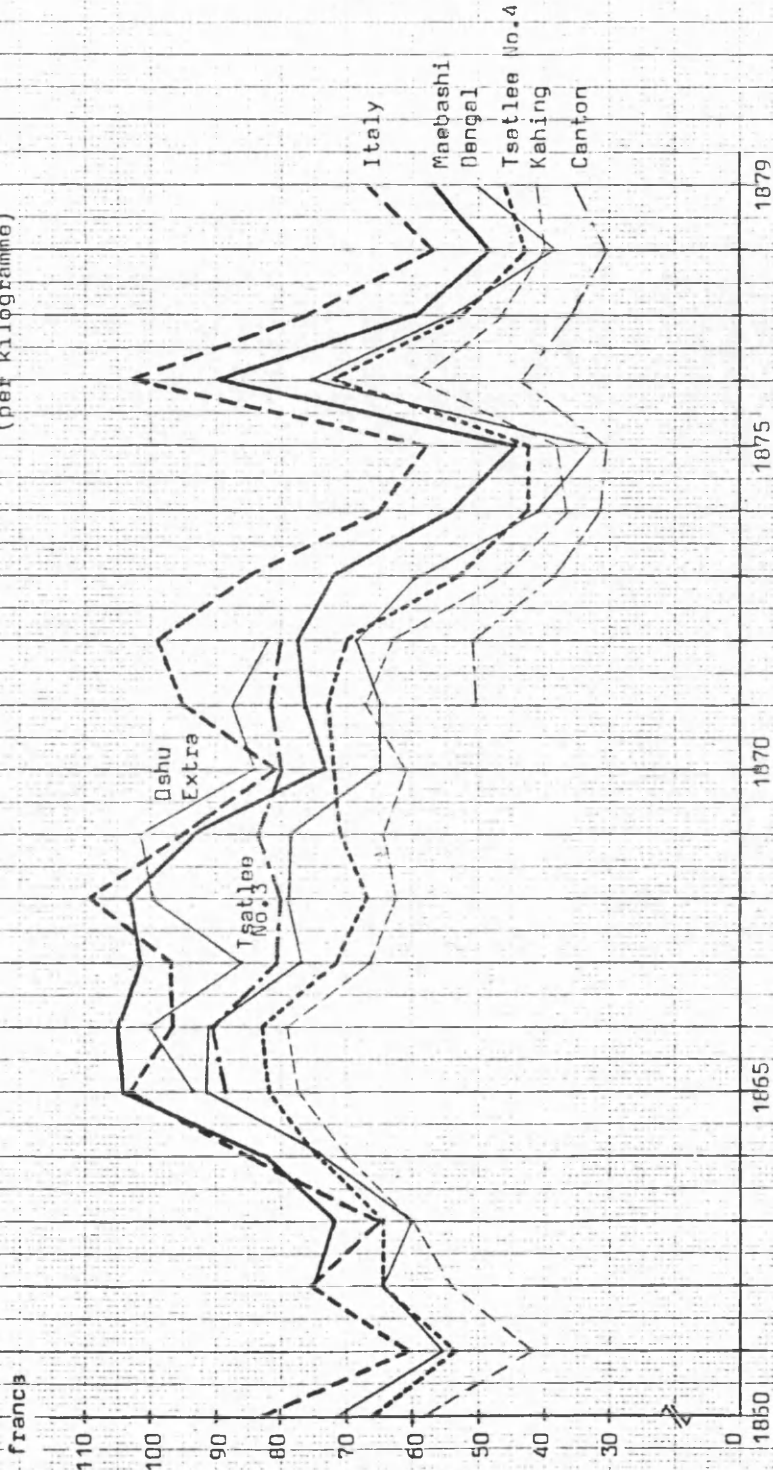


in price per lb. between them had ranged from 1s. 9d. to 5s. 6d. except in 1871. During the period 1867-69, the average price of Japanese silk was from 21s. 3d. to 22s. 6d. and it was nearly the same price as Taysaam and Bengal silk. In the 1870s the price of Japanese silk rose slightly and came between Chinese Tsatlee and Taysaam. In terms of price as well as quality, Japanese silk faced direct competition from Chinese and Bengal silk right up to the mid-1870s, chiefly owing to the continuous deterioration in quality and the consequent decline in price.

From the 1870s, the silk market in Europe gradually began to shift from London to Lyons, as bills came to be drawn on Paris, Lyons or Marseilles and silk came to be shipped directly to France.<sup>(74)</sup>

Figures 5 and 6 show the average price of each description of raw silk in the Lyons market on the 31st of December of each year.<sup>(75)</sup> Prices as a whole tended to rise up to 1865 after the trough in 1861 and became stagnant or declined slightly up to 1872, but declined sharply until 1875.<sup>(76)</sup> In 1876 they doubled suddenly compared with the previous year, due to the poor crop of cocoons in Europe,<sup>(77)</sup> but declined again during the subsequent two years. The price of Maebashi in 1862 was 73-77 francs, making it one of the highest priced raw silks along with Italian silk. Maebashi had been the highest priced of all raw silks for the years from 1863 to 1867 except 1864. Reflecting the deterioration in quality, it fell sharply from 100-106 francs in 1868 to 72-75 francs in 1870 and 44-45 francs in 1875. However, Maebashi kept second place in terms of price, following Italian silk, from 1868 to 1879. The price of Ohshu was 65-67 francs in 1863, which was slightly higher than

Fig. 5. Price fluctuations of Imported Raw Silk in the Lyons Market 1860-1879.  
(per kilogramme)



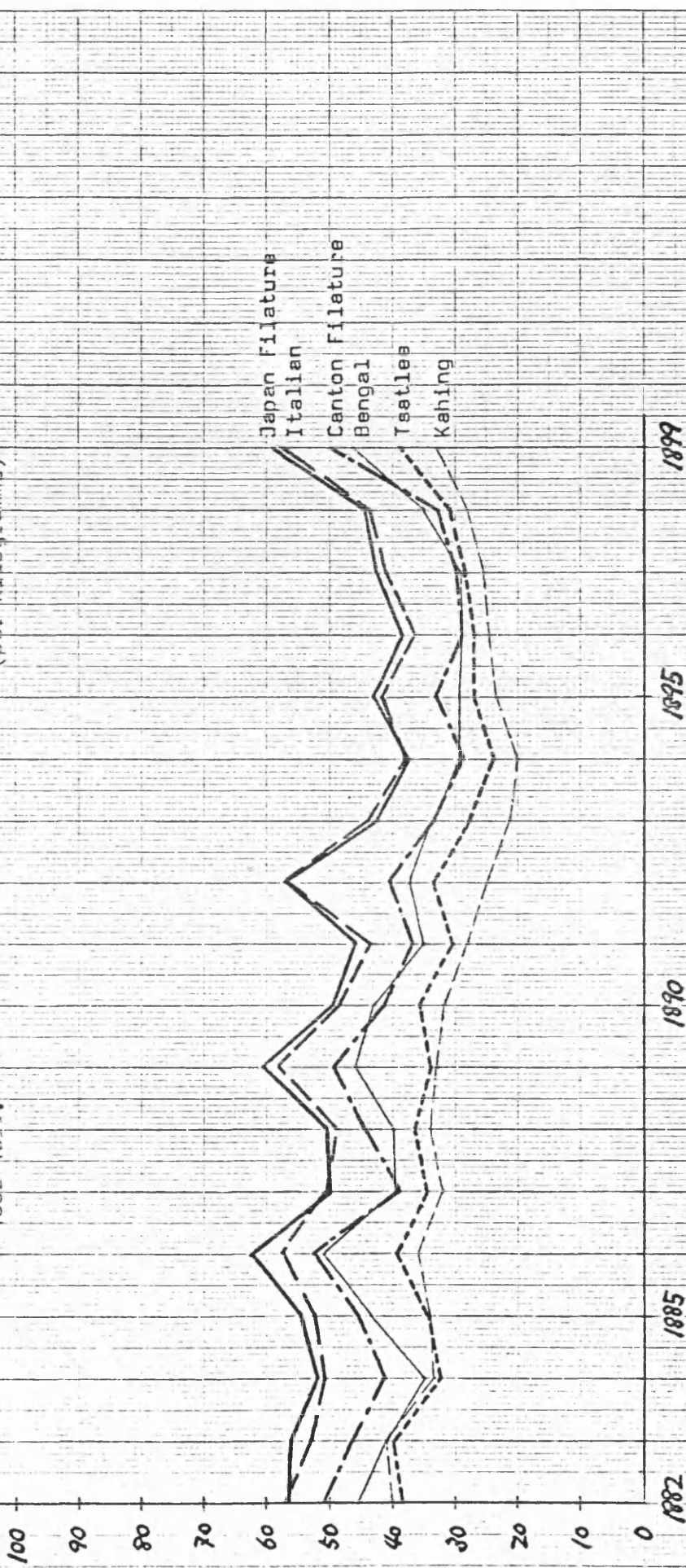
Sources: 1) 1860-64: Arlès-Dufour & Co. (Silk Circular), Lyons, 17 Jan. 1874, in JMA, PCMR 41.  
 2) 1865-79: Ibid., 9 Jan. 1880, in JMA, PCMR 43.  
 3) For Tsatlee No. 3 and Oshu Extra, Ibid., 10 Jan. 1873, in JMA, PCMR 41.

Notes: 1) Prices are for December 31 of each year.  
 2) Detailed descriptions of silk are as follows: China, Kahing (No. 2 and No. 3), Japan, Maebashi (No. 1, 10-16 deniers), Japan, Oshu (Extra, 14-22 deniers), Bengal (1st class, 12-16 deniers), and Italy (1st and 2nd classes, 11-13 deniers).



francs

Fig. 6. Price Fluctuations of Imported Raw Silk in the Lyons Market (per kilogramme) 1882-1899.



Source: Noshomu-sho, Nomu-kyoku, Dai-Niji Yushutsu Juyohin Yoran, Nosen no Bu, Sanshi (Tokyo, 1901), pp. 407-408 (Summary Translation of French Silk Industry Journal (Moniteur des Soies)).

Notes: 1) Prices are on 31 December of each year.

2) Detailed descriptions of silk are as follows: Japan Filature (1st class, 10-12 deniers), Italian silk (2nd class, 10-14 deniers), Bengal (1st class, 10-16 deniers), China-Tssetlee (4th class, No. 3-No. 4), China Kahing (white, No. 2-No. 3), and Canton Filature (2nd class, 10-12 deniers).

Tsatlee. However, this price rose to 93-94 francs in 1865 and kept third place, following Maebashi and Italian silk. In 1866 it was transacted at a higher price than Italian silk, and its price rose to 98-101 francs in 1868. Both in 1869 and 1870, the price of Ohshu silk was the highest in the Lyons silk market, surpassing Italian and Maebashi silk. It remained higher than Maebashi even after 1869, when Maebashi prices began to fall.

In the first half of the 1860s the difference in price of each silk was small and it is possible to argue that all descriptions of raw silk were competing with each other. In the second half of the 1860s Japanese silk competed only with Italian silk at the same price level. However, in the case of Maebashi, the deterioration in quality caused a reduction in price in Lyons as well as in the London market, and Maebashi had to face competition from Chinese and Bengal silk. From the 1870s the prices moved generally parallel to each other, which meant that the silk market was relatively stable.

As we have seen, on the European market during this period Japanese silk deteriorated in quality, but its quality was comparatively better than Chinese and Bengal silk. The price of Japanese silk had been continuously high and then fell as quality deteriorated. In both quality and price, Japanese silk had to face keen competition from Italian, Chinese and Bengal silk on the European market. Possibilities for market expansion were restricted by stagnation of domestic raw silk production, technological deficiencies in silk reeling and the consequent decline in quality. Although the use of Japanese hank silk was confined to the west,<sup>(78)</sup> as the share of Japanese silk in the European market was small, particularly compared with Chinese silk, the quality of Japanese silk did not have to be

good in order to meet the demands of the market. It was enough that its quality was comparatively better than Chinese and Bengal silk. This limit on the expansion of Japan's raw silk exports to the European market made it necessary to shift its export market rapidly from Europe to the United States after the mid-1880s.

### 3. Silk Exports and the United States Market

#### (1) The Development of the Silk Industry in the United States

It was after the American Civil War (1861-1865) that the silk manufacturing industry began to develop at a steady pace. Between 1870 and 1890 it made relatively greater progress than any other textile industry.<sup>(79)</sup> The development of the silk industry during the period 1850-1910 is shown in Table 25. Between 1860 and 1900 the value of products increased by 16.2, from 6.6 million dollars to 107 million dollars, the number of factories by 3.5, from 139 to 483, the amount of capital by 27.7, from 3 million dollars to 81 million dollars, and the number of wage earners by 12 from 5.4 thousand to 65.4 thousand.

Table 26 show the distribution in the value of silk products and the percentage of each product respectively. In 1850 the production of sewing silk was valued at 1,209,426 dollars and took a 67 per cent share in the total value of 1,809,476 dollars.<sup>(80)</sup> In 1860, 89 per cent of all raw silk material was said to be used for sewing silk and twist.<sup>(81)</sup> The principal products in the 1870s were machine-twist and sewing silk, and narrow manufactures like ribbons, laces, upholstery goods and trimmings. In the 1880s and

Table 25. Development of the Silk Industry in the United States 1850-1910.

Year	Value of Products	Number of Establishments	Capital	Number of Wage Earners
1850	dollars 1,809,476	67	dollars 678,300	1,723
1860	6,607,771	139	2,926,980	5,435
1870	12,210,662	86	6,231,130	6,649
1880	41,033,045	382	19,125,300	31,337
1890	87,293,454	472	51,007,537	49,382
1900	107,256,258	483	81,082,201	65,416
1905	133,288,072	624	109,556,621	79,601
1910	196,911,667	852	152,158,002	99,037

Sources: 1) 1850, 1860, and 1870: Tenth Census of the United States (1880), Report on the Silk Manufacturing Industry of the United States, by W. C. Wyckoff, p. 24.

2) 1880: ibid., p. 25.

3) 1890: Eleventh Census of the United States (1890), Part III, Silk Manufactures, by B. Rose, pp. 225-27.

4) 1900: Twelfth Census of the United States (1900), Vol. IX, Manufactures, Part III, Silk Manufactures, by F. Allen, pp. 226, 228.

5) 1905 and 1910: Thirteenth Census of the United States (1910), Vol. X, Silk Manufactures, p. 151.

Notes: 1) 'Value of Products' includes organzine, tram and spun silk yarn.

2) 'Number of Wage Earners' is the average number. Proprietor, firm members and salaried employees are excluded.

3) Year means from 1 July in the previous year to 30 June in the mentioned year.

4) Silk used in other industries is excluded. According to the Thirteenth Census, 'Production in other industries' was 5,766,809 dollars in 1910. (Ibid., p. 164.)

Table 26. Distribution of the Value of Products in the United States Silk Industry 1875-1910.

Year	Machine twist & Sewing Silk	Broad Silks		Upholstery goods & Trimings	Ribbons & Laces	Braids & Bindings	All Other Products	Total Value of Products
		Dress goods, figured & plain	Velvets & Plushes, &c.					
1875	6,463,401 (30.4)	1,412,500 (6.6)	2,678,714 (12.6)	3,990,766 (18.8)	4,979,485 (23.4)	383,100 (1.8)	1,361,115 (6.4)	21,269,081 (100)
1880	7,008,880 (20.3)	4,115,205 (11.9)	3,228,100 (9.4)	8,306,520 (24.1)	6,460,100 (18.7)	999,685 (2.9)	4,401,233 (12.7)	34,519,723 (100)
1890	8,917,844 (12.9)	15,183,134 (22.0)	9,000,418 (13.0)	12,266,898 (17.7)	17,343,197 (25.1)	2,771,382 (4.0)	3,671,726 (5.3)	69,154,599 (100)
1900	9,971,782 (10.1)	52,152,816 (56.4)	4,959,971 (5.4)	4,001,827 (4.3)	19,270,283 (20.8)	1,522,565 (1.6)	1,268,950 (1.4)	92,451,212 (100)
1905	10,146,071 (8.6)	66,917,762 (56.5)	4,502,021 (3.8)	5,796,995 (4.9)	22,636,093 (19.1)	3,493,977 (2.9)	5,227,800 (4.4)	118,533,560 (100)
1910	10,521,074 (6.1)	107,881,146 (62.6)	6,872,758 (4.0)	5,543,117 (3.2)	34,095,723 (19.8)	4,483,248 (2.6)	4,495,675 (2.6)	172,255,554 (100)

Sources: 1) 1875, 1880: Tenth Census of the United States (1880), Report on the Silk Manufacturing Industry of the United States, by W. C. Wyckoff, p. 21.

2) 1890: Eleventh Census of the United States (1890), Part III, Silk Manufactures, by B. Rose, pp. 213, 227.

3) 1900: Twelfth Census of the United States (1900), Vol. IX, Manufactures, Part III, Silk Manufactures, by F. Allen, pp. 209, 228.

4) 1905, 1910: Thirteenth Census of the United States (1909), Vol. X, Silk Manufactures, pp. 152, 163.

Notes: 1) Figures in parentheses show the percentage of the total value of products.

2) 'Machine twist & Sewing Silk' includes fringes, knitting, embroideries, wash and floss silks.

3) Figures for 'Velvets & Plushes, &c.' include tie silks, scarfs, tailor's linings, and satin (until 1900).

4) 'Ribbons & Laces' includes nets, veils, and veillings.

5) 'Braids & Bindings' are handkerchiefs and mixed goods. Figures for 1890 include \$1,156,172 for hosiery and knit goods.

6) Total figures for 1900, 1905, and 1910 are not consistent because of duplication in calculation.

1890s, however, silk products became diversified and the production of broad silk manufactures, especially of plain dress silks, increased rapidly. In 1900 the production of broad silk goods valued 57 million dollars and took 62 per cent of the total value of production of 92 million dollars. The domestic production of silk goods in 1900 was slightly less than 80 per cent of the total consumption and 67.3 per cent of this was in broad silk fabrics.<sup>(82)</sup> The silk goods imported from Europe, mainly France, were confined to high-quality novelties, hand-made velvets and laces.<sup>(83)</sup>

The development of the silk industry in the United States after 1870 was characterised by the introduction and diffusion of the power loom.<sup>(84)</sup> The numbers of power and hand looms are shown in Table 27. It is obvious that utilization of the power loom increased widely and replaced the hand loom in the 1880s and 1890s. The share of the power loom in the total looms used rose from 63 per cent in 1880 to 92 per cent in 1890.<sup>(85)</sup> The increase in the use of the power loom was due to the rapid development in production of broad silk goods, the share of which rose from 37 per cent in 1880 to 66 per cent in 1890, then 83 per cent in 1900. V. S. Clark wrote that

broad looms ... developed into a distinct American type under the double urge toward higher speeds and toward devices that would produce mechanically the most varied weaves and patterns.<sup>(86)</sup>

The production of silk manufactures had diversified in accordance with the location of the silk industry and geographical specialization of silk products. The main silk manufacturing districts were New Jersey, Pennsylvania, New York, Connecticut and Massachusetts. Paterson in New Jersey became the leading ribbon manufacturing city throughout the late 1860s and early 1870s. In the 1870s broad silk goods and laces were introduced and many ribbon manufacturers added



Table 27. Number of Looms in the United States 1870-1900.

Year	Power Loom			Hand Loom		
	Broad	Narrow	Total	Broad	Narrow	Total
1870			1,251			188
1874	1,189	888	2,077	779	728	1,507
1875	1,428	1,260	2,688	1,005	809	1,814
1880	3,103	2,218	5,321	1,629	1,524	3,153
1890	14,866	5,956	20,822	413	1,334	1,747
1900	36,825	7,432	44,257	164	9	173

- Sources: 1) 1870: Ninth Census of the United States (1870), Vol. III, p. 624.  
 2) 1874, 1875: F. R. Mason, The American Silk Industry and the Tariff (Cambridge, Mass., 1910), p. 144.  
 3) 1880: Tenth Census of the United States (1880), Report on the Silk Manufacturing Industry of the United States, by W. C. Wyckoff, p. 25.  
 4) 1890: Eleventh Census of the United States (1890), Part III, Silk Manufactures, by B. Rose, p. 226.  
 5) 1900: Twelfth Census of the United States (1900), Vol. IX, Manufactures, Part III, Silk Manufactures, by F. Allen, p. 230.

the production of broad silk goods to the output of their mills.<sup>(87)</sup>

Paterson took advantage of its proximity to the consuming area on the eastern coast and the major silk market of New York.<sup>(88)</sup>

The rapid growth of the silk industry in the United States was facilitated by three factors. Firstly, there was the maintenance of a protective high tariff policy during this period to protect the infant silk industry from imported silk goods.<sup>(89)</sup> The duty on general silk goods had been imposed in accordance with the simple method of a general ad valorem until the Dingley Act of 1897, by which specific rates were applied. The average imposed duty by this Act was around 64 per cent. In contrast, raw silk was imported freely after 1857.<sup>(90)</sup>

Table 28 shows the amount of imported silk goods, the value of silk production in the United States and the ratio of domestic production to total consumption during the period 1850-1900.<sup>(91)</sup>

Table 28. Imports of Silk Goods and Domestic Silk Production in the United States 1850-1900.

Year	Imports(A)	Value of Domestic Products (B)	$\frac{B}{A+B}$
1850	17,639,624 dollars	1,809,476 dollars	9.3%
1860	32,726,134	6,607,771	16.8
1870	23,904,048	12,210,662	33.8
1880	32,188,690	41,033,145	56.0
1890	38,686,374	87,298,454	69.3
1900	30,894,373	107,256,258	77.6

Source: U.S.A., Dept. of Commerce, Statistical Abstract of the United States, 1902, p. 554.

Note: Year means fiscal year from 1 July in the previous year to 30 June.

Imports of silk manufactures remained around 30 million dollars in this period. In contrast, the domestic production of silk goods increased steadily and supplied more than 50 per cent of total silk consumption in 1880 and just under 80 per cent in 1900.<sup>(92)</sup>

The second favourable factor was the general expansion of the domestic market of the United States. This had involved population growth, and the general expansion of the demand for silk goods and of the textile market due to increasing incomes and a rise in living standards.<sup>(93)</sup> American manufacturers produced substantially the medium grade goods which were most in demand on the domestic market.<sup>(94)</sup>

Thirdly, there were technological improvements in throwing and weaving machinery. One of the most important improvements in the early stages of the silk industry was the friction roller for winding, doubling and spinning devised by Nathan Rixford which was introduced in Paterson around 1838.<sup>(95)</sup> In throwing, the winding frame (double-decking) and doubling frame were adopted to economize in space and processes.<sup>(96)</sup> Newly invented throwing machinery, which directed automatic action and allowed great speed, was introduced around 1880.<sup>(97)</sup> Spindles were being operated at a speed of 7,500-10,000 revolutions per minute as early as 1890, and speed had risen to 11,000-12,000 revolutions by 1900.<sup>(98)</sup> Weaving saw the introduction of the highly efficient power loom, which, as a substitute for the hand loom, was "equipped with mechanical devices designed for the saving of both time, labor, and material, such as the numerous multipliers, two-weave, leno, swivel, embroidery motions, and many other devices, all arranged to operate automatically".<sup>(99)</sup> In silk ribbon production the high-speed ribbon loom invented in 1889 replaced

the previously used "Swiss" and "German" power looms.<sup>(100)</sup> These automatic devices raised the productivity of the machine by from two to four times.<sup>(101)</sup>

(2) Raw Silk Imports into the United States before 1870

Silk was being produced on a small scale in Georgia, South Carolina, Pennsylvania and Connecticut from the eighteenth century.<sup>(102)</sup> There was a mania for speculation in mulberry trees, *morus multicaulis*, in the 1830s, when sericulture on a large scale was being started in Pennsylvania and Connecticut.<sup>(103)</sup> However, most of these undertakings resulted in failure owing to the absence of the necessary tradition, the lack of skilled labour, and the unprofitability of silkworm rearing.<sup>(104)</sup>

Growing demand for, and consumption of, silk fabrics gradually created a serious shortage of material for silk manufacturers. Asiatic silk was first brought to the United States in 1828 and successfully used in silk manufactures.<sup>(105)</sup> In 1840-41 the well prepared Chinese silk was imported to the American market<sup>(106)</sup> and thereafter silk manufacturers who used imported raw silk increased in number.<sup>(107)</sup> Imports of raw silk were estimated at 120,010 lb., valued at 401,385 dollars, in 1850, increasing to 297,877 lb., valued at 1,340,676 dollars, in 1860.<sup>(108)</sup> The raw silk imported into the United States came from China and Europe mostly via Britain, but the remoteness of supply was not a serious disadvantage, because of the small quantities of raw silk involved.<sup>(109)</sup> Imports of raw silk were promoted by the abolition in 1857 of import duty on directly imported raw silk, and the import duty of Asiatic raw silk brought via Europe was also removed in 1865.<sup>(110)</sup> Average annual imports of

raw silk during the period 1865-1870 amounted to 575 thousand lb., of which Chinese silk constituted 75 thousand lb. or 13 per cent of the total raw silk imports, Japanese silk 22 thousand lb. or 4 per cent, and raw silk from Britain 356 thousand lb. or 62 per cent.<sup>(111)</sup> Raw silk imports from Britain were presumably both Chinese and Japanese silk, transmitted from London to New York.

Cheney Brothers of Connecticut, which was established in 1838, was one of the most successful early undertakings in silk manufacture. They used imported raw silk almost exclusively for the production of broad goods.<sup>(112)</sup> Augustine Heard & Co. at Yokohama made purchase and regular shipments, usually on every mail steamer, for them and on their account.<sup>(113)</sup> The Cheney and Ryle were almost the only enterprises that produced broad goods before 1860.<sup>(114)</sup>

The imperfect reeling of Chinese silk made it unsuitable for ribbon production, which required clean and uniform threads.<sup>(115)</sup> However, since the silk industry in the United States at this time was not in a position to use finer raw silk, Chinese silk was actively in demand despite its deficiencies. However, as raw silk imports increased, the shortage of material and the fact that it was supplied from remote regions became gradually more of a handicap.

### (3) Raw Silk Imports into the United States in the 1870s

The lack of sufficient supplies of raw silk became a serious problem in the 1870s, as the power loom became more widely used to produce broad silk goods. This development in the silk industry provided an opportunity to review imports of raw silk, quantitatively and qualitatively, and the pattern of raw silk imports into the United States gradually began to alter.

Table 29 shows raw silk imports into the United States by country and the percentage share of each country in total imports into the United States during the period 1873-1899. Imports of Chinese silk drastically decreased between 1874 and 1876. On the other hand, Japanese silk increased enough to replace it during the same years, and after 1875 held an important position, if only temporarily, in the American raw silk market.<sup>(116)</sup>

The rapid decrease in exports of Chinese silk to the United States in 1874-1876 reflected the fact that silk manufacturers in the United States had declined to purchase it, because of its adulteration.<sup>(117)</sup> Complaints about the quality of Chinese silk continued unabated even after 1877, but imports into the American market continued in large quantities.<sup>(118)</sup> This is firstly because, as shown in Figure 7, it remained cheaper than Japanese silk, secondly because Japanese silk did not maintain a high standard of quality every year, and finally because, despite the adulteration and poor quality, it was needed in order to satisfy increasing demands from the American silk industry.<sup>(119)</sup> In other words, imports of Chinese silk had to be continued to make up for a shortage of supply of Japanese silk created by the rapid growth of the American silk industry.

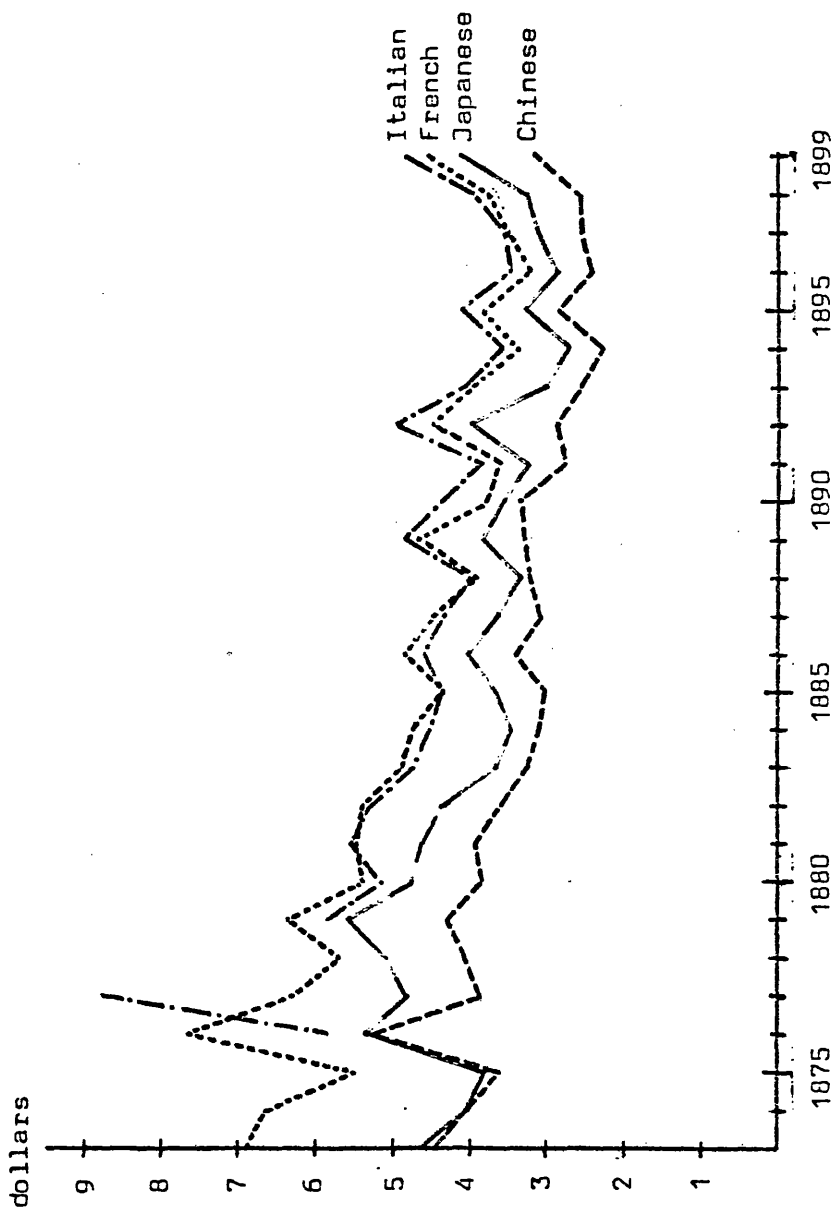
Asiatic silk from China and Japan took up 80 per cent of the total raw silk imports into the United States in the second half of the 1870s. This rapid increase in imports of Asiatic silk to the American market after 1875 was closely related to the completion of the Trans-Continental Railway in 1869.<sup>(120)</sup> San Francisco was not very important as a port for imported raw silk before 1869.<sup>(121)</sup> After this date, however, it was possible for Asiatic silk to be

Table 29. Raw Silk Imports into the United States 1873-1899.

Year	China		Japan		Italy		France		Britain		Others		Total	
	Value	%	Value	%	Value	%	Value	%	Value	%	Value	%	Value	%
1873	453,720	(57.1)	9,825	(1.2)	-	-	43,366	(5.5)	194,540	(24.5)	93,386	(11.7)	794,837	(100)
1874	145,740	(13.2)	40,984	(3.7)	-	-	79,226	(7.2)	223,212	(20.3)	612,519	(55.6)	1,101,681	(100)
1875	21,992	(1.6)	997,852	(73.6)	132	(0.0)	169,721	(12.5)	155,705	(11.5)	9,589	(0.7)	1,354,991	(100)
1876	44,281	(3.7)	819,056	(69.1)	2,282	(0.2)	133,108	(11.2)	179,891	(15.2)	7,552	(0.6)	1,186,170	(100)
1877	764,085	(64.6)	171,804	(14.5)	-	-	114,809	(9.7)	118,395	(10.0)	13,657	(1.2)	1,182,750	(100)
1878	1,074,624	(56.9)	430,126	(22.8)	-	-	156,310	(8.3)	217,982	(11.5)	10,734	(0.6)	1,889,776	(100)
1879	1,587,486	(62.0)	635,754	(24.8)	1,150	(0.0)	129,897	(5.1)	155,934	(6.1)	52,015	(2.0)	2,562,236	(100)
1880	1,563,228	(61.3)	685,542	(26.9)	2,881	(0.1)	249,229	(9.8)	40,770	(1.6)	8,453	(0.3)	2,550,103	(100)
1881	1,229,396	(42.7)	993,842	(34.5)	11,742	(0.4)	517,002	(18.0)	83,536	(2.9)	43,884	(1.5)	2,879,402	(100)
1882	1,214,884	(37.3)	1,275,686	(39.2)	14,121	(0.4)	671,330	(20.6)	53,558	(1.6)	23,791	(0.7)	3,253,370	(100)
1883	920,398	(28.6)	1,380,674	(42.8)	500,618	(15.5)	355,018	(11.0)	12,335	(0.4)	53,503	(1.7)	3,222,546	(100)
1884	1,030,580	(30.1)	1,519,881	(44.4)	534,420	(15.6)	292,528	(8.5)	21,079	(0.6)	25,588	(0.7)	3,424,076	(100)
1885	1,467,215	(30.9)	2,047,151	(43.1)	949,290	(20.0)	204,407	(4.3)	54,774	(1.2)	31,879	(0.7)	4,754,716	(100)
1886	1,076,280	(23.4)	2,165,329	(47.1)	1,005,812	(21.9)	276,633	(6.0)	23,472	(0.5)	52,048	(1.1)	4,599,574	(100)
1887	1,016,945	(19.7)	2,800,402	(54.1)	958,816	(18.5)	265,128	(5.1)	10,004	(0.2)	122,545	(2.4)	5,173,840	(100)
1888	1,118,807	(21.0)	2,738,423	(51.4)	1,091,871	(20.5)	283,963	(5.3)	21,673	(0.4)	74,909	(1.4)	5,329,646	(100)
1889	1,130,491	(19.0)	3,459,569	(58.2)	911,175	(15.3)	279,488	(4.7)	108,979	(1.8)	53,658	(0.9)	5,943,360	(100)
1890	1,287,034	(26.2)	2,556,569	(52.0)	812,908	(16.5)	216,795	(4.4)	21,751	(0.4)	22,631	(0.5)	4,917,688	(100)
1891	1,845,555	(24.5)	4,062,362	(54.0)	1,275,274	(17.0)	319,673	(4.3)	7,592	(0.1)	10,886	(0.1)	7,521,342	(100)
1892	1,880,242	(25.3)	3,697,675	(49.8)	1,482,444	(20.0)	307,872	(4.1)	34,392	(0.5)	19,805	(0.3)	7,422,430	(100)
1893	1,198,304	(24.2)	2,644,388	(53.3)	886,328	(17.9)	210,813	(4.3)	3,165	(0.1)	13,877	(0.3)	4,956,875	(100)
1894	2,419,128	(30.3)	3,788,171	(47.5)	1,354,478	(17.0)	365,986	(4.6)	13,953	(0.2)	33,094	(0.4)	7,974,810	(100)
1895	2,315,873	(28.9)	3,951,380	(49.4)	1,116,239	(14.0)	381,749	(4.8)	18,317	(0.2)	217,063	(2.7)	8,000,621	(100)
1896	1,907,892	(29.3)	3,474,865	(53.3)	865,972	(13.3)	233,005	(3.6)	1,373	(0.0)	30,505	(0.5)	6,513,612	(100)
1897	2,916,549	(28.3)	5,294,429	(51.3)	1,743,543	(16.9)	339,934	(3.3)	552	(0.0)	20,155	(0.2)	10,315,162	(100)
1898	2,512,299	(25.9)	4,515,116	(46.6)	2,251,216	(23.3)	330,248	(3.4)	244	(0.0)	82,022	(0.8)	9,691,145	(100)
1899	3,853,577	(34.2)	4,755,999	(42.2)	2,224,450	(19.7)	354,537	(3.1)	-	-	79,747	(0.7)	11,268,310	(100)

Sources: U.S.A., Treasury Dept., Commerce and Navigation of the United States, 1874-1900, corresponding years.

Fig. 7. Annual Average Prices of Imported Raw Silk into the United States 1873-1899. (per lb.)



Sources: U.S.A., Treasury Dept., Commerce and Navigation of the United States, corresponding years.



transmitted by this railway from San Francisco to the silk manufacturing areas in the eastern states.<sup>(122)</sup> In 1871, imports of raw silk at San Francisco came to 449,295 lb., 2,013,081 dollars, surpassing those at New York, which were 343,670 lb., 1,827,893 dollars.<sup>(123)</sup> Silk exports from Japan which had hitherto come via Britain were also gradually directed to the United States by that route instead. During the period 1875-1885, on average 77 per cent of the total annual imports of raw silk to the United States came through San Francisco.<sup>(124)</sup>

On the American market, as well as on the European market, there had been constant complaints from 1870 to 1874 about the quality of Japanese silk, especially with regard to the unsuitability caused by imperfect reeling.<sup>(125)</sup> The two years of 1875 and 1876 marked a turning-point, as shown in Table 29, in the sense that imports of Japanese silk increased sharply on the American market. This meant that Japanese silk had begun to change its main export market from Europe to the United States, which did not require such a fine quality of raw silk.<sup>(126)</sup> This increase in raw silk exports from Japan was simply because, however imperfect the reeling, it was much more suitable in quality for silk manufactures than Chinese silk.<sup>(127)</sup> This shift implied a possibility that the pattern of raw silk production in Japan might adapt to the American market through technological developments in filatures after the late 1870.<sup>(128)</sup>

American manufacturers chiefly demanded filatures and Ohshu Kakedas.<sup>(129)</sup> The silk exported from Japan to the United States consisted of 'thick thread' silk of from 14 to 18 deniers, while that exported to Europe was 'thin thread' silk of from 11 to 13

deniers.<sup>(130)</sup> Asiatic silk was greatly in demand on the American market. As regards quality, Japanese silk had to compete with Chinese silk. It is impossible to know the exact areas of production in which Chinese and Japanese silks were used.<sup>(131)</sup> Considering both the respective quantity and quality of imports and the distribution of the silk products, it is thought that in the 1870s Japanese silk was used mainly for the warp of narrow silk fabrics and Chinese silk was used both for the weft of narrow silk goods and sewing silk and machine twist.<sup>(132)</sup>

#### (4) Raw Silk Imports into the United States in the 1880s

Competition between European silk and Japanese silk on the American market became very keen in the late 1870s.<sup>(133)</sup> In 1878, so much European silk was imported that it became a great influence on the American silk market.<sup>(134)</sup> One of the causes of the increase in European silk imports was that its price had become lower than that of Japanese silk<sup>(135)</sup>; this situation continued until the early 1880s.<sup>(136)</sup> Competition between European and Japanese silk took place over price rather than quality, but the expansion of outlets for Japanese silk was also being disturbed at this time by its growing inferiority.<sup>(137)</sup> It should however be noted that filatures were exported to the United States, albeit in small quantities, "to supplement the shortage of European silk".<sup>(138)</sup>

America's "swing back" from Asiatic to European silk of superior quality occurred in the early 1880s, when the pattern of raw silk imports began to change both quantitatively and qualitatively.<sup>(139)</sup> The two principal causes of this "swing back" were the introduction of the manufacturing of plain silk goods and

the change from the hand to the power loom, for which raw silk of superior quality with uniformity and strength was needed.<sup>(140)</sup>

As is shown in Table 29, imports of raw silk from France increased in the early 1880s, while Italian silk imports increased rapidly after 1883. Japanese silk imports also increased in line with the rapid increase of European silk, replacing Chinese silk.<sup>(141)</sup> In 1882, imports of Japanese silk surpassed those of Chinese silk and thereafter took a position of relative predominance in the American raw silk market. In 1887 the share of Japanese silk rose to over 50 per cent. Both Japanese and Chinese silk took an important position in the American market after 1875, but, on the Japanese side, it was after 1882 that a truly rapid increase in raw silk exports to the United States began. This implies that the growth in raw silk exports from Japan was closely linked to the change in pattern of American raw silk imports.<sup>(142)</sup>

In the 1880s, Japanese silk competed with Chinese silk, chiefly re-reeled Tsatlee from Shanghai, on the American market, which strongly influenced the demand for Kakeda and other Ohshu silk.<sup>(143)</sup> Qualities in demand for New York were mostly filatures and re-reels.<sup>(144)</sup> As a British consular report for the year 1885 remarked:

The Japanese have acted most judiciously in applying themselves to the reeling of silk most suited to the wants of America, now their best customer. Holders during the long-continued depression were greatly supported by American buyers, who, although operating sparingly, paid the quotations of the day, which were throughout 10 per cent. higher than buyers for Europe could afford to operate at.<sup>(145)</sup>

The pattern of American raw silk imports in the 1880s is characterised by an increase in Japanese and Italian silk and a corresponding decline in Chinese silk against an overall expansion

of raw silk imports.<sup>(146)</sup> As statistics for the decade from 1880 to 1889 show, Chinese silk on average took a 31 per cent share of total American raw silk imports, while Japanese silk took 44 per cent, Italian silk 13 per cent, and French silk 9 per cent. In the second half of the 1880s, Japanese silk constituted around 50 per cent of the total American raw silk imports, and European and Chinese silk each constituted 25 per cent.

As to the quality of raw silk, Italian and French silk were classified as superior, Japanese silk as medium and Chinese silk as inferior,<sup>(147)</sup> so that Japanese silk ranked between European and Chinese silk, not only in quality, but also in price.<sup>(148)</sup> Furthermore, the main feature of Japanese silk was that it was very white in colour and less boiled-off, both elements which were not found in European silk.<sup>(149)</sup> Considering the quality and quantity of raw silk imported to the United States from each country and the development of the power loom, it is thought that in the 1880s Italian and French silks were exclusively used for the warp, Japanese silk was used partly for the warp and partly for the weft, and Chinese silk was used mainly for the weft. Raw silk imported from Japan was said to be used as the warp and as the weft in almost equal quantities.<sup>(150)</sup> In the 1880s, therefore, it would seem that Japanese silk was gradually shifted from use as the warp to use as the weft owing to the increasing European silk imports. It therefore came to compete with Chinese silk and partially ousted it from the weft market.

## (5) Raw Silk Imports into the United States in the 1890s

American production of broad silk goods had become established in the 1880s; in particular, the production of plain dress goods had developed considerably, its share of the total production of silk manufactures reaching 56 per cent in 1900. As Table 29 shows, raw silk imports into the United States continued to increase in terms of both quantity and value. The quantity of imported raw silk increased by 2.3 times during the decade 1890-1899. The pattern of raw silk imports by country in the 1890s was similar as a whole to that in the 1880s. The share of Japanese silk in the total imports was 49 per cent on average during the decade 1890-1899, with Chinese silk at 28 per cent, Italian at 18 per cent and French at 4 per cent. A small amount of Shanghai steam filature began to be imported in the mid-1890s for use as the warp.<sup>(151)</sup>

Imports of Japanese silk stagnated or declined in terms of its share in the American market and raw silk exports from Japan increased in value because of the sharp rise in export prices (Table 17). This stagnation in the size of Japanese raw silk exports indicates both the fact that exports of Habutae, silk fabric, increased as the domestic silk manufacturing industry developed,<sup>(152)</sup> and the fact that domestic raw silk production and foreign exports had reached limits which caused a deterioration in quality of Japanese silk on the American market.

The decline in quality of Japanese silk had already become a factor in the American market in 1880,<sup>(153)</sup> and the price of hanks sharply declined because of this in the mid-1880s.<sup>(154)</sup> Though silk manufacturers in the United States were demanding Japanese silk of

superior quality,<sup>(155)</sup> Japan could not at this stage maintain a supply of superior silk suitable for the American market. Japanese silk was therefore hardly ever of the quality needed to produce fine silk fabrics<sup>(156)</sup> and used instead for coarser grades of silk manufactures.<sup>(157)</sup> There were no indications of improvement and the deteriorating trend became obvious after 1890.<sup>(158)</sup> A British consular report for the year 1891 stated that

Japan silk possesses the virtue of strength and of good white colour, but at present is said to be open to the reproach of "nibbiness" and irregularity of colour and size, faults which the exercise of greater care in the process of preparation would correct.<sup>(159)</sup>

As a result of this deterioration in quality,

at the moment the reputation of Japanese silk has been lost and nobody relies on it.<sup>(160)</sup>

This decline in quality of Japanese silk was caused by the rapid expansion of the silk market and occurred as the consequence of deficiencies in reeling and packing techniques despite an improvement in reeling techniques following the development of filatures.

As such it was completely different from the decline in quality of the early 1870s which was due to a loss of quality in the cocoons themselves.<sup>(161)</sup>

Although the need for improvement and for the production of a superior quality of silk in Japan had been repeatedly pointed out,<sup>(162)</sup> there had been no indications of improvement. Warnings about the poor quality of Japanese silk and the need for improvement had been made from a realisation that Japanese silk was always threatened by competition from Italian and Chinese silk.<sup>(163)</sup>

Seen from this viewpoint, the blocking of American outlets for Japanese silk caused by any deterioration in quality would impede the increase of raw silk exports from Japan and possibly endanger

the existence of Japan itself.<sup>(164)</sup> Complaints about the poor quality of Japanese silk were mainly directed not at the filatures of Shinshu and Koshu but at the re-reels of Maebashi, Joshu and Ohshu.<sup>(165)</sup>

As a result of its decline in quality in the 1890s, Japanese silk was ousted from the warp market and confined mainly to the weft market, expelling Chinese silk completely from the weft market.<sup>(166)</sup> In spite of the poor quality, Japanese silk, as shown in Table 29, still took a share of about 50 per cent of total raw silk imports into the United States and was used not only as the warp and the weft for various silk goods, but also for sewing silk and machine twist in accordance with differences in silk fabrics and in the quality of silk goods.<sup>(167)</sup> While "Chinese filature and European silk supply the warp", Japanese silk was used mainly as the weft<sup>(168)</sup>; in the late 1890s it was estimated that only 10 or 20 per cent of raw silk from Japan was used for the warp.<sup>(169)</sup> Despite this declining trend, Japanese silk remained dominant on the American market towards the end of 1890s.<sup>(170)</sup> The reason why Japanese silk was able to remain in keen competition on the American market was that both in quality and price it came in between European and Chinese silk.

#### 4. The Development of the Silk Industry in Japan

The appearance of foreign markets and the continuous increase in demand for Japanese silk overseas stimulated the development of the silk industry in Japan both in terms of production methods and in the technologies of sericulture and silk reeling.<sup>(171)</sup>

According to the estimate of the silk guild in Edo, the annual production of raw silk in Japan was around 20 thousand bales before the opening of the ports and doubled after that time. The total production of raw silk was therefore put at about 40 thousand bales in the early 1860s. Of these, 30 thousand bales were for export and the remaining 10 thousand bales were for domestic use.<sup>(172)</sup>

The increase in raw silk exports after 1859 caused a deterioration in its quality. Japanese silk reeling manufacturers became anxious to concentrate on the quantitative expansion of raw silk production rather than on the maintenance of quality. This was because prices of raw silk were sharply rising due to the continuing poor cocoon crop in the main European silk producing countries; silkworm eggs of the best quality were exported from Japan to France and Italy on a large scale and the preparation of raw silk was completely neglected in Japan. This caused the deterioration in the quality of Japanese silk on the European market.<sup>(173)</sup> In fact, the stagnation in raw silk exports from Japan in the first half of the 1870s was due to the deterioration in quality and the consequent decrease in competitiveness with other silk on the European market. The fundamental reason was that raw silk production had seemingly reached its limit, causing a rise in the price of raw silk itself and a deterioration in quality.<sup>(174)</sup> Figures for raw silk production during the Bakumatsu period are not available. According to Fuken Bussan Hyo it was 377,000 kan in 1874.<sup>(175)</sup> Comparison of the above figures with those given by the Edo silk guild for the beginning of the 1860s shows that production may have been stagnant throughout the Bakumatsu and early Meiji periods.

Where quality is concerned, raw silk exported from Japan was



chiefly hanks. According to a British consular report, the proportion of each description of raw silk as a percentage of total exports was as follows in the season 1867-68<sup>(176)</sup>:

Hanks.....	64 per cent
Koshu.....	6
Oshu, Hamatsuki and Kakeda.....	19
Sodai, Echizen and Taysaam sorts.....	11

British consular reports note a deterioration in the quality of hanks due to bad reeling in the late 1860s, as a result of which hanks went out of favour in transactions.<sup>(177)</sup> In 1868, European and American silk merchants requested the Yokohama General Chamber of Commerce to communicate with Japanese silk merchants and producers regarding the deterioration in quality of raw silk exported from Japan. Their complaints, which appeared in the Half-Yearly Report of the Yokohama General Chamber of Commerce published in July 1868, were as follows:

1. The quality of the Japan silk is getting worse every year.
2. Large quantities of silk produced in Oshiu, Koshu, and other countries are made up in hanks so as to be sold as Mayebashi and Shinshiu silks.
3. A great quantity of hank silks wind badly, thereby causing great loss to the buyer.
4. The paper ties of the hank silks are too heavy.
  - (a.) There is a great variety of cocoons in Japan; they are not all of them fit to be reeled into fine silk, and the silks produced in different countries of Japan are applied by the manufacturers of Europe to different purposes.
  - (b.) Formerly the silk of each country was made up in a particular manner, so that each foreign manufacturer was able to choose the quality which suited his requirement; but now he is frequently deceived, because a great variety of silks are made up in hanks. Formerly a great many Japan silks were firm, clean, and strong, some of them were very fine and regular in size; but now it appears that the Japanese reelers mix the bad and good colours together, and reel them without the proper care. The result is that the silk is foul, irregular in size, and that the colour of it is bad.
  - (c.) Formerly the Japan silks, and particularly the hank silks, used to wind very well, so that the loss in weight to the throwster was very small. Now it frequently happens that certain hank silks lose as much as 20 and even 50 per cent. on account of bad winding.

In some cases the threads are so interlaced that the silk

cannot be wound at all, and must be sold as waste silk. Some musters of these bad hanks have been returned from Europe to Yokohama. They are exhibited in the room of the Chamber of Commerce, and all Japanese silkmen are invited to look at them.

Last year the Chamber of Commerce complained of the heaviness and irregularity of the paper ties of the hank silks.

Since then some improvement in this respect has been noticeable. Still, the ties are occasionally found to weigh as much as 20 per cent., and even 40 per cent., whilst they should not exceed 2 or 3 per cent. It is true the ties may be weighed and deducted, but this takes a great deal of time and creates great difficulties.

It is true also that the disease of the silkworms has diminished the silk crops of some countries of Europe. For this reason foreigners have paid for the Japan silks high prices as long as they were good; but now they are neglected by the manufacturers on account of their inferiority.

The disease of the silkworms cannot last for ever; when it is cured, can foreigners be expected to buy bad silk in Japan whilst they produce good silk in their own countries?

(d.) The Chinese produce large quantities of good silk. They have formerly been accustomed to reel it coarse, but now they reel some quantities very fine, and imitate the hank silks of Japan. Is it to the interest of the Japanese to deteriorate their silks whilst the Chinese are improving their own?

Is it (sic) certain that Japan silk is gradually losing the reputation which it had acquired at first; therefore, the Chamber of Commerce of Yokohama urges upon the Japanese silkmen to take the above remarks into serious consideration.  
(178)

Attempts to establish modern Western-style filatures were made both by the public and private sectors. In 1870, the Maebashi clan established a filature in order to solve its financial difficulties through exporting their well-known hank silk.<sup>(179)</sup> Ono-gumi, a wealthy city merchant, also established an Italian-style Tsukiji Filature in 1870. This trial had to be abandoned due to managerial difficulties. The reeling machines were transferred to the Miyamada Filature in Nagano and many female reelers went to the Nihonmatsu Filature in Fukushima.<sup>(180)</sup>

The Meiji government was seriously concerned with the declining

reputation of raw silk exports from Japan. In 1872 the Tomioka Filature was established in Gunma Prefecture and equipped with French reeling machines as a pilot firm under the supervision of the government in order to improve the quality of Japanese silk.<sup>(181)</sup> Another Western-style filature (Kankoryo) was established in 1873 with the intention to diffuse silk reeling technologies. The establishment of the Tomioka Filature was obviously a government level response to developments in the domestic silk reeling industry which had caused the deterioration in quality.<sup>(182)</sup> In 1873 the government issued Regulations for Silk Inspecting House (Kiito Aratame Kaisha Kisoku) against the background of this deterioration in quality. The aim behind the formation of this organization was partly to establish a new delivery system for raw silk from the producing districts to Yokohama under the control of export merchants in Yokohama such as Hara Zenzaburo and Mogi Sobei.<sup>(183)</sup> In this sense it can surely be seen as an extension of Bakufu policy during the Bakumatsu period.<sup>(184)</sup> The preface to these regulations emphasized the declining reputation of Japanese silk in the overseas market which had been caused by the deterioration in quality, and the urgent need to cope with this matter as soon as possible. The government had to attempt to control the silk trade; it stated: "Silk culture is an industrial pursuit of the highest importance to this Empire (Japan), and it is not only profitable to the persons engaged in it, but also contributes largely to the increase of national wealth."<sup>(185)</sup> Similar notifications and regulations concerning the sericulture and silk reeling industries were being continuously circulated and issued in revised form, especially in the 1870s.<sup>(186)</sup> This conversely serves as an indication that

the government was not able effectively to supervise the development of the silk industry at a private level.

Western-style filatures were first introduced into Japan regardless of the previous development of the domestic silk industry and, therefore, failed in the face of difficulties in the supply of cocoons and in employing labourers.<sup>(187)</sup> However, these government trials stimulated silk producers through the diffusion of methods and technologies of reeling machine<sup>(188)</sup>; the silk reeling industry developed in a modified pattern which was suitable to Japanese economic conditions.

The silk reeling industry rapidly developed in different districts where the government made efforts to promote it.<sup>(189)</sup> During the period under consideration, the main silk producing districts of Fukushima, Gunma and Nagano Prefectures responded in different and characteristic ways to the expanding overseas market.<sup>(190)</sup>

The silk reeling industry in the Fukushima district developed as a domestic system controlled by local city merchants which worked according to either a traditional hand or a sedentary reeling method.<sup>(191)</sup> Products of this district were mainly exported to Europe and were called Kakeda or Ohshu silk on the market.<sup>(192)</sup> Methods of sedentary reeling production did not change even after the opening of foreign trade and lasted until around 1910. Quality was therefore inferior to other raw silk. From the late 1880s joint packing factories were established to maintain the quality of silk which had been collected and brought to Yokohama by silk merchants, but Kakeda and Ohshu silk were not able to compete with other silk and their importance in raw silk exports from Japan declined.

In the Gunma (former Joshu) district, the silk reeling industry had developed from the early nineteenth century as a small-scale household industry under a domestic system controlled by privileged silk merchants such as Shimomura Zentaro and Ebara Yoshihei in the Maebashi area, and by wealthy farmers such as Hoshino Chotaro in local areas.<sup>(193)</sup> With the commencement of foreign trade, demand for silk from this district rapidly increased, helped by its proximity to Yokohama. Prices sharply rose and silk merchants and local producers began to expand their silk production and to purchase silk for speculation. The products of this district were called Maebashi or hanks and played a great role in raw silk exports from Japan.<sup>(194)</sup> Against the background of a sudden increase in demand for silk, silk reeling technologies made progress and improved: the sedentary reeling method replaced the low productivity hand reeling method. From the late 1870s, in the face of stagnation in exports due to a deterioration in quality, silk manufacturers began to form their own associations to meet the demand from the overseas market by establishing joint factories for re-reeling to produce large quantities of silk with regularity in size. In other words, the silk industry in this area developed not by establishing filatures but by improving the traditional production of silk.<sup>(195)</sup> In the Maebashi area, the silk merchants, who operated the production of silk according to a small-scale factory and/or a domestic system, formed associations such as Kosui-sha, Tengen-sha and Shoryu-sha. In local areas, wealthy farmers who produced silk on a small family basis established joint factories such as Usui-sha, Kanraku-sha and Shimonida-sha. In both cases, the re-reeling and finishing processes were performed in these joint factories under strict examination in order to maintain

quality. As we have already seen, re-reels met with complaints of poor quality on the American market around 1890. This was reflected in demands that silk manufacturers in re-reel producing districts should reorganize their methods of production immediately. In fact, the character of the Maebashi silk market gradually changed to dealing in raw silk for domestic use.<sup>(196)</sup>

In the Nagano (former Shinshu) district, the silk reeling industry developed as a handicraft industry under a domestic system.<sup>(197)</sup> The opening of the ports had great influence on the silk reeling industry in this district. The sedentary reeling method was introduced from the Joshu district in the early 1860s and spread rapidly and widely into the small-scale factories of the Nagano silk reeling industry. Simultaneously, the centre of production changed from northern parts, such as Matsushiro, to middle and southern parts, such as Suwa. Several middle and small sized farmers expanded their silk production, employing seasonal labourers at their own small factories. Filatures began with the establishment of the Italian style Miyamada Filature in Suwa in 1872 and the French-style Rokko-sha in Matsushiro in 1874. In the Suwa area, under the influence of the Miyamada Filature, local manufacturers started to produce filatures on a small scale.<sup>(198)</sup> The establishment of Nakayama-sha in 1875 marked a turning-point in the development of filatures. Nakayama-sha was operated under a factory system, modifying Western technologies.<sup>(199)</sup> A large number of filatures were operated on a small capital, mainly through utilizing the cheaper domestically made wooden or wood-and-metal machines which operated on water power.<sup>(200)</sup> Filatures rapidly spread from the early 1880s and played a crucial role in establishing the predominant position of Japanese silk on

the American market. The number of filatures increased from 49 in 1877 to 488 in 1883.<sup>(201)</sup> From 1877 small producers began to form associations such as Koun-sha, Kakuei-sha and Kaimei-sha for the purpose of establishing joint delivery to Yokohama. These associations also functioned as a unit for obtaining loans from export merchants in Yokohama.<sup>(202)</sup> From the mid-1880s they went on to establish joint re-reeling factories such as Kaimei-sha, Hirano-sha and Ryujo-kan to produce raw silk with a regular quality. From the mid-1890s several manufacturers came to operate their filatures independently from associations, and large-scale silk manufacturers like Katakura-gumi, Oguchi-gumi, Yamaju-gumi, Yamaichi Hayashi-gumi and Ozawa-gumi emerged in the late 1890s.<sup>(203)</sup>

Table 30 shows the quantities of raw silk produced in Japan and exported from 1878, when official figures for output were first available. The percentage of domestically produced raw silk exported was 63.5 per cent on average during the period 1878-1899. The total area covered by mulberry plantations also increased from 94,000 cho (9.3 million acres) in 1884 to 244,000 cho (24 million acres) in 1890.<sup>(204)</sup>

While hanks went out of favour in the late 1860s, there was more demand for Ohshu silk owing to its cleanness of thread and regularity of size.<sup>(205)</sup> Ohshu silk continued to remain in fair demand on the European market until the late 1870s.<sup>(206)</sup> This preference in the description of raw silk for export was a result of the fact that, since less silkworm eggs had been exported from there, Ohshu silk was of good quality by comparison with the silk produced in Shinshu and Joshu, which were furnishing a large quantity of silkworm eggs for export.<sup>(207)</sup>

Table 30. Production and Exports of Raw Silk from Japan  
1878-1899.

(in thousand kin)

Year	Domestic Production (A)	Exports (B)	$\frac{(B)}{(A)}$
1878	2,266	1,451	64.0%
1879	2,782	1,637	58.8
1880	3,331	1,462	43.9
1881	2,882	1,801	62.5
1882	3,095	2,884	93.2
1883	2,853	3,122	109.4
1884	3,563	2,098	58.9
1885	3,175	2,457	77.4
1886	4,493	2,635	58.6
1887	5,032	3,104	61.9
1888	4,656	4,678	100.5
1889	5,510	4,127	74.9
1890	5,417	2,110	39.0
1891	6,800	5,325	78.3
1892	6,851	5,407	78.9
1893	7,710	3,712	48.1
1894	8,105	5,484	67.7
1895	10,021	5,810	58.0
1896	9,017	3,919	43.5
1897	9,610	6,920	72.0
1898	9,248	4,837	52.3
1899	10,964	5,947	54.2

Source: Noshomu-sho Nomu-kyoku, Yushutsu Juyohin Yoran,  
Nosan no Bu, Sanshi (Tokyo, 1901), pp. 44-46.

Table 31. Proportion of Each Silk Description of the Total  
Raw Silk Exports 1873/74-1876/77.

Description	1873-74	1874-75	1875-76	1876-77
Hanks	76%	80%	66%	75%
Ohshu Hamatsuki Kakeda	21	16	26	18
Sodai Echizen Taysaam sorts	2	1	2	3
Filatures	1	3	6	4

Source: Summary of the Foreign Trade of Japan for the Year 1876,  
p. 31, in BPP, JAPAN, Vol. 6, p. 237.



Table 31 shows the proportion of each silk description out of the total raw silk exports from the season 1873/74 to 1876/77. The superiority of hanks in raw silk exports was the same as in the 1860s. The percentage of hanks by producing districts for the three seasons from 1874/75 was as follows<sup>(208)</sup>:

Joshu (Gunma).....	44-46 per cent
Shinshu (Nagano).....	21-26
Bushu (Tokyo, Saitama).....	16-23
Koshu (Yamanashi).....	6- 9
Other Provinces.....	4- 5

It should be noted that filatures began to be exported in the mid-1870s, while exports of Sodai and Echizen silk, which were inferior in quality, declined. Table 32 shows the distribution by description of raw silk delivered to Yokohama for the period 1876-1892. Though the volume of deliveries into Yokohama is not consistent with total exports of raw silk because the ratio of returns of raw silk from Yokohama for domestic use to the total deliveries was 10-20 per cent,<sup>(209)</sup> the general trend can be seen from these figures. In the second half of the 1870s, there was a tendency towards decline in Ohshu silk, and also for a stagnation of hanks, but there was an increase in filatures, re-reels and Kakeda. The decline in exports of Ohshu silk was the result of a deterioration in quality.<sup>(210)</sup> Hanks, Kakeda, and Ohshu reached 90 per cent of total deliveries in 1876 and was still at 60 per cent in 1880. Filatures increased rapidly from 146 thousand kin (8.1 per cent of the total deliveries) in 1876 to 362 thousand kin (20.5 per cent) in 1879 and 481 thousand kin (30.5 per cent) in 1880. However, the quality of filatures was mostly below average. The Shokyo Nempo for the fiscal year 1879 stated that

Table 32. Distribution of Raw Silk Deliveries to Yokohama 1876-1892.

Year	Filatures		Re-reels		Hanks		Kakeda		Ohshu, etc.		Total	
	%	( )	%	( )	%	( )	%	( )	%	( )		
1876	146	( 8.1)	12	( 0.7)	1,003	( 55.7)	82	( 4.5)	557	( 30.9)	1,800	( 100)
1878	362	( 20.5)	239	( 14.8)	901	( 51.2)	1,378	( 85.2)	126	( 7.1)	1,617	( 100)
1879	481	( 30.5)	118	( 7.5)			247	( 14.0)			1,761	( 100)
1880	588	( 26.5)	173	( 7.8)			980	( 62.1)			1,579	( 100)
1881	962	( 39.5)	67	( 2.8)			1,459	( 65.7)			2,219	( 100)
1882							1,404	( 57.7)			2,433	( 100)
1883			949	( 32.9)	1,099	( 38.1)	337	( 11.7)	386	( 13.4)	2,886	( 100)
1884			1,304	( 48.5)	725	( 26.9)	364	( 13.5)	288	( 10.7)	2,691	( 100)
1885			1,583	( 61.2)	411	( 15.9)	350	( 13.5)	236	( 9.1)	2,587	( 100)
1886			2,209	( 67.8)	584	( 17.9)	320	( 9.8)	98	( 3.0)	3,259	( 100)
1887			2,785	( 73.4)	574	( 15.1)	340	( 9.0)	83	( 2.2)	3,794	( 100)
1888			2,738	( 69.3)	591	( 14.9)	396	( 10.0)	217	( 5.5)	3,954	( 100)
1889			3,118	( 76.6)	359	( 8.8)	383	( 9.4)	196	( 4.8)	4,070	( 100)
1890	1,950	( 54.2)	1,004	( 27.9)	155	( 4.3)	400	( 11.1)	88	( 2.5)	3,600	( 100)
1891	2,718	( 51.0)	1,574	( 29.5)	381	( 7.1)	576	( 10.8)	81	( 1.5)	5,333	( 100)
1892	2,833	( 55.8)	1,535	( 30.3)	189	( 3.7)	429	( 8.5)	85	( 1.7)	5,074	( 100)

Source: Yokohama-shi Shi, Vol. 3, Part I, p. 514. Calculated taking a bale as 9 kan and 1 kan as 6.25 kin.

Note: Coarse silk is included in the total figures after 1883.

The best filatures are appreciated as similar to Italian and French silk of good quality in the European and American markets. However ... the producers of the best filatures are still few and it is, therefore, regrettable that the quality of filatures delivered to Yokohama are to a great extent below medium.<sup>(211)</sup>

The share of hanks, Kakeda and Ohshu silk remained at more than half up to 1884.

Exports of raw silk from Japan after 1882 were facilitated by a change in the focus of the raw silk market from domestic use to export in large quantities. This was caused by a decline in domestic demand and by the promotion of the direct export policy during the Matsukata deflationary period.<sup>(212)</sup> The distribution of raw silk delivered at Yokohama changed from hanks, Kakeda and Ohshu silk, which had previously been the main exports, to filatures and re-reels. The share of filature and re-reels rose from 15 per cent in 1878 to 61 per cent in 1885, and to 82 per cent in 1890.<sup>(213)</sup> Filatures developed at a 10-20 per cent annual rate during the period 1885-1895.<sup>(214)</sup>

Hanks had played a great role in the development of silk exports. This was partly because there was only a small gap in the reeling methods of sedentary machines and filatures, and partly because of the continuous expansion of the overseas and domestic markets.<sup>(215)</sup> As hanks were usually produced as a small-scale household industry, it was not difficult to compete with filatures through reductions in production cost and the unification of the re-reeling and packing processes.<sup>(216)</sup>

Although it is not possible to differentiate between the amounts of filatures and re-reels which were exported between 1883 and 1889, the development of filatures in the 1880s should not be exaggerated. The basic difference between sedentary reeling and machine reeling lay in the provision of a special twisting apparatus

and whether the small spool which wound the silk thread from the cocoons was revolved separately by each reeler or whether several small spools fixed to a rod were revolved at the same time by manual, water or steam power.<sup>(217)</sup> The reeling process itself was performed by manual labour in both cases. In this sense, the methods of production employed for filatures, re-reels and other silk did not differ greatly from each other. The crucial points at this stage were regularity in size and the ability to sort and pack large quantities. It was therefore enough to expand production by the sedentary reeling system without adopting the machine reeling system.<sup>(218)</sup> However, once Japanese silk was being exported for use in the United States silk industry, where the power loom was widely utilized, strength of thread became necessary as well as regularity in size. Technological progress in silk reeling was therefore indispensable if the demand in the United States was to be met and exports to that market increased.

Production of filatures exceeded that of sedentary produced silk in 1894, and after that time the importance of hanks in silk exports rapidly declined.<sup>(219)</sup> In the second half of the first decade of the twentieth century a different type of silk manufacturer, who intended to produce export silk of superior quality by adopting new silk reeling technologies, emerged alongside those silk manufacturers who produced silk of ordinary quality but concentrated on expansion or improvement of existing silk reeling technologies.<sup>(220)</sup>

The direct exporting of raw silk to the overseas market was attempted by Hoshino Chotaro in 1875. This was well received by American brokers and manufacturers, and Hoshino organized an association for direct exportation with 40 producers in his village.<sup>(221)</sup>

The Nihonmatsu Seishi Kaisha established in 1873 in Fukushima Prefecture also exported its products direct to the United States.<sup>(222)</sup> Mitsui Bussan attempted direct exporting of raw silk to France and the United States in 1880, but it was discontinued in 1885 and only taken up again in 1896.<sup>(223)</sup> Other direct exporting firms were also established in the early 1880s. Doshin Kaisha was founded in Gunma in 1880 and continued to be engaged in the direct silk exporting business until 1909.<sup>(224)</sup> Boeki Shokai was established in 1880 with support from Mitsubishi.<sup>(225)</sup> Other firms such as Iroha Shokai and Fuso Shokai commenced their business in the early 1880s.<sup>(226)</sup> However, these attempts resulted in failure due to unfavourable factors: insufficient information and knowledge on overseas markets, insufficient capital, wide fluctuations in silver value and silk prices, and the change in the direct exporting policy of the government.<sup>(227)</sup>

Table 33 shows the amounts of raw silk shipped by Western and Japanese merchants.<sup>(228)</sup> Exports by Japanese merchants increased after the mid-1890s, assisted by institutional arrangements such as the abolition of the treaty port system in 1899.<sup>(229)</sup> Mitsui Bussan and Kiito Gomei Kaisha were the two largest Japanese shippers,<sup>(230)</sup> but it was not until 1912 that Japanese merchants handled over half of silk for export.<sup>(231)</sup> Direct exporting was divided into three categories: (1) exports on a commission basis at the local consignors' charge; (2) exports to order from Western merchants or silk manufacturers abroad; (3) exports on the account of the direct exporting firms themselves. The actual collecting of silk was divided into two types: purchase from export merchants and direct purchase from producers. Most of the silk for direct export was purchased from

Table 33. Raw Silk Exports by Western and Japanese Merchants 1875-1920.

(in kin)			
Year	Western	Japanese	Total
1875	1,141,818 (100)	-	1,141,818 (100)
1880	1,732,577 (86.3)	276,039 (13.7)	2,008,616 (100)
1885	2,164,498 (88.1)	292,705 (11.9)	2,457,203 (100)
1890	1,886,702 (89.4)	223,613 (10.6)	2,110,315 (100)
1895	4,874,275 (83.9)	935,771 (16.1)	5,810,046 (100)
1900	2,803,900 (67.1)	1,376,900 (32.9)	4,180,800 (100)
1905	4,594,100 (64.2)	2,567,200 (35.8)	7,161,300 (100)
1910	7,916,200 (54.0)	6,743,000 (46.0)	14,659,200 (100)
1911	7,468,100 (52.6)	6,741,000 (47.4)	14,209,100 (100)
1912	8,006,100 (46.8)	9,088,400 (53.2)	17,094,500 (100)
1915	6,788,200 (37.8)	11,193,200 (62.2)	17,981,400 (100)
1920	3,306,300 (20.3)	12,989,800 (79.7)	16,296,000 (100)

Sources: 1) 1875, 1880: Meiji Jusan-nendo Shokyo Nenpo, No. 5, in MZSHS, Separate Vol. 19, No. 2, pp. 264-65.

2) 1885-1895: Dai-Nihon Gaikoku Boeki Nenpyo, corresponding years.

3) 1900-1920: Fujimoto Jitsuya, Kaiko to Kiito Boeki, Vol. 2, pp. 380-82.

Notes: 1) Totals are not always consistent because of rounding of figures.

2) Figures after 1900 are calculated, taking a hyo as 100 kin.

3) Figures of Western merchants for 1905 are corrected by the author based on those of share.

export merchants.<sup>(232)</sup> Western merchants gradually lost their power in the silk business, but the export and transaction system remained unchanged. This meant that powerful Japanese merchants, in particular Mitsui Bussan, took over the role in silk exporting which Western merchants had played.<sup>(233)</sup>

Export prices of silk were decided according to prices in the international market, and determined cocoon prices and prices for silk for domestic use.<sup>(234)</sup> Details of the cost structure of raw silk production are available for the end of the period under consideration (Table 34). The cost of purchasing cocoons accounted for 76.0 per cent of total expenditure. This is demonstrated by the fact that, as exports of raw silk increased, producers became more interested in purchasing cocoons at lower prices in order to make production profitable. Some of the large manufacturers therefore made exclusive contracts with sericultural producers for purchasing cocoons.<sup>(235)</sup> From this point of view it can be said that the silk industry developed with the help of low cocoon prices, as well as of technological developments in sericulture and silk reeling, which made it possible for Japanese silk to rise in competitiveness on the international market.<sup>(236)</sup> Wages for female workers constituted only 4.9 per cent of total expenditure. Although this does not necessarily deny the significance given to the low wages of workers, the importance of low wage labour should not be allowed to overshadow that of cocoon prices.<sup>(237)</sup>

Table 34. Expenditure in Raw Silk Production (Machine-Reeling in Gunma Prefecture, per picul).

	yen
Cost of Cocoons (16 <u>koku</u> ).....	640.900
Girl's Wages (267 reelers each 6 <u>sho</u> of cocoons and 10 others doing the rest of the work).....	41.550
Girls Board.....	27.700
Employees Salaries.....	14.750
Packing Expense.....	1.000
Fuel (7,500 kin of coal).....	17.250
Miscellaneous Expenses.....	5.000
Freightage (from Joshu to Yokohama).....	1.000
Insurance (0.1 per cent).....	0.820
Commission (1 per cent).....	8.500
Jinrikisha Fare.....	0.200
Weighing Fee.....	1.000
Draft Discount (0.5 per cent).....	4.000
Interest on Invested Capital (of say 12,000 yen at 10 per cent, the total yearly production being 3,000 kin).....	40.000
Working Capital (of say 760 yen 50 sen for 6 months at 10 per cent a year).....	39.000
(Other Expenses).....	0.778
Total.....	842.548

Source: Japan, Dept. of Agriculture and Commerce, Japan in the Beginning of the 20th Century (Tokyo: Tokyo Shoin, 1904), p. 147.

Note: 'Other Expenses' is added by the author to coincide with the total figures.



## 5. The Silk Business and Transportation

I will now deal with the actual raw silk business and the transportation process in order to complete this account of the silk trade, which has so far concentrated on factors affecting Japanese exports and overseas markets. After being sold to Western merchants through Japanese export merchants, raw silk was transported to overseas markets in Europe and the United States, mostly by British vessels despite a steady decline in Anglo-Japanese trade.<sup>(238)</sup>

As a British consular report for 1883 stated,

Great Britain's share in the silk trade shows a steady decline, which is ascribed to the fact of London having, to a great degree, ceased to be regarded as a central market for raw silk ....

The Customs Returns do not, however, convey a full idea of Great Britain's interests in the Japanese export trade. ... a very great part both of the French silk trade and of the United States' silk and tea trades is carried on by British merchants, with English capital, and the goods are exported in English vessels. ... of the entire quantity of silk exported, a large portion was shipped in the steamers of the Peninsular and Oriental Shipping Company; and of the whole export trade of the year, the value of the goods carried in British vessels was, according to the Customs Returns, 16,239,242 dollars, out of the entire total of 35,709,066 dollars.<sup>(239)</sup>

As we have already seen, Western merchants held an overwhelming predominance in the silk business.<sup>(240)</sup> Even in 1900, two-thirds of the silk trade was handled by Western merchants.

Table 35 shows silk exports from Yokohama by firm for the season from 1 July 1866 to 30 June 1867. The total of raw silk shipped from Yokohama during that year was 13,537 bales. Of these, 4,596 bales (34 per cent) were exported to France and 8,771 (65 per cent) to England. The two main shipping companies at this time were the British P. & O. and French Messageries Impariales. 7,609 bales (56 per cent) were shipped by P. & O. and 5,806 bales (43 per cent) were shipped by Messageries Impariales. In the case of Messageries

Table 35. Silk Exports from Yokohama by firm for the Season 1966-67.

Shippers	Per P. & O. Steamers				Per M. L. Steamers				Other Ships		Grand Total		
	France		Others		France		Others		France	Others	France	England	Others
	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	
Adams, W. R., & Co. (B)	16	16	196	196	196	196	196	196	196	196	212	21	212
Alphall, Cornes & Co. (B)	442	442	260	260	260	260	260	260	260	260	702	7	702
Aymonin, V., & Co. (H)	180	180	44	44	44	44	44	44	44	44	224	19	224
Bavet, Geo., & Co. (H)	52	52	52	52	52	52	52	52	52	52	52	34	52
Bavler & Co. (S)	42	42	43	43	43	43	43	43	43	43	85	6	85
Brent, A.	5	5	5	5	5	5	5	5	5	5	5	30	5
Compagnie Laderman & Co. (F)	91	91	31	31	31	31	31	31	31	31	122	28	122
Crace, R. L. II	186	186	153	153	153	153	153	153	153	153	339	13	339
De Coning, J. (H)	22	22	30	30	30	30	30	30	30	30	35	30	35
De Coning, J. (H)	18	18	18	18	18	18	18	18	18	18	22	40	22
De Coning, J. (H)	4	4	4	4	4	4	4	4	4	4	18	44	4
De Coning, J. (H)	21	21	21	21	21	21	21	21	21	21	4	4	4
Fabre, Boerns & Co. (Favre-Frenet?)	199	199	51	51	51	51	51	51	51	51	250	67	250
Gilman & Co. (B)	59	59	59	59	59	59	59	59	59	59	118	134	118
Gutschow & Co. (C)	256	256	256	256	256	256	256	256	256	256	256	14	256
Hecht, Millenthal & Co. (H)	232	232	345	345	345	345	345	345	345	345	577	39	577
Hoch, Millenthal & Co. (H)	3	3	402	402	402	402	402	402	402	402	73	908	73
Hughes, Willigoss & Co. (H)	4	4	26	26	26	26	26	26	26	26	30	54	30
Janyvet, J. M. (F)	62	62	62	62	62	62	62	62	62	62	131	27	131
Jardine, Matheson & Co. (H)	41	41	682	682	682	682	682	682	682	682	64	837	64
Kempner, V., & Co. (B)	20	20	152	152	152	152	152	152	152	152	55	365	55
Kniffier, I., & Co. (G)	62	62	62	62	62	62	62	62	62	62	122	28	122
Lindau, R., & Co. (S)	67	67	119	119	119	119	119	119	119	119	67	122	67
Lyal, Still & Co. (H)	151	151	139	139	139	139	139	139	139	139	290	16	290
Macpherson & Marshall (H)	78	78	89	89	89	89	89	89	89	89	127	216	127
Marietti, Frako & Co. (F)	22	22	216	216	216	216	216	216	216	216	207	194	207
Netherlands Trading Co. (H)	23	23	41	41	41	41	41	41	41	41	41	56	41
Overweg & Co. (H)	128	128	151	151	151	151	151	151	151	151	206	23	206
Petrochino, P. E., & Co. (H)	132	132	216	216	216	216	216	216	216	216	469	105	469
Randon, M., & Co. (F)	290	290	290	290	290	290	290	290	290	290	8	25	8
Revel, G. (F)	54	54	87	87	87	87	87	87	87	87	141	26	141
Ross, Barber & Co. (H)	15	15	12	12	12	12	12	12	12	12	27	41	27
Scotland, R. B. (H)	51	51	9	9	9	9	9	9	9	9	88	91	91
Schulze, Heise & Co. (G)	142	142	142	142	142	142	142	142	142	142	142	25	142
Shaw, Gill & Co. (H)	16	16	75	75	75	75	75	75	75	75	91	32	91
Siber & Brenwald (S)	4	4	4	4	4	4	4	4	4	4	4	44	4
Smith, Archer & Co. (H)	27	27	27	27	27	27	27	27	27	27	27	27	27
Stephenson & Co.	524	524	16	16	16	16	16	16	16	16	1,054	8	1,078
Textor & Co. (C)	599	599	5	5	5	5	5	5	5	5	816	5	821
Thorn, G., Ziegler & Co. (S)	26	26	12	12	12	12	12	12	12	12	187	22	187
Tralman & Co.	39	39	39	39	39	39	39	39	39	39	39	39	39
Vainale, C. (F)	973	973	973	973	973	973	973	973	973	973	1,070	2	1,070
Wilkin & Robinson (H)	13	13	465	465	465	465	465	465	465	465	704	8	734
Walsh, Hall & Co. (H)	31	31	84	84	84	84	84	84	84	84	106	77	106
<b>Total</b>	<b>2,528</b>	<b>5,077</b>	<b>4</b>	<b>7,609</b>	<b>2,060</b>	<b>3,694</b>	<b>44</b>	<b>5,806</b>	<b>122</b>	<b>4,596</b>	<b>8,771</b>	<b>170</b>	<b>13,537</b>

Source: Export of Silk from Yokohama, Japan, for the Season 1966-67, in JMS, P. 46, undated.  
 Notes: 1) Numbers in parentheses give the relative position of each firm in terms of the amount of silk handled, starting with the largest exporter.  
 2) "Others" signifies America, China, Holland and Batavia.  
 3) 39 bales of Tama Silk shipped per Korea to London are not included.  
 4) No notice has been taken of Waste Silk.  
 5) At American by British; at Italian; at French; at German; at Italian; at Swiss.

Imperiales, exports to England amounted to slightly less than twice those to France. Out of the 46 firms in Table 35, 30 firms shipped over 100 bales of silk. Of these 30 firms, 17 firms shipped silk both to England and to France, both by P. & O. and by Messageries Imperiales, and 28 firms shipped to England and/or France by P. & O. and/or Messageries Imperiales. The number of firms which shipped over 80 per cent of the silk which they handled to England was 28, or 61 per cent of the total 46 firms, and that to France was 9, or 20 per cent. The extent of specialization in the destination of shipments was thus very high, even though the number of firms was small and the confinement of destination to the European market made it narrow by comparison with the later period. There is no evidence that British vessels transported raw silk intended for England while French vessels transported that intended for France. Rather, the vessels of both countries were used for transportation to both destinations, showing that foreign merchants used the vessels available and were not interested in questions of nationality.

During the period between June 1866 and April 1867, of the total silk exports from Shanghai of 27,686 bales, <sup>15,801 bales,</sup> 57.1 per cent of the total, were shipped by P. & O. and 10,538 bales, 38.1 per cent, were shipped by Messageries Imperiales.<sup>(241)</sup> A list of silk exporting firms in Shanghai during the period from 1 July 1866 to 30 June 1867 (Table 36) allows comparison of silk exporting firms in Yokohama with those in Shanghai. When this table is compared with Table 35, it is clear that 12 firms handled both Chinese and Japanese silk during the same period.<sup>(242)</sup> This is only 26 per cent of the total silk exporting firms in Yokohama. Firms which shipped raw silk in large quantities were Gilman & Co., Reiss & Co., and Textor & Co.

Table 36. List of Silk Exporting Firms from Shanghai for the Season 1866-67.

		(in bale)	
Adamson, W. R.	427	Reid & Co.	178
Barnet, G., & Co.	910	Reiss & Co.	618
Birley, Worthington & Co.	255	Russell & Co.	406
Borneo Co.	738	Sassoon, D., Sons & Co.	143
Bourjau, Hubener & Co.	785	Schiebler, Mathaei & Co.	368
Bovet, Bros., & Co.	504	Shaw, Brothers & Co.	1,041
Bower, Hanbury & Co.	4,069	Siemssen & Co.	1,337
Bradwell, Bloor & Co.	125	Skeggs, C., & Co.	2,154
Brand, Munro & Co.	1,892	Smith, Kennedy & Co.	129
Campbell, A., & Co.	313	Smith, Herbert	284
Carter & Co.	1,520	Textor & Co.	875
Chapman, King & Co.	481	Trautmann & Co.	526
Chatron & Monnier	677	Wright, J. H.	300
Cumine & Co.	194	Sundries	775
Gamwell, F. R.	1,142		
Gibb, Livingston & Co.	683	Chinese	150
Gilman & Co.	812		
Heard, Augustine, & Co.	445	Received from Japan in transit for Europe	13,806
Jardine, Matheson & Co.	3,836	(Sub Total)	45,432
Jarvie, J., & Co.	111		
Maertens, Latham & Co.	558	Exported to America	94
Milsom, E.	105		
Overweg & Co.	422	(Total)	45,526
Petrocochina & Co.	245		
Primrose & Co.	179		
Pustau, Wm., & Co.	914		

Source: Edward Holdworth (Private Circular), Shanghai, 1 July 1867,  
in JMA, PCMR 46.

Table 37. Summary of Accounts of Silk Trade by Jardine, Matheson, & Co. 1867/68-1871/72.

(in dollars)

Season	Silk to England	Silk to France
1867-68	58,813	900
1868-69	(-) 143,426	(-) 7,130
1869-70	5,947	24,911
1871-72	(-) 15,675	-

Source: Summary of Accounts, in JMA, A7/292.

Note: May 1 to April 30 of the next year.

As we have already seen, since Japanese and Chinese silk were competing with each other on the European market and both were put to primarily the same use in weaving, the increase in exports of Japanese silk meant a reciprocal decrease of Chinese silk on the market. Furthermore, with the wide fluctuations in both the exchange rate for silver and in silk prices themselves, the silk business did not necessarily give Western firms a high profit margin.<sup>(243)</sup>

The 'Summary of Accounts' of Jardine, Matheson and Co. (Table 37) show the balance of the silk trade in the late 1860s and early 1870s. The loss on silk imported into England by John Swire and Sons reached approximately £78,000 during the period 1868-1880.<sup>(244)</sup> It can be said that Western merchants with small capital had to specialize in both the export market and the description of the silk in which they dealt in order to obtain high profits, the smaller the size of the firm, the clearer the tendency to such specialization became. This situation made their business more speculative, disturbing the silk market, and therefore their mortality rate was generally high.<sup>(245)</sup>

Table 38 shows raw silk exports by firm from 1877 to 1878 and from 1890 to 1891.<sup>(246)</sup> Japanese firms appeared, but dealt with only 3.4 per cent of the total raw silk exports in the earlier period. A large number of raw silk exporting firms had disappeared by the late 1870s. This meant that the raw silk trade had lost its speculative aspect and become a stable business. Western silk exporting firms can be classified into three categories. The first type consists of the firm which shipped raw silk exclusively to Europe. The second type is that which shipped raw silk exclusively to the United States and comprised mainly American firms like the China & Japan Trading Co., Fraser, Farley & Co., and Smith, Baker & Co. The third is that which shipped raw silk almost equally both to Europe and to the United States: these were relatively large general firms in the silk business such as Siber & Brennwald and Jardine, Matheson & Co.<sup>(247)</sup> For the season 1890-91, 16 firms out of the total of 28 shipped over 80 per cent of their total shipments to Europe, 7 firms specialized to the same extent in shipments to the United States, and 4 firms dealt in almost equal amounts of shipments both to Europe and the United States.

Distribution of shipments by ship in the 1890s show a different picture from the 1860s. The importance of American ships in silk transportation increased as a result of Japan's linkage with the United States market. During the year 1 July 1891 to 30 June 1892, American vessels carried 1,946,400 kin, or 44.1 per cent of the total silk exports of 4,413,400 kin, while French carried 1,241,100 kin, or 28.1 per cent, British 1,074,300 kin, or 24.3 per cent, and German 151,600 kin, or 3.4 per cent.<sup>(248)</sup>

Table 38. Silk Exports by Firm for the Seasons 1877/78 and 1890/91.

Shippers	(in bale)			
	1/7/1877	1/7/1890-30/6/1891		
	-30/6/1878	Total	Europe	U.S.A.
Anderson, Bell & Co. (B)	-	40 (25)	40	0
Bavier & Co. (S)	1,761 (4)	2,868 (3)	1,002	1,866
Bolmida, G.	1,332 (9)	-	-	-
China & Japan Trading Co.(A)	160 (18)	1,511 (10)	0	1,511
Cornes & Co. (B)	344 (13)	-	-	-
Dell'Oro & Co. (I)	295 (15)	-	-	-
Dourille, P. (F)	143 (20)	490 (17)	471	19
Findlay, Richardson & Co.(B)	688 (11)	6 (27)	6	0
Fraser, Farley & Co. (A)	157 (19)	1,563 (8)	0	1,563
Frazer & Co. (A)	200 (17)	237 (22)	0	237
Girand, M., & Co.	-	972 (12)	972	0
Griffin & Co. (B)	-	911 (13)	169	742
Grösser & Co. (G)	100 (23)	-	-	-
Gouilloud, L. (F)	-	328 (21)	328	0
Gutschaw & Co. (F)	120 (21)	-	-	-
Hecht, Lilienthal & Co. (F)	2,419 (2)	-	-	-
Heinemann, P. (G)*	-	4,218 (2)	0	4,218
Jardine, Matheson & Co. (B)	2,144 (3)	1,750 (7)	858	892
Jubin, E., & Co.	713 (10)	-	-	-
Kingdon, Schwabe & Co. (B)	1,482 (6)	215 (23)	215	0
Macpherson, A. J. (B)	331 (14)	-	-	-
Middleton & Co.	-	406 (18)	0	406
Morf, H. C., & Co. (S)	-	41 (24)	41	0
Mourilyan, Heimann & Co. (B)	119 (22)	-	-	-
Nabholz & Osenbruggen (S)	-	2,226 (5)	1,936	290
Reiss & Co. (G)	666 (12)	-	-	-
Siber & Brennwald (S)	2,916 (1)	6,503 (1)	2,855	3,648
Sieber & Co. (S)	-	835 (14)	356	479
Smith, Baker & Co. (A)	-	351 (19)	0	351
Strachan, W. M., & Co. (B)	1,365 (8)	1,017 (11)	997	20
Ulysse, Pila & Co. (F)	-	1,771 (6)	1,666	105
Valmale, Schoene & Milsom (F)**	1,553 (5)	502 (16)	491	11
Walsh, Hall & Co. (A)	250 (16)	-	-	-
Wilkin & Robison (B)***	1,459 (7)	1,539 (9)	1,506	33
Ziegler & Co. (S)****	-	680 (15)	680	0
Others	153	2	2	0
Japanese	707			
Doshin Kaisha		2,332 (4)	380	1,952
Boeki Shokai		336 (20)	336	0
Horikoshi Zenzo		12 (26)	12	0
Total	22,099	333,692	15,349	18,343

Sources: 1) 1877/78: Jardine, Matheson & Co., Yokohama, to Jardine, Matheson & Co., Hongkong, 9 July 1878, Shippers of Japan Silk, in JMA, PCMR 81.

2) 1890/91: Jardine, Matheson & Co., Silk Shippers from Yokohama for Season 1890/1891, in JMA, PCMR 82.

Notes: 1) Total figures for 1877/78 are not originally consistent.

2) \* Otto Reimers & Co. for 1890/91. \*\* Schoene & Mottu for 1890/91. \*\*\* Robison & Co. for 1890/91. \*\*\*\* Ziegler & Merian for 1890/91. 3) Numbers in parentheses give the relative position of each firm in terms of the amount of silk handled, starting with the largest dealer.

Raw silk freights in the 1860s and in 1880 are shown in Tables 39 and 40. It has been pointed out that the percentage of freight costs in raw silk transportation was low.<sup>(249)</sup> As the average freight rate of raw silk per ton from Yokohama to London in 1866-67 was £4.5s. and the exchange rate between sterling and the dollar was 4s. 7d. per dollar, the freight rate of raw silk per picul corresponds to 11.2 dollars, or 1.5 per cent of the raw silk price in Yokohama in 1866-67. At an 1885 silk merchants' meeting, The total cost of transportation of raw silk including freight, insurance and all other expenses was estimated at around 10 to 15 per cent of the original production cost and other additional costs amounted to less than 4 or 5 per cent, including both the commission for sale (2.5 per cent), the commission for middlemen (0.5 per cent) and the charge for warehousing.<sup>(250)</sup>

Raw silk was brought to Europe by P. & O., Messageries Maritimes and North German Lloyd's steamers. Silk freights to Europe in the 1890s were from 5 dollars 60 cents to 8 dollars per cwt., that is, from 5 to 7 cents per lb. In contrast raw silk for New York was transported by Pacific Mail, Canadian Pacific, or Northern Pacific steamer routes and railways through San Francisco and Tacoma. Silk freights to New York in the 1890s were from 4 to 8 cents per lb. by Pacific Mail, from 3 to 6 cents per lb. by Canadian Pacific and Northern Pacific steamers.<sup>(251)</sup> As the import price of Japanese raw silk was 3 dollars 31 cents per lb. on the quinquennial average from 1890 to 1894, the variation in freight rates was not important in the price of Japanese raw silk imported to the United States.



Table 39. Raw Silk Freight from Japan in the 1860s.

Year	London (per ton of 50 cwt.)	Shanghai (per picul)
1862	£4.10s.-£6.10s.	\$2.50-\$3.00
1865	£4.00 -£7.10s.	\$3.00
1866	£4.00 -£4.10s.	\$3.50

Sources: 1) CR 1862, Kanagawa, p. 208, in BPP, JAPAN, Vol. 4, p. 45.  
 2) CR 1865, Kanagawa, p. 287, in ibid., Vol. 4, p.105.  
 3) Japan Herald, No. 16, 1 Dec. 1866, in Despatches from United States Consuls in Kanagawa, 1861-1897, Vol. 3.

Table 40. Raw Silk Freight from Japan in 1880.

To	P. & O. (per cwt.)	Messageries Maritimes (per cwt.)	Ocean Steam Ship Co. (per cwt.)	Pacific Mail, Occidental & Oriental (per lb. gross)
London	\$7.00	\$7.00	\$7.00	10c.*
Marseilles & etc.			-	-
Lyons and Millan	\$7.60	\$7.60	-	-
San Francisco	-	-	-	4c.
New York (via San Francisco)	-	-	-	8c.

Source: Yokohama Prices Current and Market Report, No. 333, 23 Nov. 1880, in Despatches from United States Consuls in Kanagawa, 1861-1897, Vol. 11.

Note: \* via San Francisco and New York.

## CHAPTER V

## The Development of Tea Exports

## 1. The Development of Tea Exports 1861-1899: A Quantitative Survey

Tea as well as raw silk was one of the main export articles from Japan immediately after the opening of the ports to foreign trade in 1859. Tea was almost entirely exported from two ports, Nagasaki and Yokohama. In 1859, 2,492 piculs (332,258 lb.) of tea valued at \$16,152 was exported from Japan, mainly to Shanghai.<sup>(1)</sup> Surpassing the amount of tea exported from Nagasaki in 1863,<sup>(2)</sup> by 1865 Yokohama established its position as the main port for tea exports.<sup>(3)</sup> The distribution of tea exported from Japan by country during the period from 1862-63 to 1872-73 is shown in Table 41. Though it had been already pointed out in 1862 that Japanese tea was in demand for the American market,<sup>(4)</sup> exports to England out of total tea exports took a share of from 35 to 48 per cent until 1865, after which date they rapidly decreased. Tea exported to England continued to be transhipped to the United States afterwards.<sup>(5)</sup> A British consular report for 1867 stated that British ships "generally return viâ New York with tea for the American market."<sup>(6)</sup> Meanwhile exports to China for reshipment to England or the United States sharply decreased and "the transhipment ports of Shanghai and Hongkong had by 1865 lost their tea transit trade to San Francisco."<sup>(7)</sup> In contrast, exports to the United States increased from 1,978 piculs (263,727 lb.), that is 42.2 per cent of Japan's total tea exports, in 1863-64 to 6,534 piculs (871,178 lb.), 86.8 per cent of the total tea exports, in 1865-66. Thus after 1865 Japan's tea exports went

Table 41. Tea Exports from Japan 1862/63-1872/73.

Year	(in thousand lb.)				
	England	New York	San Francisco	China	Total
1862-63	2,846 (45.7)	941 (15.1)	364 (5.8)	2,073 (33.3)	6,224 (100)
1863-64	1,630 (34.8)	1,641 (35.0)	337 (7.2)	1,074 (22.9)	4,683 (100)
1864-65	2,507 (47.9)	1,540 (29.4)	935 (17.8)	257 (4.9)	5,239 (100)
1865-66	989 (13.1)	5,645 (75.0)	889 (11.8)	3 (0.0)	7,525 (100)
1866-67	667 (9.0)	5,305 (71.8)	1,417 (19.2)	-	7,390 (100)
1867-68	1,253 (13.9)	6,663 (73.9)	1,022 (11.3)	73 (0.8)	9,012 (100)
1868-69	489 (4.6)	8,666 (81.2)	1,518 (14.2)	2 (0.0)	10,674 (100)
1869-70	100 (0.7)	13,465 (99.3)	-	-	13,565 (100)
1870-71	25 (0.2)	15,715 (99.8)	-	-	15,745 (100)
1871-72	-	16,044 (100)	-	-	16,044 (100)
1872-73	-	16,457 (100)	-	-	16,457 (100)

Sources: 1) 1862/63-1867/68: Yokohama Prices Current and Market Report, No. 36, 10 July 1868, in JMA, PCMR 46.

2) 1868/69: ibid., No. 62, 10 July 1869, in JMA, PCMR 74.

3) 1869/70-1872/73: Henry Gribble, 'The Production of Japan Tea', Transactions of the Asiatic Society of Japan, Vol. 12 (1885), p. 21.

Notes: 1) Figures for 1862/63-1868/69 are exports from Yokohama only. Those for after 1869/70 are the total of exports both from Yokohama and Kobe.

2) Figures for New York and San Francisco after 1869/70 are the total of exports to the United States and Canada.

3) Total figures for 1870/71 are not consistent.

Table 42. Tea Exports and Production from and in Japan 1868-1899.

Year	Exports										Production (B)	Production (A) (B)
	Green (Coarse)		Bleck	Dust	Others	Total Quantity(A)		Value		Price per picul		
	picul	picul	picul	picul	picul	picul	thousand yen	yen	picul %			
1868	74,391	19,512	-	7,252	-	101,155 (100)	3,502 (100)	35.4 (100)	-	-	-	
1869	64,241	20,163	-	1,549	-	85,953 (85)	7,102 (59)	24.5 (69)	-	-	-	
1870	108,163	10,304	-	4,596	-	123,143 (122)	4,512 (126)	36.6 (103)	-	-	-	
1871	127,283	9,954	-	3,479	-	140,666 (139)	4,672 (130)	33.2 (94)	-	-	-	
1872	127,393	15,073	-	4,875	-	147,341 (146)	4,226 (118)	28.7 (81)	-	-	-	
1873	120,867	8,506	-	4,025	-	133,398 (132)	4,659 (130)	34.9 (99)	-	-	-	
1874	178,622	9,043	-	3,623	-	191,288 (189)	7,250 (202)	37.9 (107)	-	-	176,000	
1875	192,692	11,882	-	8,212	-	212,786 (210)	6,863 (192)	32.3 (91)	-	-	-	
1876	177,338	10,758	-	14,166	-	202,262 (200)	5,454 (152)	27.0 (76)	-	-	-	
1877	178,826	5,980	-	22,374	-	207,180 (205)	4,375 (122)	21.1 (60)	-	-	-	
1878	195,343	3,146	-	19,087	-	217,576 (215)	4,284 (120)	19.7 (56)	-	-	172,595	
1879	258,380	5,585	-	22,054	-	286,019 (283)	7,446 (208)	26.0 (73)	-	-	163,232	
1880	262,521	8,380	-	32,374	-	303,275 (300)	7,498 (209)	24.7 (70)	-	-	200,398	
1881	247,051	11,479	-	30,098	-	288,628 (285)	7,072 (196)	24.3 (69)	-	-	350,072	
1882	235,890	14,730	-	32,309	-	283,009 (280)	7,030 (196)	24.8 (70)	-	-	407,167	
1883	241,410	7,352	-	27,504	2,254	278,600 (275)	6,106 (170)	21.9 (62)	-	-	346,710	
1884	232,339	4,330	-	29,728	2,135	268,532 (265)	5,820 (162)	21.7 (61)	-	-	370,737	
1885	268,194	5,522	339	37,543	2,740	309,338 (306)	6,854 (191)	22.2 (63)	-	-	342,371	
1886	312,170	7,863	219	33,568	3,143	356,963 (353)	7,723 (216)	21.6 (61)	-	-	430,145	
1887	299,407	13,503	798	37,893	4,510	356,111 (352)	7,603 (212)	21.4 (60)	-	-	438,201	
1888	277,873	11,157	363	37,227	5,064	331,684 (328)	6,125 (171)	18.5 (52)	-	-	453,302	
1889	276,325	6,303	1,259	33,943	5,533	323,363 (320)	6,157 (172)	19.0 (54)	-	-	431,723	
1890	317,190	9,889	705	36,535	8,185	372,504 (368)	6,327 (177)	17.0 (48)	-	-	434,089	
1891	334,415	11,313	1,065	43,706	8,737	399,236 (395)	7,033 (196)	17.6 (50)	-	-	443,525	
1892	314,504	11,672	399	41,709	6,894	375,178 (371)	7,525 (210)	20.1 (57)	-	-	450,742	
1893	304,460	9,246	189	45,148	5,389	364,432 (360)	7,702 (215)	21.1 (60)	-	-	477,523	
1894	303,357	12,543	539	53,405	5,588	375,432 (371)	7,930 (221)	21.1 (60)	-	-	492,702	
1895	308,188	9,097	764	64,154	6,059	388,262 (384)	8,879 (248)	22.9 (65)	-	-	537,430	
1896	267,326	8,772	813	48,845	6,654	332,410 (329)	6,372 (178)	19.2 (54)	-	-	531,462	
1897	266,748	5,655	628	46,411	6,980	326,322 (323)	7,860 (219)	24.1 (68)	-	-	529,497	
1898	258,450	4,570	446	39,341	5,456	308,263 (305)	8,216 (229)	26.7 (75)	-	-	527,740	
1899	279,985	6,743	9,351	45,178	6,057	347,314 (343)	8,499 (237)	24.5 (69)	-	-	471,500	

Sources: 1) Exports: Toyo Keizai Shinpo-sha ed., Nihon Roeki Seiran (Tokyo, 1935), pp. 13-15.

2) Production: Chogyo Kumiai Chuo Kaigi-sho, Nihon Cha Roeki Gaikan (Tokyo, 1935), pp. 116-17. For 1874, Fuku Bussan Iryo, quoted by Yamaguchi Kazuo, Zoho Meiji Zanki Keizai no Runseki (Tokyo, 1963), p. 19.

Notes: 1) Figures for production after 1878 are calculated from those in kan, taking a picul as 16 kan.  
2) Figures for production during the years 1878-1880 are undervalued because of incompleteness of statistics. (Nihon Cha Dooki Gaikan, p. 96.)

3) Figures in parentheses are indexes based on 1868.

almost exclusively to the United States.

Table 42 shows tea exports from and production in Japan during the period 1868-1899. Yokohama remained as the main port for tea exports, whence 54-68 per cent in quantity and 59-71 per cent in value of tea was annually exported for the period 1871-1888.<sup>(8)</sup> Tea exported from Japan was chiefly green tea, which took up 85 per cent of total Japanese tea exports during the period 1868-1899. In terms of quantity, tea exports from Japan, as indexes reveal, declined slightly towards the end of the nineteenth century. This downward trend in tea exports after 1880 was due to the fall in price of silver, insufficient improvement of tea quality and continuous over-production.<sup>(9)</sup> The amount of tea exports remained between 200,000 and 300,000 piculs for the period 1875-1884 with the exception of 1880 and then between 300,000 and 400,000 piculs for the period 1885-1899. The value of tea exports also remained stagnant, being offset by the decline in export prices per picul, which were fixed at a comparatively cheaper level after 1874 until as late as 1899.

According to official figures for tea production in Japan, which are available after 1878, on average 76 per cent of the total annual tea production was exported during the period 1881-1899.<sup>(10)</sup>

The distribution of green tea exported from Japan by country is shown in Table 43. It is obvious that over 90 per cent of Japanese green tea was annually exported to the United States, until Canada emerged as a separate destination in 1887.<sup>(11)</sup> However, figures in this table do not necessarily show the full facts, as we shall see later, in view of a consular report that "All tea destined for Canada passes through the United States" even before 1884.<sup>(12)</sup>

Table 43. Green Tea Exports from Japan by Country 1873-1899.

(in piculs)

Year	U.S.A.	Britain	China	Canada	Total
	%	%	%	%	%
1873	91,254 (75.5)	7,500 (6.2)	10,405 (8.6)		120,867 (100)
1874	170,091 (95.2)	3,202 (1.8)	5,239 (2.9)		178,622 (100)
1875	182,299 (94.6)	825 (0.4)	9,387 (4.9)		192,692 (100)
1876	257,197 (92.7)	5,407 (1.9)	10,741 (3.9)		277,438 (100)
1877	183,627 (95.5)	3,142 (1.6)	4,554 (2.4)		192,356 (100)
1878	199,676 (93.3)	5,567 (2.6)	7,853 (3.7)		214,048 (100)
1879	227,985 (94.6)	3,455 (1.4)	1,856 (0.8)		240,877 (100)
1880	258,154 (98.3)	2,398 (0.9)	1,870 (0.7)		262,522 (100)
1881	241,755 (97.9)	2,692 (1.1)	1,137 (0.5)		247,051 (100)
1882	232,452 (98.5)	1,221 (0.5)	1,039 (0.4)		235,890 (100)
1883	238,890 (99.0)	698 (0.3)	1,224 (0.5)		241,410 (100)
1884	228,307 (98.3)	750 (0.3)	3,227 (1.4)		232,339 (100)
1885	266,605 (99.3)	221 (0.1)	1,385 (0.5)		268,535 (100)
1886	310,545 (99.4)	226 (0.1)	1,504 (0.5)		312,391 (100)
1887	273,130 (91.0)	582 (0.2)	2,412 (0.8)	23,411 (7.8)	300,207 (100)
1888	238,064 (85.6)	405 (0.1)	3,495 (1.3)	35,667 (12.8)	278,237 (100)
1889	242,937 (87.9)	861 (0.3)	898 (0.3)	30,783 (11.1)	276,325 (100)
1890	266,864 (71.9)	1,331 (0.4)	1,908 (0.5)	26,077 (7.0)	371,190 (100)
1891	274,256 (82.0)	1,708 (0.5)	846 (0.3)	56,477 (16.9)	334,416 (100)
1892	271,535 (86.3)	1,540 (0.5)	1,280 (0.4)	37,509 (11.9)	314,505 (100)
1893	237,350 (78.0)	1,175 (0.4)	-	60,780 (20.0)	304,460 (100)
1894	235,165 (77.5)	1,723 (0.6)	-	61,080 (20.1)	303,358 (100)
1895	255,066 (82.8)	1,231 (0.4)	-	49,145 (15.9)	308,189 (100)
1896	220,116 (82.3)	34 (0.0)	-	42,446 (15.9)	267,327 (100)
1897	222,550 (83.4)	292 (0.1)	-	42,655 (16.0)	266,749 (100)
1898	206,338 (79.8)	726 (0.3)	68 (0.0)	49,680 (19.2)	258,450 (100)
1899	231,493 (82.7)	573 (0.2)	2,102 (0.8)	44,197 (15.8)	279,985 (100)

Source: Nihon Boeki Tokai, Shiryo Hen, Vol. 2 of Yokohama-shi Shi, p. 139.

Exports to England were negligible and the quotation of Japanese tea on the London market ceased from 1881.<sup>(13)</sup>

At the time when Japan was beginning to export tea to the world market, China monopolized world tea production and controlled the world market.<sup>(14)</sup> Table 44 shows the annual average of tea exports from China from 1866-69 to 1895-99. The type of tea exported was primarily not green tea but black tea, which took up 70 per cent of the total tea exports from China until 1885-89. Exports of green tea from China were small in quantity and remained at about 200,000 piculs, that is, 27 million lb., through the whole period of 1886-1899, reaching an average share of total tea exports of from 9.6 per cent to 15.6 per cent.

Shanghai was a main port for green tea exports and nearly two-thirds of the total green tea exported, brought from Kiukiang and Ningpo, were shipped from this port in 1877.<sup>(15)</sup> In the mid-1880s nearly all green tea was exported from Shanghai.<sup>(16)</sup> Table 45 shows the annual average distribution in quantity of green tea exported from China. The share of green tea directed to the United States was on average 58 per cent and that to Britain was 27 per cent. Green tea shipped to London was in transit to the United States,<sup>(17)</sup> so that it is thought that Chinese green tea was mainly consumed in the United States.<sup>(18)</sup> After 1890 the demand for Chinese green tea in India increased.<sup>(19)</sup>

Japanese tea had therefore to challenge the Chinese monopoly in order to obtain an export market and increase its exports. As it had been recognized by 1865 that "the quality [of Japanese tea] is more suited to the American than the English market",<sup>(20)</sup> it was clear that British and American tastes in tea were completely different: while the prevailing taste was for black tea in England,

Table 44. Tea Exports from China 1866-1899 (Annual Average). (in thousand piculs)

Year	Black %	Green %	Brick %	Others %	Total
1866-69	1,102 (79.7)	216 (15.6)	53 (3.8)	10 (0.7)	1,382 (100)
1870-74	1,318 (80.5)	233 (14.2)	85 (5.2)	2 (0.1)	1,638 (100)
1875-79	1,489 (79.4)	191 (10.2)	188 (10.0)	8 (0.4)	1,875 (100)
1880-84	1,609 (78.4)	200 (9.8)	233 (11.4)	9 (0.4)	2,051 (100)
1885-89	1,522 (73.6)	198 (9.6)	339 (16.4)	9 (0.4)	2,069 (100)
1890-94	1,090 (65.7)	211 (12.7)	345 (20.8)	13 (0.8)	1,660 (100)
1895-99	826 (52.9)	209 (13.4)	516 (33.1)	11 (0.7)	1,561 (100)

Sources: 1) IMC, Returns of Trade at the Treaty Ports, 1867-1881.

2) IMC, Returns of Trade at the Treaty Ports, and Trade Reports, 1862-1886.

3) IMC, Returns of Trade and Trade Reports, 1887-1899.

Notes: 1) Totals do not include the statistics of tea exported to Hongkong and Macao in junks under the cognizance of Kowloon and Lappa.

2) Totals are not always consistent because of rounding of figures.



Table 45. Distribution of Green Tea Exports from China by Country 1868-1899. (in piculs)

Year	Britain		U.S.A.		Total	
		%		%		%
1868-69	78,863	(34.5)	133,680	(58.5)	228,543	(100)
1870-74	74,846	(32.1)	146,329	(62.8)	233,152	(100)
1875-79	60,067	(31.5)	107,519	(56.4)	190,693	(100)
1880-84	58,791	(29.4)	123,847	(62.0)	199,840	(100)
1885-89	62,127	(31.4)	108,804	(55.0)	198,000	(100)
1890-94	47,242	(22.4)	118,437	(56.1)	211,222	(100)
1895-99	37,684	(18.1)	113,323	(54.3)	208,655	(100)

Sources: 1) IMC, Returns of Trade at the Treaty Ports, 1867-1881.  
 2) IMC, Returns of Trade at the Treaty Ports, and Trade Reports, 1882-1886.  
 3) IMC, Returns of Trade and Trade Reports, 1887-1899.

it was for green or uncoloured tea in the United States.<sup>(21)</sup>

## 2. Competition in the United States Market

Official statistics of the United States in the Commerce and Navigation of the United States do not give us suitable figures to review the market structure of tea in the United States, because both black and green tea are under the single title, "tea". In reviewing the American tea market, it is necessary to consider not only black and green tea but also coffee and cocoa, as Japanese green tea always faced keen competition both from black tea and coffee, which were widely used as substitutes.<sup>(22)</sup> Table 46 shows imports of tea, coffee, and cocoa and chocolate into the United States from 1851 to 1900. Imports of coffee were larger by five times than those of tea; coffee was more consumed than tea and the average import price of coffee was cheaper than that of tea. This meant that the market for tea, particularly for green tea, was limited.

Tea consumption in the United States increased after the end of the Civil War in 1865,<sup>(23)</sup> and was encouraged by the abolition of 25 cents duty per lb. on tea directly imported from producing countries in 1872, while a 10 per cent duty continued to be levied on tea imported indirectly through other countries.<sup>(24)</sup> According to a report for the year 1876, this "gave an over-impetus to the trade in green [tea] with the United States", but in consequence "overcompetition created serious loss",<sup>(25)</sup> leading to "the depressed and unsatisfactory condition of the tea market."<sup>(26)</sup>

Japanese green tea was mainly consumed in the agricultural

Table 46. Imports of Tea, Coffee, and Cocoa and Chocolate into the United States 1851-1900.

Period	TEA					COFFEE			COCOA & CHOCOLATE	
	Quantity	Imports per Capita	Av. Import Price per lb.	GREEN TEA from		Quantity	Imports per Capita	Av. Import Price per lb.	Quantity	Av. Import Price per lb.
				CHINA	JAPAN					
1851-60	21,028	0.76	25.5	-	-	203,190	6.78	9.0	-	-
1861-70	32,394	0.91	27.7	-	7,340*	173,290	4.66	10.5	-	-
1871-80	59,536	1.32	31.2	16,431	24,187	331,925	7.19	14.7	5,132	13.8
1881-90	76,534	1.34	19.7	15,304	33,860	513,039	8.52	10.8	13,504	14.0
1891-95	89,675	1.34	15.3	16,971	33,956	585,270	8.61	16.8***	29,408	14.0
1896-1900	86,217	1.17	13.2	13,968**	29,349**	761,715	10.07	8.9		

Sources: 1) U.S.A., Dept. of Commerce, Statistical Abstract of the United States, 1928, pp. 673-74.

2) Green tea from China: IMC, Returns of Trade at the Treaty Ports, 1871-1881, and Returns of Trade at the Treaty Ports, and Trade Reports, 1862-1899.

3) Green tea from Japan: see Tables 41 and 43.

Notes: 1) \* 1862-70. 2) \*\* 1896-99. 3) \*\*\* Overvalued due to depreciation of Brazilian paper milreis.

district around Chicago, the western Pacific coast and the vicinity of New York, while Chinese green tea was mainly consumed in the middle part of the United States.<sup>(27)</sup> It was said that Americans first boiled green tea, using their coffee-making equipment, and then drank it with sugar and/or milk.<sup>(28)</sup>

Since the market for Japanese green tea was confined to the United States after 1865, Japan's tea exports were influenced to a great extent by changes in American market conditions,<sup>(29)</sup> and the tea trade business in Japan was vulnerable even to rumours concerning the American market.<sup>(30)</sup> On the American market, as a matter of course, Japanese tea was forced to face continuous competition from Chinese tea, particularly Chinese green tea. In fact, competition in the tea trade was very keen<sup>(31)</sup> and both quality and price of tea were important factors for the increase in exports from Japan. The annual consumption of green tea was estimated at about 20 million lb. in the second half of the 1870s.<sup>(32)</sup> Figures for green tea imports into the United States therefore give us an impression of the intensity of competition between Japanese and Chinese green tea, since total figures of green tea imports were 32.3 million lb. in 1875 and even rose to 50.2 million lb. in 1880.<sup>(33)</sup>

The rapid increase in tea exports from Japan inevitably caused a deterioration in quality after 1871 as a consequence of hurried and careless preparation.<sup>(34)</sup> Complaints about the dusty and broken character of Japanese tea were reported in 1867.<sup>(35)</sup> Tea delivered to Yokohama in mid-1868 was inferior<sup>(36)</sup> and there was "a growing tendency of the dealers to mix all grades together".<sup>(37)</sup> A British consular report for the year 1868 expressed the fear that "unless

a decided stand is made to discountenance this adulteration, Japan tea will fall into disfavour in the United States, where it chiefly has to seek a market."<sup>(38)</sup>

A report for the year 1869 by the Chinese Imperial Maritime Customs pointed out that the competition from the other tea producing countries, Japan and India, might be felt before long<sup>(39)</sup>; by the mid-1870s it was noted that green tea exports from China to the United States had seriously decreased in consequence of the successful competition of Japanese green tea in the United States market.<sup>(40)</sup>

Green tea exported from China to the United States decreased rapidly from 162,454 piculs in 1872 to 112,868 piculs in 1874 and 59,739 piculs in 1875.<sup>(41)</sup> Thus Japanese tea had achieved success in its competition with Chinese tea by the mid-1870s, overtaking imports of Chinese green tea in 1874. Tea exports from China soon recovered to some extent, but remained less than a half of Japan's green tea exports to the United States in quantity. Thus in the mid-1870s Chinese green tea was threatened by severe competition from Japanese tea on the American market, while Chinese black tea was seriously menaced by the rapid increase in imports of Indian black tea on the English market.<sup>(42)</sup> A Chinese Imperial Maritime Custom's report for the year 1876 stated that

The position ... of China tea has been materially changed during the last decade by the competition of Indian and Japan leaf.<sup>(43)</sup>

It simultaneously suggested the need for a considerable reduction in price, pointing out the minor defects in Chinese green tea and the relative cheapness of Japanese green tea, and attributed the weakness shown by Chinese tea in competition to heavy exports and likin taxation.<sup>(44)</sup>

Japanese green tea continued to threaten Chinese green tea on

the United States market, causing a fall in exports of green tea from China.<sup>(45)</sup> It was said in the early 1880s that "The condition of the trade in Green Tea in the United States has lately undergone a change" as a result of competition from Japanese green tea.<sup>(46)</sup> A British consular report for the year 1875 commented on the competition between Japanese and Chinese green tea:

... there is a struggle going on between China and Japan for the patronage ... of the United States. At present Japan teas are most in favour, but this came about by the former high prices that had to be paid for China green teas, and the excessive adulteration they were subjected to.<sup>(47)</sup>

However, the prospects for Japanese tea on the American market were not necessarily bright. After mid-1875, the price of Japanese tea began to decline in a newly started competition with Formosan tea which was similar to Japanese tea in quality.<sup>(48)</sup> In 1876 Japanese teas were "losing their former great popularity with consumers in the United States", as the quality deteriorated as a result of over-production.<sup>(49)</sup> A British consular report considered that the continuous decline in the value of tea exports from 1874 to 1876 showed that "there is a limit to the demand for Japan teas" in the United States market "partly attributable to faulty preparation", and stated that "it is evident that the Japanese must pay more regard to the quality ... if they are to compete successfully with Chinese growers."<sup>(50)</sup> As we have already seen, since the annual consumption of green tea in the United States was estimated at about 20 million lb.,<sup>(51)</sup> it seemed that "unless some fresh outlet is speedily discovered, prices must continue to decline."<sup>(52)</sup> A British consular report for the year 1881 commented as follows:

The popularity of Japan teas seems now seriously on trial in America ... it must be admitted that the quality of Japan tea is steadily deteriorating, thus seriously endangering this country's [Japan's] trade in one of its staple articles of produce.<sup>(53)</sup>

In 1882, another consular report stated that

Stocks [of Japanese tea] consequently accumulated in New York, and the only way [that] the tea could be disposed of was by auction at ruinously low prices.<sup>(54)</sup>

This deterioration in quality continued throughout the 1880s and 1890s.

The 1883 Act which prohibited the importation of low-quality tea led to a considerable reduction of exports of common tea from China and Japan to the United States.<sup>(55)</sup> Imports of tea into the United States from China and Japan decreased from 37.6 million lb. and 34.4 million lb. in 1882-83 to 33.2 million lb. and 31.0 million lb. in 1883-84 respectively and, in contrast, imports from England slightly increased from 0.5 million lb. to 2.2 million lb.<sup>(56)</sup>

Japanese tea imported at San Francisco decreased by more than a quarter in 1883 compared with the previous year.<sup>(57)</sup> On the American market, as Japanese and Chinese green tea faced keen competition from Indian, Ceylon and Chinese black tea and coffee, it was important for Japanese teas "to maintain the reputation they have enjoyed for many years" in order to overcome this competition and ensure a market.<sup>(58)</sup>

A deterioration in quality of Chinese tea, both black and green, was recognizable in the early 1880s owing to hurried and careless preparation,<sup>(59)</sup> and there was "fear of the leaf they [Chinese] produce losing its ground through Foreign competition ..."<sup>(60)</sup>

As a whole China was thought to be "losing ground in the world's Tea markets" due to the challenge by Japan and India.<sup>(61)</sup> The deterioration in the market position of Chinese tea was not remedied at all<sup>(62)</sup> and China suffered a further decrease in exports of green tea because of actions against adulteration by the United States

in 1897.<sup>(63)</sup>

In the 1890s, in addition to keen competition, Japanese tea suffered also from continuous deterioration in quality and rises in prices. In the mid-1890s Indian tea tended to invade the Japanese tea market in the United States, though the amount was small.<sup>(64)</sup> At that time, as prices of Chinese and Assam tea were relatively low, the only question was "whether these [Japanese] teas can be produced at prices low enough to enable them to compete favourably in foreign markets with China and Assam tea."<sup>(65)</sup> However, after 1895 the cost of preparing and packing tea "advanced considerably ... owing to the rise in the price of labour" and materials such as charcoal.<sup>(66)</sup> The increase in production costs was estimated as at least 25 per cent.<sup>(67)</sup> This increase in prices caused by the increase in costs of labour and materials made it difficult for Japanese tea to maintain favourable market prices in the United States. A British consular report for the year 1897 described the situation:

The increase in the cost of labour and materials is making it difficult to produce teas at a low enough cost to meet the requirements of America for a good sound tea at a low price ... and unless Japan can supply that demand, the people will probably take some other kind of tea (or coffee) as a substitute.  
(68)

### 3. The Development of the Tea Industry in Japan

Tea exported from Japan after the opening of the ports in 1859 came from existing tea producing districts such as Yamashiro (Kyoto), Omi (Shiga), Ise and Iga (Mie), Yamato (Nara), Suruga and Totomi (Shizuoka), Shimosa (Chiba) and Musashi (Saitama).<sup>(69)</sup> With the



commencement of foreign trade tea came to be sent directly from producing districts by local consigners on a contract basis to merchants in Yokohama, who sold it to Western merchants for exportation.<sup>(70)</sup> These tea-sale merchants came to Yokohama from the main tea producing districts, in particular Suruga and Ise, keeping a close relationship with their own districts.<sup>(71)</sup> This direct connection between producing districts and the treaty ports meant the destruction of the traditional distribution system controlled by privileged guild merchants in large cities such as Edo and Osaka.<sup>(72)</sup> Tea from parts of the Kinki region such as Yamashiro and Yamato continued to be sent to Yokohama for exportation until the opening of Kobe in 1868.<sup>(73)</sup> Yokohama was thereafter sent tea from the eastern parts of Japan such as Mie and Shizuoka, while Kobe exported tea from western parts of Japan, such as the Kinki region, which was mixed with other inferior tea from the Chugoku and Shikoku regions.<sup>(74)</sup>

The increase in demand for Japanese tea from overseas markets stimulated domestic Japanese tea production and gave rise to changes or improvements in methods of tea production.<sup>(75)</sup> The quality of Japanese tea was from the first appreciated by Western merchants. However, Japanese tea had only been refired once and had therefore to be refired again for long-distance transportation.<sup>(76)</sup> In 1860 two Western firms had private tea-refiring establishments in Yokohama, "but they are private, and cannot be used by other people",<sup>(77)</sup> so that Japanese tea had to be mostly sent to Shanghai for refiring and thence shipped to England or the United States.<sup>(78)</sup>

Nagasaki was also an important port for tea exports. "In Nagasaki an imitation of Chinese green tea is prepared and exported under the names of Gunpowder, Hyson, Young Hyson, and Twankay."<sup>(79)</sup> As the

Custom House passed all tea in raw leaf as "bancha" (coarse green tea) under a low scale of duty,<sup>(80)</sup> a larger proportion of tea, usually of inferior quality, was therefore exported "in an unprepared state, principally to Shanghai by Chinese shippers",<sup>(81)</sup> whence it found its way to the European markets "either separately prepared or mixed with the China leaf", or was marketed locally.<sup>(82)</sup> Better quality tea was shipped from Nagasaki to Yokohama or Kobe "for the purpose of being mixed with the tea of those districts which have commanded higher prices than usual for the American market."<sup>(83)</sup> Although tea was "the most considerable item of export", with the exception of coal in Nagasaki, exports sharply decreased in 1873,<sup>(84)</sup> and by 1887 tea had "virtually ceased to be an article of export, except to the north of China".<sup>(85)</sup>

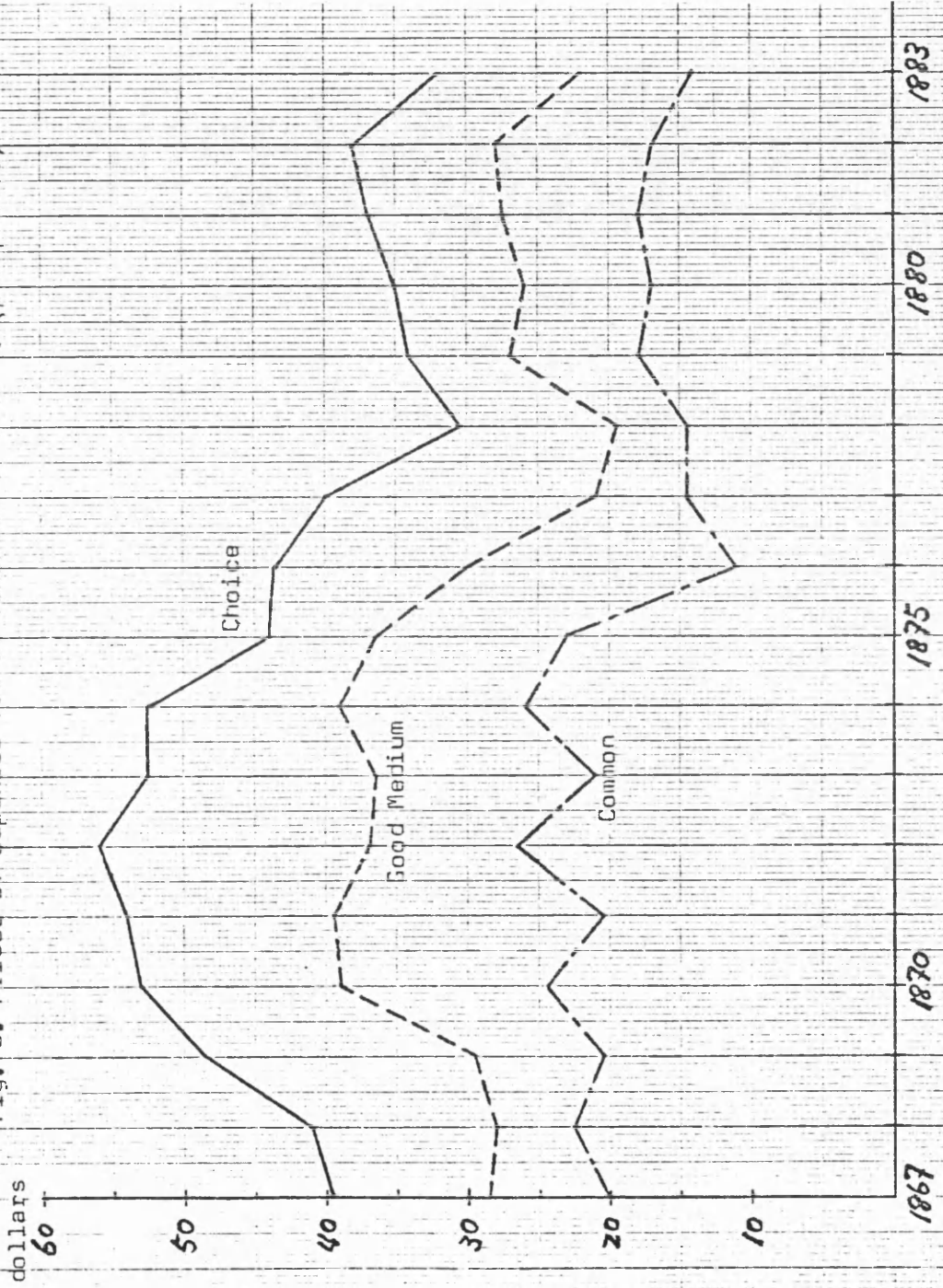
The opening of Kobe in 1868, following the revision of the tariff treaty in 1866, changed both the prospects for and the system of tea exports, because it gave Western merchants the opportunity of easy access to the most important tea producing districts in the Kinki region.<sup>(86)</sup> At first, considerable quantities of tea continued to be sent to Yokohama for refiring, "some by the native merchants themselves, and some by the foreign agents of Yokohama houses, from whom the native merchants received advances on the shipments."<sup>(87)</sup> This left a satisfactory profit margin for the Western merchants.<sup>(88)</sup> In late 1868, however, some of the Western merchants began to erect tea-firing establishments in order to prepare tea on the spot for exportation without transporting it to Yokohama for refiring.<sup>(89)</sup> The number of these establishments increased year by year and reached eleven with about 1,500 pans in 1872.<sup>(90)</sup> According to the returns of the Kobe (Foreign) Chamber of Commerce, direct shipment

of tea from Kobe to foreign countries rapidly increased from 6,266 lb. of the total tea exports from Kobe of 2,512,800 lb., that is 0.2 per cent, in 1868 to 780,350 lb. out of 2,158,131 lb. (36.2 per cent) in 1869, 2,216,029 lb. out of 3,238,774 lb. (68.4 per cent) in 1870, and 4,231,737 lb. out of 4,751,081 lb. (89.1 per cent) on 1871. The remaining portion for each year was brought to other open ports in Japan, mainly Yokohama.<sup>(91)</sup>

Tea production in Japan expanded as a result of the continuous demand for Japanese tea abroad and producers were particularly attracted by the rise in price of tea for exportation. As shown in Figure 8, prices of tea remained high until around 1874, which gave a stimulus to producers to expand tea production. Tea production in Japan was reported as 121,000 piculs, or about 16 million lb., in the season of 1872-73.<sup>(92)</sup> According to the 1874 Fuken Bussan Hyo, it was 17.6 million kin, that is 23.5 million lb., of which Kyoto produced 8,338,061 kin, Shiga 1,581,110 kin and Shizuoka 1,080,187 kin, so that these three prefectures produced 62 per cent of the total tea production in Japan.<sup>(93)</sup> In the early 1880s Shizuoka gradually became the central tea producing area, taking up 43 per cent of the total tea delivery into Yokohama in 1885, 60 per cent in 1890 and 77 per cent in 1896.<sup>(94)</sup> The area of tea plantation doubled during the decade from 1872 and increased from 42,024 cho in 1881 to 63,648 cho in 1892.<sup>(95)</sup>

As shown in Table 42, tea production remained unchanged until 1880. The annual average production increased from 335,017 piculs for the period 1880-84 to 419,148 piculs for the period 1885-89, 459,716 piculs for 1890-94 and 519,526 piculs for 1895-99. As we have already seen, on the American market Japanese tea was exposed

Fig. 0. Prices of Japanese Tea at Yokohama 1867-1883. (par picul.)



Source: H. Gribble, 'The Preparation of Japan Tea', Transactions of the Asiatic Society of Japan, Vol. 12, 1885, Appendix p. 23.

- Notes: 1) Prices are on the opening of each season.  
 2) Prices are the average between the highest and lowest prices of each description.

to keen competition and incessantly on the verge of losing its market owing to its deterioration in quality, although maintaining a predominance over Chinese tea, which was deteriorating at a faster rate. This implied a risk to the politics of the Meiji government, which would be endangered by a decrease in tea exports, because tea as well as raw silk played an important role in obtaining foreign currencies for industrialization. This deterioration in quality of Japanese tea for exportation was one factor that the government had to contend with in its economic policy. Therefore, the government positively committed itself to the improvement of tea quality and the expansion of tea exports by taking two main measures: one was an attempt by various means to control and facilitate the existing green tea production, and develop black tea production; the other was the encouragement of direct exporting by Japanese native merchants.

One measure taken by the government was the creation in 1874 of an office in the Home Ministry to organize and control tea production.<sup>(96)</sup> The government held competitive exhibitions and fairs which played a crucial role in improving the quality of tea and encouraging tea production.<sup>(97)</sup> It also advertised Japanese tea by participating in international exhibitions and promoted sales in Europe, despatching government officials abroad to investigate the demand for tea in overseas markets.<sup>(98)</sup> The quality of tea had slightly improved by the late 1870s as a result of this positive encouragement by the government, but this improvement created a rise in the price of tea which caused a deterioration in quality again.<sup>(99)</sup>

The government made abortive efforts to stimulate production of black tea from 1874, despatching government officials to India to learn methods of black tea production.<sup>(100)</sup> In the second half of

the 1870s, as prices of Japanese tea continuously declined in overseas markets, the government sought a solution by changing the emphasis in tea policy from green tea to black tea production.<sup>(101)</sup> In 1878, the Bureau for Encouraging Agriculture in the Home Ministry issued regulations for training in black tea production (Kocha Seiho Denshu Kisoku).<sup>(102)</sup> However, all attempts at promoting black tea production resulted in failure due to deficiencies in technology and hurried production.<sup>(103)</sup> By 1881, with the failure of attempted black tea exports to Melbourne by the Yokohama Kocha Shokai formed by government sponsorship, black tea production in Japan had proved unsuccessful.<sup>(104)</sup> As British consular reports commented, Japan's "climate and soil ... appear unfitted to the growth of plants producing a leaf of the quality necessary to make good black"<sup>(105)</sup> with the result that the manufacture of black tea "has been almost given up".<sup>(106)</sup>

Complaints about the quality of Japanese tea must be laid not only on Western merchants who had the establishments for refining and exported it, but also on Japanese producers and dealers who were interested in quick profit-making.<sup>(107)</sup> As the desire for direct shipments by Japanese merchants to consuming countries overseas became greater among Japanese native producers and dealers, the Seicha Kairyo Kaisha was established in 1872 by Otani Kahei, one of the main tea-selling merchants in Yokohama, with a view to improving the quality of Japanese tea for exportation.<sup>(108)</sup> In 1876 Japanese merchants exported tea, for the first time, directly to New York under the auspices of the government, though without success.<sup>(109)</sup> Efforts for direct exporting supported by the government continued, however, as a British consular report indicated in the following year:

Native shippers still continue to consign tea on own account to America, but the results, as far as can be ascertained, are not very satisfactory. They seem deficient in the knowledge of the right preparation of the raw staple as required on the American market ... (110)

In the second half of the 1870s, tea companies with the aim of direct exporting were established locally by wealthy farmers. In Saitama Prefecture, Sayama Kaisha was formed in 1876.<sup>(111)</sup> In Shizuoka Prefecture, Sekishin-sha was formed in 1876, Yushin-sha and Shizuoka Seicha Kaisha in 1878, and Shizuoka Seicha Jiki-Yushutsu Kaisha in 1885.<sup>(112)</sup> In Mie Prefecture, Mie Seicha Yushutsu Kaisha was established in 1881, which was succeeded by Mie Seicha Kaisha in 1882 and then Mie-ken Seicha Kaisha in 1883.<sup>(113)</sup> Furthermore, tea exporting companies were established in Osaka, Kyoto and Kobe in 1887. However, almost all attempts at direct exportation failed within several years of their establishment due to difficulties in management, partly influenced by the fall in tea prices and inadequacies in technology.<sup>(114)</sup> As Table 47 shows, percentages of tea exports by Japanese merchants for the period from 1875 to 1892 reflect the failure of direct shipments as a whole, occasioned by a change of government policy in the Matsukata deflationary period.<sup>(115)</sup>

The government was compelled to reconsider its policy on tea production again, following the failure in producing black tea, in the early 1880s. The deterioration in Japanese green tea became obvious after 1877, and it became necessary for the government to review its policy on green tea production when the 1883 Act preventing the importation of inferior teas into the United States was strictly enforced.<sup>(116)</sup> The conference of domestic tea producers and dealers held in 1883 made two proposals to the government:

Table 47. Direct Tea Exports from Japan 1875-1910.  
(in thousand kin)

Year	Direct Exports (A)	Total Tea Exports (B)	$\frac{(A)}{(B)}$ (%)
1875	22	19,631	0.1
1876	240	17,974	1.3
1877	27	19,236	0.1
1878	163	21,405	0.8
1879	102	24,088	0.4
1880	442	27,557	1.6
1882	100	28,301	0.4
1883	15	27,860	0.1
1884	18	26,853	0.1
1885	168	30,934	0.5
1886	101	35,697	0.3
1887	1,595	35,612	4.5
1888	1,508	33,169	4.5
1889	316	32,337	1.0
1890	397	37,251	1.1
1891	617	39,924	1.5
1892	985	37,518	2.6
1897	4,317	32,633	13.4
1907	9,718	30,684	31.8
1908	12,890	26,663	43.3
1909	14,405	30,742	47.0
1910	19,329	32,946	58.8

Source: Yokohama-shi Shi, Vol. 3, Part I, p. 723,  
Table 112.



firstly, to issue a law to prohibit production and sale of inferior teas and, secondly, to organize an association of tea producers in order to improve the general quality of tea.<sup>(117)</sup>

At the Seicha Shudan-kai held in 1883, Otani Kahei urged the establishment of Japanese-owned refining factories in tea producing districts and the need of more information on overseas markets, in view of the possibility of an end to outlets for Japanese tea in the American market due to <sup>the</sup> continuous deterioration of quality.<sup>(118)</sup>

The following four subjects were discussed at this meeting:

(1) the history and present situation of the tea industry, (2) the history and present situation of tea transactions, (3) measures to rectify poor methods of tea production and improve quality, and (4) the removal of evils in trade and the expansion of market abroad.<sup>(119)</sup>

Based on the proposals then made, the government issued the Working Rules of the Tea Industry Association (Chaqyo Kumiai Junsoku) in 1884 to organize all tea producers and dealers in order to improve the quality of tea both for exportation and for domestic use.<sup>(120)</sup>

In 1887 Regulations of the Tea Industry Association (Chaqyo Kumiai Kisoku) replaced the Chaqyo Kumiai Junsoku in order to strengthen the controls, because the Junsoku lacked sanctions for enforcement.<sup>(121)</sup> The Central Chamber of the Tea Association was reorganized,<sup>(122)</sup> and, in accordance with the Chaqyo Kumiai

Kisoku, local tea associations were formed on a prefectural level in 1888.<sup>(123)</sup> A conference of tea producers and dealers held in 1889 described the market conditions for Japanese tea:

... tea industry in Japan has not recently been prosperous, because of the fall in price, and the prospects for tea production are pessimistic, because the market for Japanese tea is narrow and confined only to the United States. Particularly in the United States, Japanese tea has faced keen competition from India, Ceylon and China, so that stocks of Japanese tea have increased and in consequence its price fell sharply.<sup>(124)</sup>

In 1890 Nihon Seicha Kaisha was organized with the help of financial support from the government, but, unfortunately, was dissolved in the next year.<sup>(125)</sup> Against the background of the commercial rights recovery movement, the Japan Tea Industry Association (Nihon Chagyo-kai) was formed in 1894, encouraged by Maeda Masana, a former government official.<sup>(126)</sup> In 1895, Nihon Seicha Kabushiki Kaisha and Kobe Seicha Yushutsu Kaisha were established as a means to expand commercial rights by direct shipment.<sup>(127)</sup> At the meeting of the Central Tea Industry Association in 1897, Okuma Shigenobu, the then Minister of Agriculture and Commerce, made an interesting speech. He said:

... tea has been recently imported [into the United States] from India and Ceylon, the market for which is developing. They are the most formidable rivals in the tea trade. The government approved a proposal for a subsidy to compete with these teas and has decided to offer it. As the amount of subsidy is very small [70,000 yen annually for seven years], it will be difficult to compete with Indian and Ceylon teas ... the production in India is by far cheaper than in Japan. This is the reason why Japanese tea should be improved ... If tea producers do not brace themselves up, it will be difficult even to maintain the current market position for Japanese tea in the United States.

Is it not an urgent task not only to compete with Indian and Ceylon teas in the United States but also to expand the market into northern China, Siberia, Russia, Canada, Central America, South America and so on? (128)

Despite such strenuous encouragement and support by the government, tea exports from Japan did not develop successfully as a whole because of severe competition in the American market, although the process of preparation of tea was simplified by the invention of several machines for tea manufacturing and refining.<sup>(129)</sup> Direct exports continued on a smaller scale, but direct tea exporting companies had to entrust both exports and sales of tea to already-established Japanese trading firms such as Mitsui Bussan and Okura-gumi, or Western merchants, owing to a lack of a sufficient knowledge about the international market.<sup>(130)</sup> It was not until 1910 that

quantities handled by Japanese merchants finally exceeded that by Western merchants.<sup>(131)</sup>

#### 4. The Tea Business and Transportation

Tea trading business remained almost completely in the hands of Western merchants despite the various attempts by the government to promote direct shipment. Almost all Japanese export merchants and Western merchants dealt in tea immediately after the opening of the ports. However, as the trade developed, some firms became gradually specialized in tea transactions and, accordingly, the number of firms engaged in the tea business decreased.<sup>(132)</sup> This was partly because many Western merchants lacked sufficient capital: it was reported that there were few Western merchants who were able to deal in cash like Jardine, Matheson & Co. and Walsh, Hall & Co.; other merchants often caused problems in business with Japanese merchants.<sup>(133)</sup> As Japanese merchants also lacked sufficient capital, both Western and Japanese merchants were under pressure to concentrate on specified lines of business. Nihon Cha Boeki Gaikan shows details of Western firms and Japanese export merchants in Yokohama and Kobe. In Yokohama, the number of Western firms and Japanese export merchants engaged in the tea business decreased from 20 and 109 respectively in 1885 to 15 and 43 in 1895.<sup>(134)</sup> The main Western firms dealing in tea were Mourilyan, Heimann & Co., Smith, Baker & Co., Jardine, Matheson & Co., Middleton, Smith & Co., Hellyer & Co., and Hunt & Co.<sup>(135)</sup> The main Japanese export merchants were Otani Kahei, Nakajo Junnosuke, Okano Rihei and Yoshinaga Nizo in Yokohama, and Yamamoto Kametaro, Nishiguchi Seisuke and Kawaguchi Seiji in Kobe.<sup>(136)</sup> Mourilyan, Heimann & Co.

and Jardine, Matheson & Co. had their own branches in the United States and exported tea on their own account. However, other firms were so-called commission merchants. In other words, when they were instructed to purchase Japanese tea by their agents in the United States or Canada, they received letters of credit, generally 75 per cent of the price at which they were instructed to buy, with which they obtained a bank loan from foreign banks or the Yokohama Specie Bank in order to purchase tea from Japanese export merchants.<sup>(137)</sup>

Western merchants purchased tea in accordance with samples brought by Japanese vendors to their godowns. The size of tea parcels were different from season to season: "Early in the season there are usually ten or twelve piculs in a parcel; but later on, parcels are sold of 100 or 200 piculs, or even more. The ordinary teas come down in rough-made chests, papered inside, each chest containing on an average 60 lbs.; but the finest descriptions come down in jars, holding from 35 to 36 lbs."<sup>(138)</sup>

Japanese tea was mainly exported to the United States by British firms.<sup>(139)</sup> A British consular report stated that in 1887, while "England does not take any Japan tea, the export business in it is largely in the hands of British firms."<sup>(140)</sup> These shipments were transported by British vessels, as we shall see later. A British consular report described the transportation of Japanese tea after the opening of the ports as follows:

Most of it [Japanese tea] finds its way to the United States or Canada. It is very questionable indeed whether Japan teas ever entered extensively into consumption in England, for although for a few years after the opening of Yokohama to foreign trade a much larger quantity of Japan teas were sent to England than at present, they were then purchased for the American market. They were sent to London because it was the great mart for teas of all kinds. The tea trade was then principally in the hands of

English houses, and the tea was still sent home by sailing vessels round the Cape of Good Hope. But the Pacific Mail Line of steamers, which began to run between China and Japan and San Francisco in 1867, offered such facilities for rapid and direct communication with the United States that the trade gradually ceased to follow the old roundabout course.<sup>(141)</sup>

Table 48 shows the detailed distribution of Japanese tea exported from Yokohama by destination and by route for the period of 1878-1883, 1890 and 1891. Tea was exclusively exported to the United States and Canada. Exports to New York, which was the distribution centre to Boston and eastern cities of the Atlantic, slightly decreased, taking up a 50 per cent share of the total tea exports from Yokohama in 1883.<sup>(142)</sup> San Francisco, "the centre of distribution for the Pacific Coast", took up around 20 per cent and Chicago, "for distribution amongst the towns and hamlets of the agricultural West", took a share of from 9 to 16 per cent.<sup>(143)</sup> Exports to Canada increased after 1880 and a third of the tea exported from Yokohama was directed there in the early 1890s.

It was said that tea exports from Kobe, the other main port for tea exports apart from Yokohama, was slightly more than half that from Yokohama.<sup>(144)</sup> However, the Kobe market suffered often from over-supply due to the small number of tea-refining establishments, and tea had to be transported to Yokohama.<sup>(145)</sup> In 1887, over 6.7 million lb., or 35.9 per cent of the total tea shipped from Kobe (18.67 million lb.), was transferred to Yokohama.<sup>(146)</sup>

During the period 1881-1883, on average 77 per cent of the tea exported from Yokohama was carried by British vessels and the remaining 23 per cent by American vessels.<sup>(147)</sup> According to Table 48, in the early 1880s steamers took 90 per cent of tea exported from Yokohama; 49 per cent of the tea was transported to the United States via Suez and 42 per cent was directly sent to

Table 4B. Tea Exports from Yokohama by Destination and Route 1878-1891.

	1878	1879	1880	1881	1882	1883	1890	1891
(in lb.)								
<b>U.S.A.</b>								
New York & Boston	10,795,903 (66.3)	13,967,490 (63.8)	14,444,540 (59.6)	17,818,954 (56.6)	11,109,476 (53.2)	10,039,021 (49.8)	6,368,466 (23.6)	6,807,832 (22.4)
San Francisco	3,036,300 (18.6)	3,845,362 (17.6)	3,560,427 (14.7)	3,780,380 (16.7)	3,730,189 (17.9)	4,044,855 (20.1)	3,858,864 <sup>a</sup> (14.3)	4,647,629 <sup>a</sup> (15.3)
Chicago & other cities	1,423,984 (8.7)	2,456,110 (11.2)	2,976,187 (12.1)	2,631,050 (11.6)	3,297,495 (15.8)	2,937,596 (14.6)	8,450,554 (31.3)	7,606,474 (25.1)
Canada	507,667 (3.1)	1,137,583 (5.2)	2,974,456 (12.1)	2,899,146 (12.8)	2,576,279 (12.1)	3,043,998 (15.1)	8,043,707 (29.8)	10,846,075 (35.7)
England & Europe	530,800 (3.3)	490,205 (2.2)	370,123 (1.5)	512,105 (2.3)	214,560 (1.0)	75,532 (0.4)	303,064 (1.1)	451,017 (1.5)
Total	16,294,594 (100)	21,896,830 (100)	24,225,733 (100)	22,641,635 (100)	20,877,999 (100)	20,141,002 (100)	27,024,655 (100)	30,359,027 (100)
<b>BY</b>								
Suez steamers				13,101,312 (57.9)	8,584,950 (41.1)	9,868,273 (49.0)	6,364,803 (27.9)	6,509,883 (21.4)
P. & O. or Occidental & Oriental steamers				4,790,096 (21.2)	8,693,211 (41.6)	4,007,757 (19.9)	10,933,042 (47.9)	8,956,750 <sup>c</sup> (29.5)
Pacific Mail steamers				2,430,406 (10.7)	2,870,805 (13.8)	3,899,892 (19.4)	-	2,784,195 (9.2)
Canadian Pacific steamers							-	3,599,161 (11.8)
Steamers in connection with Union Pacific Railway								642,528 (2.1)
Sail to San Francisco				7,319,821 <sup>b</sup> (35.5)	729,033 (3.5)	2,365,580 (11.7)	35,532 (0.2)	5,412,762 (23.7)
Sail & rail via Tacoma								59,102 (0.3)
Sail via the Cape to Canada								22,805,241 (100)
Total				22,641,635 (100)	20,877,999 (100)	20,141,002 (100)	22,805,241 (100)	30,390,676 (100)

Sources: CR, Kanagawa, for the years 1878, 1879, 1881, 1882, 1883; DCRTF, No. 922, Kanagawa for the Year 1890, and No. 1084, Kanagawa for the Year 1891.

Notes: 1) Figures in parentheses are percentages. 2) a) is under the heading of California. 3) b) includes tea carried by sailing vessels to New York. 4) 'Suez steamers to London' from 1881 to 1883 are included in 'Suez steamers'. 5) c) includes 38,226 lb. of 'Steamers to San Francisco'.

the United States across the Pacific on average for the three years 1881-1883. However, this situation changed with the opening of the Canadian Pacific Railway which was extended to Tacoma in 1885. Tea was thereafter directed to the western ports of Canada, and thence transported to the eastern cities of Canada and the United States.<sup>(148)</sup> The Canadian Pacific Railway carried an average of 42 per cent of tea exported from China and Japan during the period 1887-1892.<sup>(149)</sup> According to a British consular report, in 1886 a quarter of Japanese tea exports went to Canada and less than three quarters to the United States.<sup>(150)</sup> In this year, 1886, seven sailing vessels chartered by the Canadian Pacific carried for the first time silk and tea from China and Japan to Canada.<sup>(151)</sup> As Table 48 shows, in the early 1890s as a whole the importance of steamers in tea transportation declined. In contrast, the importance of sailing vessels increased as a consequence of the commencement of the Canadian route, and 24 to 28 per cent of tea from Yokohama was transported by sailing vessels via Tacoma or Vancouver in the early 1890s. As far as steamers were concerned, exports to the United States and Canada by Suez steamers decreased to 21 per cent in 1891 and, in contrast, exports by Canadian steamers in connection with railways came to play an important role in transportation. In the early 1890s, as a whole, slightly less than 50 per cent of tea from Yokohama was exported via Canada.

The freight for tea to London per ton of 40 cft. was £3.10s.-£4.10s. in 1862, and £3.00-£3.10s. in 1864.<sup>(152)</sup> By 1874, it was said, the old tea-clippers "have been almost driven out of the trade by the steamers."<sup>(153)</sup> In 1874, tea freight from Shanghai to London was £3.00-£3.10s. per ton of 40 cft., and that to New York

ranged from £5.00 to £5.10s. per ton of 40 cft. for steamers and from £2.10s. to £3.10s. for sailing vessels.<sup>(154)</sup> In June 1882 "the rate of freight by the Pacific Mail Steamship Company's steamers overland to New York and Canada was reduced from 5 to 2 cents per lb. gross, which led to large shipments by that route."<sup>(155)</sup> This is reflected in Table 48. In the first half of the 1890s freight rates ranged from 1.25-1.50 cents to 3.0 cents per lb. gross, and "Rates by the Canadian Pacific were, as a rule, lower than by the other two [Pacific Mail, and Occidental and Oriental] lines."<sup>(156)</sup>



## CHAPTER VI

## The Development of Coal Exports\*

## 1. Coal and the Far East.

Coal was one of Japan's main export articles during the Bakumatsu and Meiji periods together with raw silk and tea. Coal exports formed on average 5.8 per cent of total exports during the period 1868-1899, including coal for "ship's use" which was exported without charging duty.

Although it is difficult to understand to what extent Western powers were interested in coal produced in Japan, coal received attention both from military or political and commercial viewpoints in the Far East. As we have already seen, the United States sought coaling depots or ports for refuge for vessels engaged in China trade and whaling in the northern Pacific.<sup>(1)</sup>

In Russia, there had been a desire for establishing commercial relations with Japan in the eighteenth and early nineteenth centuries,<sup>(2)</sup> and Sakhalin was regarded as a step towards the opening of Japan.<sup>(3)</sup> After discovering the fact that coal was available on this island in 1851, Russians investigated the location of coal deposits and their accessibility.<sup>(4)</sup> Sakhalin gradually became a place of strategic importance for Russia, which was seeking an opportunity to become involved in the Far East, particularly after the Crimean War (1853-1856).<sup>(5)</sup>

Britain's interest in Japanese coal from a military viewpoint grew as a result of increasing political tension with Russia after

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the Crimean War. Britain proposed insistently to the Bakufu in 1860 that they should despatch two mining engineers to Japan to investigate coal mines in northern Kyushu, which was promptly refused by the Bakufu officials.<sup>(6)</sup> Britain's vigilance towards increasing Russian activities in the Far East was strengthened by the Russian landing on Tsushima Island in 1861.<sup>(7)</sup> A British consul complained of the slow development of the Japanese coal industry in the late 1860s and suggested the introduction of foreign capital and Western technology to increase coal production.<sup>(8)</sup> This insistence by the British consul seemed to reflect vigilance towards the increasing Russian commitment to the Far East. Harry Parkes, the British Minister to Japan, wrote in 1867 on Japanese coal that

The demand for fuel is constantly increasing, and our interests(sic) in obtaining supplies upon the spot is second only to that which it may be presumed is felt by Japan itself. The competition, however, which may thus be created with the mining operations of the Russians in the neighbouring Island of Saghahe [Sakhalin], where coal of good quality is also found, will perhaps account for their not viewing these efforts of the Japanese Government with similar favour.<sup>(9)</sup>

Holland was interested, earlier than Britain, in Japanese coal to strengthen her declining position in trade with Japan at Nagasaki.<sup>(10)</sup> Kattendyke who came to Japan as a naval instructor for the Nagasaki Naval Training School suggested the introduction of coal mining machinery, being satisfied with producing coal of good quality in the neighbourhood of Nagasaki.<sup>(11)</sup>

Shipping companies were also interested in coal. It was important for them to be able to supply coal to their steamers engaged in regular services. It was usual for British ship-owners to enter into yearly contracts with certain large coaling agents and contractors who had facilities for coaling steamers in most of

coaling stations of the world.<sup>(12)</sup> However, since the early steamers consumed enormous amounts of coal and charged high freight rates because of limited cargo space, "the participation of steamships in ocean trade was practically confined to a limited number of highly subsidized mail and passenger services".<sup>(13)</sup> The shift from sailing ships to steamers was hastened by the fall in the cost of shipping, the latter occasioned by continuous improvements in marine technology such as the development of the compound and triple-expansion engines, and steamers replaced sailing ships in the 1880s.<sup>(14)</sup>

Though steamers were already taking part in China trade in the early 1860s,<sup>(15)</sup> they were more costly to operate than sailing ships and there was little or no prospect that it would become profitable to operate them.<sup>(16)</sup> With the opening of the Suez Canal, Indian and Eastern trade rapidly grew and in 1880 almost all China trade was through the canal.<sup>(17)</sup> The canal had an influence on sailing ships, since they were not navigable in the Red Sea, and stimulated the development of new types of steamers.<sup>(18)</sup>

By the late 1870s seven-eighths of China trade was carried by steamers.<sup>(19)</sup> Though "on all ordinary voyages there would be cargo space enough left to make a profitable voyage",<sup>(20)</sup> as in most vessels newly built at that time space for coal and cargoes was interchangeable,<sup>(21)</sup> the space was filled up with coal when sufficient cargo was not obtained.<sup>(22)</sup> In addition to the change in ship structure, it became possible to go from London to Japan without coaling on the way due to improvements in machinery such as engines in the direction of economical consumption of fuel.<sup>(23)</sup> However, "A vessel would require to coal when she got to her destination

[Hongkong or Shanghai] if it was a long voyage ... because she would simply require the amount of coal that she had carried out."<sup>(24)</sup>

Although coal came to be carried by steamers to Singapore by around 1880,<sup>(25)</sup> the principal portion of coal at Hongkong was supplied from Britain in sailing ships.<sup>(26)</sup> The sailing ships with greater speed were built to supply coal to long-distance Chinese market.<sup>(27)</sup>

During the period from 1856 to 1865 the annual average cost of such coal was £525,000 for the Penninsular and Oriental Steam Navigation Company, 27 per cent of their total annual average costs of £1,946,295.<sup>(28)</sup> P. & O. extended their regular service to Shanghai in 1850, but in 1853 and 1854 the rapid rise in the price of bunker coal and the high cost of shipping coal to the Far East threatened the profitability of the service. The agents of the line found a partial solution to this matter by opening new coal fields which had been discovered in such places as Labuan and Formosa and through purchases of steamers to transport coal to their Eastern depots.<sup>(29)</sup> The maintenance of coal depots and supplies was a heavy charge on P. & O. Up until the mid-1870s, while actually owning two ships, which they used to carry out machinery and stores, they chartered an average of 170 sailing ships a year to carry coal to their Eastern depots.<sup>(30)</sup>

As shown in Table 49, during the second half of the nineteenth century coal was the most important element in Britain's trade with Europe, over three quarters of British coal exports being sent there.<sup>(31)</sup> Coal exports to Asia and Oceania amounted to no more than 4 per cent. This bias made it possible for Japanese coal to compete with coal from Britain on favourable terms in East Asia, as we shall see later. Since in this area the main use for coal

Table 49. Annual Average Coal Exports from Britain by Region 1850--1899.  
(in thousand tons)

Year	Europe	Africa & Middle East	India	Asia & Oceania	North & Central America	South America	Total
	%	%	%	%	%	%	%
1850-1854	2,761 (77.2)	77 (2.2)	101 (2.8)	61 (1.7)	423 (11.8)	153 (4.3)	3,576 (100)
1855-1859	4,780 (79.7)	141 (2.4)	161 (2.7)	122 (2.0)	568 (9.5)	225 (3.8)	5,997 (100)
1860-1864	5,976 (76.2)	155 (2.0)	186 (2.4)	310 (4.0)	893 (11.4)	328 (4.2)	7,847 (100)
1865-1869	7,585 (76.8)	219 (2.2)	330 (3.3)	324 (3.3)	819 (8.3)	593 (6.0)	9,871 (100)
1870-1874	9,837 (79.9)	204 (1.7)	317 (2.6)	387 (3.1)	708 (5.8)	859 (7.0)	12,311 (100)
1875-1879	12,267 (81.5)	296 (2.0)	455 (3.0)	481 (3.2)	720 (4.8)	836 (5.6)	15,058 (100)
1880-1884	16,299 (81.0)	550 (2.7)	636 (3.2)	719 (3.6)	747 (3.7)	1,169 (5.8)	20,120 (100)
1885-1889	19,881 (82.0)	722 (3.0)	739 (3.0)	660 (2.7)	622 (2.6)	1,618 (6.7)	24,243 (100)
1890-1894	24,714 (84.2)	734 (2.5)	690 (2.4)	697 (2.4)	441 (1.5)	2,073 (7.1)	29,349 (100)
1895-1899	30,214 (85.4)	1,020 (2.9)	458 (1.3)	607 (1.7)	425 (1.2)	2,525 (7.1)	35,371 (100)

Source: D. A. Thomas, 'The Growth and Direction of Our Foreign Trade in Coal during the Last Half Century', Journal of Royal Statistical Society, Vol. LXVI, 1903, p. 508.

- Notes: 1) Colombia and Venezuela are included in 'North & Central America'.  
 2) U.S.A. (Pacific coast) is included in 'South America'.  
 3) Totals are not always consistent because of rounding of figures.

was in steamers, the rapid increase in coal exports from Japan was closely connected with the increase in the number of steamers engaged in trade and transportation on the Chinese and Japanese coasts, particularly after the opening of the Suez Canal.

## 2. The Structure of the Shanghai Coal Market

Shanghai, as the commercial centre of China's foreign and coastal trade, was one of the main coaling stations in the Far East along with Hongkong.<sup>(32)</sup> The number and tonnage of vessels entering the port of Shanghai are shown in Table 50. Both the number and tonnage of vessels, especially those of steamers, steadily increased after the mid-1870s. As the number of steamers engaged in the Chinese trade increased, particularly after the opening of the Suez Canal in 1869, the demand for coal as a fuel for steamers gradually expanded.

Table 50. Number and Tonnage of Vessels entering the Port of Shanghai 1856-1895.

Year	Number of Vessels	Total Tonnage	
		tons	tons
1856	528	170,224	
1860	1,007	304,154	
1864	2,137	899,331	
1870	1,643	881,604	
1875	1,947 (1,393)	1,300,451	(1,154,450)
1880	2,288 (1,755)	1,683,610	(1,542,643)
1885	2,426 (1,948)	1,976,441	(1,856,087)
1890	2,942 (2,555)	2,729,292	(2,615,345)
1895	3,427 (2,990)	3,709,900	(3,567,514)

Sources: CR, Shanghai, corresponding years.

Note: Figures in parentheses are for steamers.

Table 51. Imports of Foreign Coal to Shanghai 1858-1864.

	tons		tons
1858.....	29,485	1862.....	173,580
1859.....	57,710	1863.....	161,496
1860.....	53,265	1864.....	117,244
1861.....	33,547		

Source: John Thorne (Coal Circular), Shanghai, 6 Jan. 1866, in JMA, PCMR 46.

Imports of foreign coal to Shanghai are shown in Tables 51 and 52. Though the amount of coal imported to Shanghai was small before 1861, it began to increase on a stable basis after 1862. In 1865, 51 per cent of the total imported coal was from Britain and 29 per cent from Australia, so that around 80 per cent of the total imported coal in Shanghai was supplied by two countries of the British Empire.<sup>(33)</sup> The relative importance of coal imported from Britain gradually decreased.

Coal imported from Britain, mainly from Cardiff, was used by the British Navy.<sup>(34)</sup> British coal began to lose its relative supremacy in 1866, because "The excessive dearness of English and American Coals has led, naturally, to the use by Steamer owners of Coal procurable from [the] nearest sources, and at a cheaper rate, although of inferior quality."<sup>(35)</sup> Imports of coal from Australia and Japan increased and in 1866 it seemed to the British consulate that "Australia and Japan coals are now likely to monopolize the market on account of their cheapness."<sup>(36)</sup> In the sense that the increase in imports of coal from Japan and Formosa in 1866 began to cause a structural change in the market, the period from the late 1860s to the early 1870s can be characterised as a period of transition from British to Japanese supremacy over the Shanghai coal market.

Table 52. Imports of Coal to Shanghai 1864-1899.

Year	Britain	U.S.A.	Australia	Japan		Others		Foreign Coal		China	Total
				Tokushima	Milke	Chikuhon	Others	Total	Foreign		
1864	83,554(71.2)	12,463(10.6)	21,227(18.1)	1361(0.1)	3,114(3.3)	6,664	117,380(100)	6,664	93,779(100)	6,190	125,315(100)
1865	47,014(51.0)	9,176(9.9)	27,011(28.8)	3,340(7.5)	4,340(7.5)	407	119,125(95.1)	6,190(4.9)	6,005	6,005	111,503(100)
1866	54,239(43.3)	9,679(7.7)	45,452(36.3)	22,523(20.2)	7,985	105,570(94.6)	7,985	105,570(94.6)	17,613	17,613	168,060(100)
1867	40,987(36.7)	7,362(6.6)	34,706(31.1)	15,344(8.7)	375	113,460(99.7)	375	113,460(99.7)	5,759	5,759	126,482(100)
1868	59,881(35.6)	7,797(4.6)	58,340(34.7)	11,043(8.7)	600	74,254(92.6)	600	74,254(92.6)	10,684	10,684	96,397(100)
1869	41,607(32.9)	11,720(9.3)	48,717(38.5)	23,008(28.9)	5,107	81,618(84.7)	5,107	81,618(84.7)	26,100	26,100	162,199(100)
1870	17,210(21.5)	5,705(7.1)	27,730(34.7)	25,111(26.5)	—	133,267(82.2)	—	133,267(82.2)	17,563	17,563	136,743(100)
1871	25,952(26.9)	2,769(2.9)	22,679(23.5)	39,777(24.5)	1,093	115,316(84.3)	1,093	115,316(84.3)	11,602	11,602	127,918(100)
1872	44,974(27.7)	8,197(5.1)	40,369(24.9)	55,544(40.6)	6,099	114,244(91.8)	6,099	114,244(91.8)	10,156	10,156	124,400(100)
1873	12,580(9.2)	2,180(1.7)	39,006(31.0)	59,561(47.3)	1,674	129,704(97.4)	1,674	129,704(97.4)	15,683	15,683	145,384(100)
1874	6,590(5.2)	3,450(2.3)	34,981(23.6)	79,127(53.3)	1,326	122,347(87.9)	1,326	122,347(87.9)	—	—	123,673(100)
1875	10,582(7.1)	3,450(2.3)	34,981(23.6)	83,381(59.9)	1,300	130,728(99.7)	1,300	130,728(99.7)	—	—	132,028(100)
1876	6,186(4.4)	3,827(2.7)	27,627(19.8)	94,071(68.5)	17,761	178,829(93.3)	17,761	178,829(93.3)	6,948	6,948	185,777(100)
1877	8,712(5.2)	1,876(1.1)	44,769(26.6)	94,071(68.5)	44,736	156,046(89.7)	44,736	156,046(89.7)	6,478	6,478	162,524(100)
1878	12,100(6.3)	4,957(2.6)	32,823(17.1)	111,180(58.0)	12,070	184,941(90.1)	12,070	184,941(90.1)	10,944	10,944	195,885(100)
1879	2,466(1.4)	1,392(0.8)	23,600(13.6)	84,250(48.4)	15,090	166,059(91.1)	15,090	166,059(91.1)	11,553	11,553	177,612(100)
1880	9,876(3.7)	3,498(1.5)	16,651(6.1)	149,013(72.1)	45,511	50,965	12,070	184,941(90.1)	10,944	10,944	195,885(100)
1881	8,076(3.7)	3,498(1.5)	16,651(6.1)	152,194(74.2)	54,292	56,265	15,452	222,271(88.4)	14,640	14,640	236,911(100)
1882	5,624(2.2)	3,392(1.6)	30,121(12.0)	171,074(68.1)	20,968	88,510	28,930	195,593(89.8)	12,514	12,514	208,107(100)
1883	3,392(1.6)	3,392(1.6)	20,428(9.4)	142,943(65.7)	40,968	53,060	4,177	222,071(88.9)	14,733	14,733	236,804(100)
1884	10,119(4.0)	1,751(0.7)	15,476(6.2)	191,342(78.3)	42,458	76,742	7,322	232,696(93.1)	1,041	1,041	233,737(100)
1885	7,448(2.7)	2,353(1.1)	23,056(9.5)	214,070(79.1)	44,581	79,514	26,585	261,071(91.6)	3,500	3,500	264,571(100)
1886	3,253(1.1)	2,177(0.8)	21,777(8.4)	219,056(73.7)	63,704	88,951	18,950	273,811(90.5)	8,128	8,128	281,939(100)
1887	744(0.2)	22,007(7.5)	22,007(7.5)	231,412(76.5)	85,287	64,608	2,626	262,451(88.3)	950	950	263,401(100)
1888	3,459(1.2)	810(0.3)	10,609(3.7)	229,211(70.5)	70,795	62,741	14,843	342,339(87.5)	4,165	4,165	346,504(100)
1889	2,370(0.6)	313(0.1)	37,507(9.6)	298,022(76.2)	64,170	105,249	4,442	40,703	6,508	6,508	304,957(100)
1890	1,535(0.5)	—	11,680(3.8)	244,670(80.2)	50,004	95,040	4,461	359,621(89.7)	6,907	6,907	366,528(100)
1891	15,451(3.9)	342(0.1)	27,203(6.8)	309,084(77.1)	47,892	95,287	17,198	461	6,507	6,507	400,842(100)
1892	600(0.1)	96(0.0)	30,585(7.3)	337,426(80.5)	74,654	81,320	52,583	6,708	3,023	3,023	419,370(100)
1893	3,896(1.0)	154(0.0)	30,598(7.7)	297,975(75.7)	44,199	102,965	44,736	356,909(90.7)	267	267	393,674(100)
1894	55,467(11.6)	—	11,066(2.3)	303,701(63.6)	25,210	69,068	118,779	21,320	800	800	400,555(100)
1895	5,065(1.2)	500(0.1)	27,057(5.5)	345,224(70.8)	6,566	69,596	134,035	51,119	429	429	477,276(100)
1896	5,900(1.2)	—	17,687(3.5)	350,622(68.5)	—	69,805	129,911	10,580	41,940	41,940	517,066(100)
1897	7,099(1.4)	—	4,007(0.8)	325,631(63.3)	18,212	59,931	92,802	60,031	66,920	66,920	514,678(100)
1898	24,674(3.7)	—	22,110(3.3)	409,403(61.3)	14,044	97,201	113,245	91,529	71,391	71,391	667,066(100)
1899	27,866(3.9)	—	16,001(2.2)	507,570(70.2)	—	97,220	160,189	59,177	57,220	57,220	727,004(100)

Sources: 1) 1864, 1865: IFC, Returns of Trade at the Port of Shanghai, corresponding years. 2) 1866: IFC, Report on Trade at the Port of Shanghai, corresponding years. 3) 1867, 1868: John Thorne & Co's Shanghai Coal Market Report for 1870, in JMA, P. 11, Shanghai, Pt. II, Shanghai, corresponding years. 4) 1871, 1872, 1873: John Thorne & Co's Shanghai Coal Market Report for 1870, in JMA, P. 11, Shanghai, Pt. II, Shanghai, corresponding years. 5) 1874, 1875, 1876, 1877: Thorne, Milce and Co's Shanghai Coal Market Report for 1873, 14 Jan. 1874, in JMA, P. 11, Shanghai, Pt. II, Shanghai, corresponding years. 6) 1878: Thorne, Milce and Co's Shanghai Coal Market Report for 1873, 14 Jan. 1874, in JMA, P. 11, Shanghai, Pt. II, Shanghai, corresponding years. 7) 1879: Thorne, Milce and Co's Shanghai Coal Market Report for 1873, 14 Jan. 1874, in JMA, P. 11, Shanghai, Pt. II, Shanghai, corresponding years. 8) 1880: Thorne, Milce and Co's Shanghai Coal Market Report for 1873, 14 Jan. 1874, in JMA, P. 11, Shanghai, Pt. II, Shanghai, corresponding years. 9) 1876: China Overland Trade Report, Nos. 2-25, and No. 1 (1879). 10) 1879: Ibid., Nos. 2-5, 7-15, 10-26, 11) 1880: China Overland Trade Report, Nos. 2-25, and No. 1 (1879). 12) 1881: Ibid., Nos. 2-5, 7-15, 10-26, 11) 1880: China Overland Trade Report, Nos. 2-25, and No. 1 (1879). 13) 1882, 1883, 1885-1887: Japan Daily Mail, 21 Jan. 1880, in Nishoku Kobo, No. 36, 15 Feb. 1908, p. 1413. For details of Japanese coal for 1882, "Kabi-sho Inokoku Hokuo". 14) 1888-1889: NCI, Commercial Intelligence, corresponding years. 15) Totals of foreign and Chinese coal for 1864-1891, IFC, Returns of Trade at the Port of Shanghai, Pt. II, Shanghai, corresponding years. 16) Totals of foreign and Chinese coal for 1882-1899, IFC, Returns of Trade and Trade Reports, Pt. II, Shanghai, corresponding years.

Notes: 1) Figures for distribution of coal imports by country are not consistent with total figures owing to different sources. 2) Totals of foreign coals include imports of foreign coals from Chinese ports and Hongkong. 3) Totals of Chinese coal for the period 1868-1886 are calculated from figures in JMA, taking a total as 60.5 kg. 4) Figures for 1878 exclude those for fortnight from 28 Nov. 5) Figures for 1879 exclude those for the period from 1 Jan. In 23 Jan, fortnight from 7 Mar., and 4 weeks from 22 June. 6) Mixed Japan' totaled 4,696 bags and 'Soft Coal' totaled 1,397 bags are excluded. 7) Figures for 1880 include 41 tons are included in "Others". 8) Figures for Inokushima include coal from Hiyonaki after 1897. 9) Figures for 1896 and 1898. 8) Figures for Inokushima include coal from Hiyonaki after 1897.



During this period there was keen competition among foreign coal imported from Britain, the United States, Australia, Japan and Formosa. Britain's share of the total imported coal decreased from 33-37 per cent in the late 1860s to 22-28 per cent in the early 1870s, and only 9 per cent in 1873. Australian coal maintained its share of the total coal imports, 24-39 per cent, throughout this period. The market share of Japanese coal increased from below 10 per cent in the late 1860s, apart from 1867, to 25-29 per cent in the early 1870s and 41 per cent in 1873. However, since the supply of Japanese coal was irregular, there remained a possibility that "foreign coals will continue to be sent to supply the deficiency [of Japanese coal]."<sup>(37)</sup>

Japanese coal gradually became an important factor in the Shanghai coal market. It superseded British coal in 1870<sup>(38)</sup> and entered largely into competition with Australian and other kinds of coal.<sup>(39)</sup> In 1873 Japanese coal gained predominance in the market and ousted British coal completely from the Shanghai market. In other words, the deficiencies of British coal caused by its high price and insufficient supply were made good by the nearer countries of Australia, Japan and Formosa.<sup>(40)</sup> Japanese coal gained an overwhelming advantage in 1875. A British consular report stated that

The most noticeable feature in this trade is the large and annually increasing amount of Japanese coal imported. Of all the coal imported into Shanghai (sic) more than one-half comes from the Takasima mines near Nagasaki. ... Of course this large supply of Japanese coal tends to drive other sorts out of market. English, American, Australian, and Formosan coals all show a marked falling off.<sup>(41)</sup>

Thus Japanese, along with Formosan, coal "is slowly but surely forcing English and Australian coal from the market".<sup>(42)</sup> The Japan Mail commented that "Nor indeed does there seem any good reason why

Japan should not supply the whole of the East with fuel - at least as far as India, if not even India."<sup>(43)</sup>

Japanese coal was widely used for many purposes in accordance with its quality and price<sup>(44)</sup>; among those purposes it was chiefly used by the principal shipping companies and facilitated the considerable decrease in imports of coal from Cardiff and Australia in the late 1870s.<sup>(45)</sup> Most of the Japanese coal in the Shanghai market came from Takashima and Karatsu.<sup>(46)</sup> Takashima coal had been noted soon after the opening of the ports as being well adapted for steamers and was said to be the best coal for steamers.<sup>(47)</sup> Its screened coal was used "by some of the fast steamers on their voyages from China to London with the first teas of the season".<sup>(48)</sup> P. & O. and Messageries Maritimes used Takashima large coal extensively for their eastern agencies.<sup>(49)</sup> The coal produced at Karatsu, about 120 miles north of Nagasaki, was the best after Takashima coal and "is exported to Shanghai in large quantities, where it finds a ready sale when English coal cannot be obtained."<sup>(50)</sup> It was, however, said that Karatsu coal was bad for steaming purposes.<sup>(51)</sup>

In the early 1870s, as the quality of coal shipped from Japan was, apart from that produced in Takashima, of a very inferior and mixed description, Japanese coal came to lose its reputation among consumers in China.<sup>(52)</sup> In consequence, the demand for Japanese coal became irregular and the rates unstable.<sup>(53)</sup> Japanese coal was in demand and sold on Chinese account until 1873,<sup>(54)</sup> while all other foreign coals were based on order.<sup>(55)</sup> After 1874, however, Japanese coal was imported on a contract basis.<sup>(56)</sup> Takashima coal was contracted on a large scale from the mid-1870s<sup>(57)</sup> and a contract for Miike coal of 65,000 tons a year was made in 1881.<sup>(58)</sup> From then

onwards deliveries of Takashima and Miike coal were mostly brought to Shanghai "in fulfilment of contracts".<sup>(59)</sup> In 1891 the circular of a Shanghai coal dealer commented on the contract for Miike coal that

The Miike mine has made a contract with one of the mail lines for the supply of their coals for several years, this mine has now contracted for almost their total output[output] for this year, only a margin being kept for supplies to outside steamers.<sup>(60)</sup>

The annual average imports of Japanese coal increased from 161,113 tons for the period 1880-1884 to 236,714 tons for 1885-1889, 298,571 tons for 1890-1894, and 387,690 tons for 1895-1899, while Japanese coal kept a constant market share of from 61 to 81 per cent after 1890.

Since the total imports of coal into Shanghai, as shown in Table 52, remained stagnant until the late 1870s, a detailed review of conditions such as fluctuations in price and freight rates is needed to understand the competition among various coals from the late 1860s to the early 1870s.<sup>(61)</sup> A report on trade by the Chinese Imperial Maritime Customs had already pointed out the contrast between the increase of Japanese coal and the decrease of British coal in 1865, and attributed the decline in imports of coal from Britain to various elements:

This falling off is more particularly notable in English coal ... This has its source in several causes combined: the decrease in the number of Steamers employed on the Yang-tze and on the Coast; the competition of other Coals, more particularly those of Japan and Australia; and above all, the small number of vessels dispatched from Great Britain to China. The Coal trade could not of itself establish and sustain a direct line of navigation between Europe and the Far East. Vessels which bring this article to Shanghai, are destined to take back a much more valuable return Cargo, - Tea for instance; - they are, therefore, enabled to carry Coal as an outward Cargo at a very reduced rate, and to lay it down in Shanghai at a reasonable price.<sup>(62)</sup>

Competition was intensified by the advance of Japanese coal into the Shanghai market and towards the end of the 1860s cheaper coal from Australia, Japan and Formosa was widely used.<sup>(63)</sup> The decline in imports of British coal in the Shanghai market reflected the fact that the shipment of coal from Britain to the Far East had become non-competitive in terms of sales price in Shanghai and was also unable to respond to the rapid increase in demand for steamers in this distant area.<sup>(64)</sup> The principal factor in determining the intensity of competition was the cost of power per unit which depended on the price of coal and its efficiency.<sup>(65)</sup> Especially, freight rates were the prime factor in improving or worsening competitiveness.<sup>(66)</sup>

Table 53 shows the distance between main coal producing countries and the Eastern coal market. Coal was a bulky cargo and its transportation from Britain became too expensive to compete with coal from Japan and Formosa which was supplied in large quantities

Table 53. Distance between Main Coal Producing Countries and the Eastern Coal Market.

		(in nautical miles)		
From	To	Shanghai	Hongkong	Singapore
<u>Japan</u>				
	Nagasaki	462	1,074	2,421
	Kuchinotsu	478	1,085	-
	Moji	547	1,179	2,537
<u>Britain</u>				
	Cardiff	10,470	9,718	8,188(Suez) 11,520(Cape)
<u>Australia</u>				
	Sydney	5,030	4,500	4,240

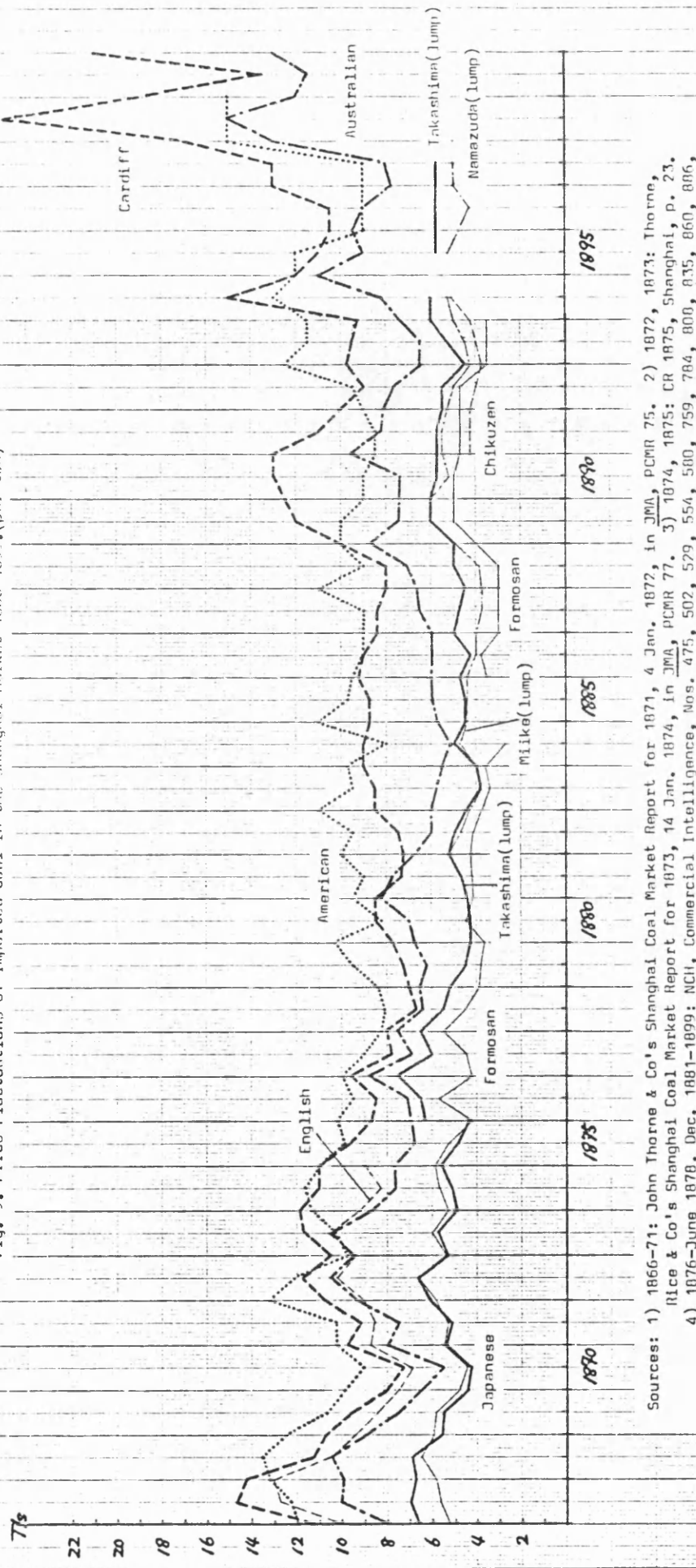
Source: Imperial Japanese Navy, Hydrographic Dept., The Distance Tables (Tokyo, 1937).

and at a moderate, cheap price.<sup>(67)</sup> The average coal freight per ton from Wales to Shanghai during the years 1869-1871 was 41s.<sup>(68)</sup> The average price of Cardiff coal per ton in Shanghai during the same years was Tls. 9.1.0 which was equal to 59s. 11d.,<sup>(69)</sup> so that freight rates constituted 68 per cent of the sales price in Shanghai. In contrast, the coal freight per ton between Nagasaki and Shanghai was \$2.25-\$3.00 in 1872,<sup>(70)</sup> which was equal to 10s. 2d.-13s. 6d.<sup>(71)</sup> Vessels for carrying coal from Japan were usually chartered at Shanghai with "the privilege of shipping cargo from Shanghai free".<sup>(72)</sup> The freight between Nagasaki and Shanghai was far lower than that from Wales to Shanghai.<sup>(73)</sup> This "proximity to and ready access from China" made Japanese coal more advantageous than Cardiff coal in the circumstances of keen competition and, in consequence, Japanese coal continued "to be the principal supplier of the Shanghai coal market."<sup>(74)</sup>

Figure 9 shows the average prices of various kinds of coals on the Shanghai coal market. As shown in this table, Cardiff and American coal were more expensive, English and Australian coal followed, and Japanese and Formosan coal were cheaper throughout the period. It should be noted that the price of Japanese coal during this period of keen competition remained unchanged at a lower level even than Formosan coal except for the second half of the year 1871, particularly in the early 1870s when the prices of British, American and Australian coal rose from the trough of 1870.<sup>(75)</sup>

As imports of Japanese coal increased, the market price in Shanghai became fixed in the second half of the 1870s in accordance with the price of Japanese coal. This meant that the Shanghai coal market became sensitive to fluctuations in the quantity of supply

Fig. 9. Price Fluctuations of Imported Coal in the Shanghai Market 1868-1899. (per ton)



Sources: 1) 1866-71: John Thorne & Co's Shanghai Coal Market Report for 1871, 4 Jan. 1872, in *JMA*, PCMR 75. 2) 1872, 1873: Thorne, Rice & Co's Shanghai Coal Market Report for 1873, 14 Jan. 1874, in *JMA*, PCMR 77. 3) 1874, 1875: CR 1875, Shanghai, p. 23. 4) 1876-June 1878, Dec. 1881-1899: *NCH*, Commercial Intelligence, Nos. 475, 502, 529, 554, 580, 759, 784, 800, 835, 860, 886, 912, 937, 963, 988, 1014, 1039, 1064, 1091, 1116, 1143, 1168, 1195, 1221, 1247, 1273, 1299, 1325, 1351, 1377, 1403, 1429, 1455, 1481, 1507, 1535, 1559, 1587, 1612, 1638, 1664, 1689. 5) Dec. 1878-June 1881: *China Overland Trade Report*, 4 Jan. 1879, 1 July 1879, 31 Dec. 1879, 28 June 1880, 29 Dec. 1880, 23 June 1881.

Notes: 1) 1866-1875: Average prices for 6 months ending 30 June or 31 Dec. 2) 1876-1899: Quotations available close to the end of June or December. 3) For Australian coal from June 1876 to June 1895, averages between the lowest and the highest prices of Sydney and Newcastle coal. 4) Takashima coal price for Dec. 1880 is for dust coal.

and the price of Japanese coal.<sup>(76)</sup>

Freight rates tended to decline as a whole towards 1885. In the following five years until 1889, the freight market was stable, the rates ranging from \$1.00 to \$1.85.<sup>(77)</sup> Freight constituted around 30 per cent of the sales price of Japanese coal in Shanghai and, as we shall see later on, the decrease in freight rates helped to keep the price of Japanese coal in Shanghai at a lower level.<sup>(78)</sup> From 1890, the decline in freight rates between Japan and Shanghai made the delivery of Japanese coal unprofitable for shipping dealers, resulting in a decrease in imports of Japanese coal to Shanghai.<sup>(79)</sup> Freight rates between Japan and Shanghai decreased in fact from \$1.00-\$1.75 in 1889 to \$0.90-\$1.55 in 1890, \$0.70-\$1.50 in 1891, and \$0.70-\$1.40 in 1892 and 1893.<sup>(80)</sup> These low freight rates made Japanese coal unsaleable,<sup>(81)</sup> and brought the market to "a perfect standstill."<sup>(82)</sup> The price of Japanese coal seemed to reach "Bed Rock" prices in mid-1892.<sup>(83)</sup> Though the price of Japanese coal rose in 1893, this was neutralised by the continuing low freights.<sup>(84)</sup> Under such market conditions in Shanghai, Japanese coal found itself in demand in ports to the south and west as far as Singapore around September 1893, and large quantities were sent there to realize a more profitable price.<sup>(85)</sup> In early 1894 first-class Japanese coal such as that from Miike started to be sent to Singapore in large quantities at "extraordinarily good prices."<sup>(86)</sup> As can be seen in Table 52, the quantity of Miike coal, which had been one of the leading Japanese coals together with Takashima coal, exported to Shanghai decreased after 1893. By contrast, Chikuho coal increased rapidly, replacing the position which Miike coal had previously enjoyed. The demand for coal increased suddenly with the commencement

of the Sino-Japanese War in 1894.<sup>(87)</sup> Freights between Japan and Shanghai also rose rapidly, which led not only a rise in the price of Japanese coal<sup>(88)</sup> but also to a situation in the Shanghai coal market such that "No steamers calling here [Shanghai] seem to require bunker coals, as they can be procured so very much cheaper in Japan".<sup>(89)</sup> After the end of the Sino-Japanese War in 1895, freights between Japan and Shanghai fell again, making it possible to import Japanese coal to Shanghai in large quantities and at a cheaper price.<sup>(90)</sup> In September 1896 coal freight reached its lowest level, of \$0.60 per ton.<sup>(91)</sup> In market reports on coal in Shanghai after 1894, Takashima, Namazuda and Miike coal were mentioned as "All contracted for" or "None for Sale", and quotations disappeared.<sup>(92)</sup>

Though Chinese coal took up around 10 per cent of the total coal imports until 1893, from the mid-1890s the increase in deliveries of Kaiping coal to Shanghai, as shown in Table 52, gradually threatened the established market of Japanese coal,<sup>(93)</sup> replacing Australian coal.<sup>(94)</sup> Kaiping coal was supplied to the Shanghai market at a equivalent price to Japanese coal, the prices ranging from Tls.6.0.0 to 8.0.0 at the end of 1898.<sup>(95)</sup>

### 3. The Structure of the Hongkong Coal Market

Hongkong emerged as a major centre of Far Eastern trade in the 1850s associated with the development of shipping along the China coast.<sup>(96)</sup> As Hongkong was a free port, there exist no official figures on its trade.<sup>(97)</sup> Table 54 shows the number and tonnage of vessels entering the port of Hongkong during the period 1860-1900. It should be noted that figures for both the number and tonnage



Table 54. Number and Tonnage of Vessels entering the Port of Hongkong 1860-1900.

Year	Number of Vessels	Total Tonnage tons
1860	1,534	875,199
1865	2,206	1,063,259
1870	2,400	1,327,730
1875	2,609	1,951,855
1880	2,881	2,535,587
1885	3,428	3,866,709
1890	4,114	4,893,733
1895	4,546	5,772,298
1900	5,473	7,021,982

Sources: Hongkong, Blue Books of Statistics, corresponding years, in C0133/17, 22, 27, 32, 37, 42, 47, 52, 57.

Note: These figures seem to be for steamers, when compared with the average tonnage of steamers at Shanghai and Singapore.

Table 55. Imports of Coal to Hongkong 1870-1875. (in tons)

Year	Britain	U.S.A.	Australia	Japan	Formosa	Total
1870	47,993	4,500	39,880	300	-	92,673
1871	61,818	1,700	51,866	300	621	116,305
1872	105,474	8,300	69,631	-	5,280	188,685
1873	74,148	1,200	57,805	1,930	10,940	146,023
1874	38,607	500	59,282	960	2,750	102,099
1875	44,113	-	79,715	9,500	3,670	136,998

Sources: 1) 1870-74: Bottomley & Hughes' Market Report, No. 34 (5 Jan. 1875), in JMA, PCMR 64.

2) 1875: W. Kerfoot Hughes' Market Report, No. 82 (14 Dec. 1875), No. 83 (21 Dec. 1875), and No. 84 (28 Dec. 1875), in JMA, PCMR 64.

Notes: 1) Figures for Britain are the total of Cardiff and North Country.

2) Figures for 1875 include arrivals up until 28 Dec. 1875.

Table 56. Imports of Coal to Hongkong 1877-1899.

Year	(in tons)									
	Britain	American (Anthracite)	Australia	Total	Japan Takashima Miike	Moji	Formosa (Keelung)	Hongay, Halong Bay, Kebao etc.	Others	Total
	%	%	%	%	%	%	%	%	%	%
1877	99,126(48.9)	350(0.2)	82,832(40.9)	6,997( 3.5)			12,380(6.1)		900	202,585(100)
1878	96,545(49.5)	1,650(0.8)	76,598(39.2)	9,785( 5.0)			10,648(5.5)		-	195,726(100)
1879	48,547(35.3)	1,300(0.9)	45,710(33.3)	31,229(22.7)	30,479		9,380(6.8)		1,178	137,344(100)
1880	71,382(39.5)	-	39,752(22.0)	54,290(30.0)	53,710	580	6,322(3.5)		9,039	180,785(100)
1881	103,336(46.9)	1,670(0.8)	67,556(30.6)	26,840(12.2)	20,750	1,590	21,147(9.6)		-	220,549(100)
1882	77,254(44.1)	2,200(1.3)	54,059(30.9)	31,865(18.2)	31,865	-	9,832(5.6)		-	175,210(100)
1883	65,038(24.2)	-	107,566(40.0)	86,050(32.0)	73,330	12,720	10,580(3.9)		-	269,234(100)
1884	107,235(30.6)	-	112,186(32.0)	124,644(35.5)	79,615	30,749	6,600(1.9)		-	350,665(100)
1885	67,450(18.0)	-	114,930(30.6)	182,057(48.5)	76,342	70,577	10,837(2.9)		-	375,274(100)
1886	57,819(18.0)	-	78,584(24.4)	182,607(56.8)	74,810	96,947	250(0.1)		2,500	321,760(100)
1887	29,583( 8.4)	1,500(0.4)	60,409(17.2)	258,880(73.5)			450(0.1)		1,200	352,022(100)
1888	24,369( 7.3)	-	24,267( 7.2)	283,437(84.5)			1,671(0.5)		1,700	335,444(100)
1889	36,456( 9.6)	2,500(0.7)	52,185(13.8)	281,524(74.3)			4,700(1.2)		1,500	378,865(100)
1890	14,247( 3.4)	450(0.1)	22,473( 5.4)	373,224(89.1)			8,014(1.9)		200	418,958(100)
1891	29,832( 6.2)	1,120(0.2)	34,450( 7.2)	397,205(82.7)(Nagasaki)			4,000(0.8)	350( 0.1)	10,500	480,507(100)
1892	9,476( 1.9)	-	24,504( 5.0)	401,849(82.4)	102,599	136,550	-	37,470( 7.7)	14,450	487,749(100)
1893	3,000( 0.6)	-	23,250( 4.3)	418,600(78.2)	72,650	169,750	-	85,600(16.0)	5,100	535,550(100)
1894	29,550( 5.1)	1,600(0.3)	26,893( 4.6)	447,095(77.2)	6,700	157,550	-	74,150(12.8)	-	579,288(100)
1895	42,975( 7.1)	7,800(1.3)	27,364( 4.5)	479,039(78.7)	5,993	191,500	-	42,800( 7.0)	9,050	609,028(100)
1896	22,100( 3.3)	9,600(1.4)	27,275( 4.0)	525,751(78.0)	-	245,575	-	88,100(13.1)	1,150	673,976(100)
1897	49,190( 7.5)	11,600(1.8)	23,055( 3.5)	439,516(67.2)	-	136,600	-	113,600(17.4)	17,000	653,961(100)
1898	110,367(12.2)	6,200(0.7)	25,548( 2.8)	627,761(69.2)	2,400	196,150	1,120(0.1)	122,550(13.5)	13,520	907,066(100)
1899	39,490( 5.8)	-	19,762( 2.9)	501,715(74.2)	-	165,500	3,600(0.5)	105,650(15.6)	6,350	676,567(100)

Sources: 1) Overland China Mail, Commercial Intelligence, corresponding years. Figures for 1886 are supplemented by China Overland Trade Report, 4 Jan. 1887. 2) For 1884, fortnightly Prices Current and Market Report, Nos. 1-26, and No. 1 of 1885.

Notes: 1) Blank in original figures is regarded as nil except initial figure. 2) Figures for 1877-79 and 1888-99 are compiled from "Arrivals" of coal from 1 Jan. to 31 Dec. 3) Figures for 1880 include arrivals from 1 Jan. up to 23 Dec. 4) As figures are only available every fortnight, figures for 1881 and 1887 seem to include some arrivals in the previous year and those for 1882-86 seem to include some arrivals in previous and following years. 5) "Newcastle" is included in Britain, unless mentioned "N.S.W.". 6) "Barry" is included in Australia, unless mentioned "Cardiff" or "Wales". 7) Coal from unidentified places is included in "Others". 8) Figures for 13 Apr.-22 Apr. 1886, 24 Oct.-6 Nov. 1888, 19 Dec.-30 Dec. 1888, 27 Mar.-8 Apr. 1889 are excluded because of the lack of figures available. 9) Figures for Miike in 1892 are under the heading of "Kuchinotsu". 10) Figures for Australia in 1885 includes some Formosan coal.

are larger than those in Shanghai. This meant that the Hongkong coal market was bigger in size than the Shanghai market.

Tables 55 and 56, the latter of which is compiled mostly from figures in the commercial summary of the Overland China Mail, a leading Hongkong commercial newspaper,<sup>(98)</sup> show the distribution of coal imports into Hongkong by country. The annual average imports of coal to Hongkong increased from 197,276 tons for the period 1877-1883 to 352,338 tons for the period 1884-1889, and 500,410 tons and 704,120 tons in the first and second halves of the 1890s respectively. According to figures in Table 55, 93 per cent of the coal imported into Hongkong came from Britain and Australia on average during the period 1870-1875. The share of British coal in the Hongkong coal market decreased slightly from 49.5 per cent in 1878 to 44.1 per cent in 1882, and then its importance in the market was rapidly lost both in the quantity of imports and the market share. Coal imported from Australia, from Newcastle (N.S.W.), Sydney and the Bulli mine, which was at that time more in demand than other coals,<sup>(99)</sup> partly supplemented the decrease in imports of British coal, maintaining a market share of from 22 per cent to 41 per cent during the period between 1877 and 1886. The combined figures of the market share of coal from Britain and Australia still remained at over 60 per cent until 1884. The main reason for the decline in imports of British and Australian coal was obviously due to the intensified competition in the coal market caused by the rapid increase in imports of Japanese coal.

Japanese coal was first brought to Hongkong in the early 1870s.<sup>(100)</sup> Takashima coal, which arrived in 1873, was acknowledged

to be equal to the best English coal and sold at a price of \$12.00-\$12.50.<sup>(101)</sup> In the mid-1870s Takashima coal was tested in steamers with a favourable result.<sup>(102)</sup> Imports of Japanese coal tripled in quantity in 1879 and its share of the total coal imports to Hongkong increased from 5 per cent in 1878 to 23 per cent in 1879. Japanese coal competed severely with British and Australian coal, which had both established a stable position in the Hongkong coal market, during the period from 1879 through the first half of the 1880s, just as it had done in the Shanghai market from the late 1860s to the early 1870s. The increase in imports of Japanese coal intensified competition among foreign coals. A market report on coal in the Overland China Mail commented on this keen competition that

A new feature in our market is the increased import of Takasima Coals to different Consignees, causing a competition which has not heretofore existed. The effect of this is not apparent, but doubtless, if the price at which it can be sold be low, consumers will eventually be found.<sup>(103)</sup>

However, in 1880 it was reported that "Takasima is coming forward infrequently, and this tends to sustain the value of Australian."<sup>(104)</sup> Another couple of years were required for Japanese coal to overcome the competition on a stable basis and establish a predominant position in the Hongkong coal market. Imports of Japanese coal increased to 86,050 tons in 1883 to supersede that of Britain, its share in the market also increasing from 18 per cent in 1882 to 32 per cent. In the next year, 1884, imports of Japanese coal increased to 124,644 tons, finally exceeding that of Australian coal. However, the ratios of the market share of British, Australian, and Japanese coal ranged from 30.6 per cent to 35.5 per cent, and if one includes Australian coal, Britain still held a majority of

over 60 per cent of the Hongkong market. In 1885, imports of Japanese coal reached 182,057 tons and Japanese coal reached the same amount as coal from Britain and Australia combined. In 1886 the share of Japanese coal in the market increased to 56.8 per cent and Japanese coal had established an overwhelming position in the Hongkong market.

In the second half of the 1880s the Japanese coal which was imported into Hongkong changed from Takashima coal, which had acted as a spearhead for coal exports from Japan due to its superior quality, to Miike coal, which was said to be its inferior.<sup>(105)</sup> In the middle of the 1890s, the position which Miike coal had occupied was replaced by Moji coal which mainly came from the Chikuho coal fields and was said to be inferior even to Miike coal. From the early 1880s Takashima coal was sold on a large scale on a contract basis at a fixed price.<sup>(106)</sup>

Formosan coal had a share of less than 10 per cent and that of American anthracite was negligible. The main feature of the Hongkong coal market in the 1890s was the increase in imports of Tongking coal, in particular from the Hongay coal mine which was commenced in 1891 by the Societe Francaise des Charbonnages du Tonkin. Hongay coal was supplied to steamers on the China coast and its bricquettes were largely used by French men-of-war and Messageries Maritime.<sup>(107)</sup> Year by year the increase in the share of Tongking coal menaced the established market of Japanese coal.<sup>(108)</sup>

Figure 10 shows fluctuations in prices of the last available complete week in June and December of each year. The important fact is that coal was cheaper in Hongkong than in Shanghai. As we have already seen, there was competition between the coal imported from

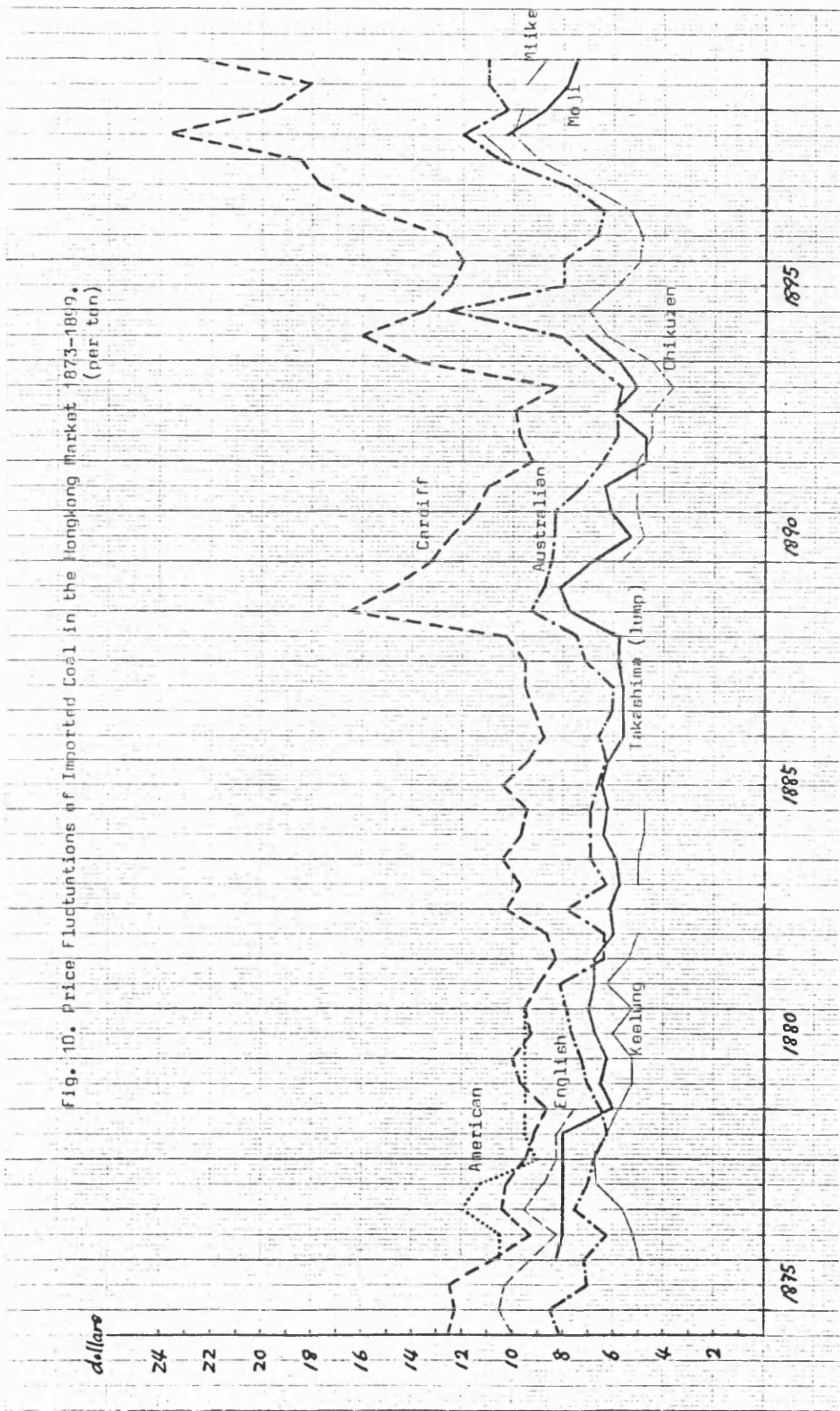


Fig. 10. Price Fluctuations of Imported Coal in the Hongkong Market 1873-1899. (per ton)

Sources: Overland China Mail, Commercial Intelligence, Nos. 562, 575, 588, 601, 617, 627, 641, 653, 667, 679, 693, 706, 719, 732, 745, 758, 771, 784, 797, 810, 824, 841, 866, 892, 919, 943, 970, 994, 1021, 1043, 1070, 1092, 1119, 1145, 1175, 1197, 1221, 1249, 1275, 1293, 1319, 1349, 1377, 1407, 1433, 1457, 1485, 1511, 1534, 1560, 1588, 1614.

Notes: 1) Quotations are the average prices between the lowest and the highest available close to the end of June and December each year.  
 2) Prices of Australian coal for 1875-1880 are the average of average prices of hard and soft coal.  
 3) Takashima coal price for Dec. 1875 is for Japan coal, and, during the period from Dec. 1889 to June 1892, seems to include dust coal.  
 4) Chikuzen coal prices for Dec. 1894 and June 1896 are for Moji coal.

Britain, Australia and Japan. Cardiff coal was always the most expensive of all the imported coals. Australian coal was cheaper than Takashima coal until 1878, when the price of Japanese coal suddenly declined to a lower level. This fact implies that the advance of Japanese coal into the Hongkong market was supported by continuing lower prices. Japanese coal was thereafter fixed at a lower level than the other major foreign coals, enabling it to overcome the keen competition.

The average coal freight from Wales to Hongkong during the years 1872-1874 was 35s. 5d.<sup>(109)</sup> As the average price of Cardiff coal during the same years ranged from \$11.25 to \$14.25,<sup>(110)</sup> if its average price for these three years were \$12.75, which was equal to 55s. 8d.,<sup>(111)</sup> freight rates constituted 64 per cent of the sales price of Cardiff coal in Hongkong. In contrast, the coal freight between Nagasaki and Hongkong was \$3.00 in 1873,<sup>(112)</sup> which was equal to about 13s.,<sup>(113)</sup> and the average price of Japanese coal was \$7.75 in 1873.<sup>(114)</sup> As the difference between sales prices and freight rates was almost similar in both cases of Cardiff and Japanese coal, this reveals how freight rates played an crucial role in the cost structure of coal.<sup>(115)</sup>

Except for December 1881 and December 1892, the price of Japanese coal continued to be lower even than Australian coal. The difference in price was comparatively small, ranging only from \$0.10 to \$1.70 during the period 1879-1887. The price in itself was a major factor, but, particularly where the keen competition with Australian coal was concerned, the potential quantity of supply was also important.

Prices started to fluctuate widely from the mid-1890s, which might reveal an uncertainty in the Hongkong coal market. Miike coal,

which replaced Takashima coal in the mid-1880s, was sold at a price of \$5.00 cheaper than Takashima coal.<sup>(116)</sup>

#### 4. The Structure of the Singapore Coal Market

Singapore was not only "a commercial centre of the highest importance for the Eastern trade" but also important from the strategic point of view.<sup>(117)</sup> The final report of the Carnarvon Commission, which was convened in 1879 to discuss British colonial defence, pointed out that in addition to the consideration that "Singapore is one of our [British] chain of coaling stations, dividing the distance between those of Hong Kong and Ceylon, it also occupies a most important strategic position with respect to the command of the waters of the Eastern Archipelago."<sup>(118)</sup>

Table 57. Number and Tonnage of Vessels entering the Port of Singapore 1870-1900.

Year	Number of Vessels	Total Tonnage	
		tons	tons
1870	1,604	668,182	
1875	2,261 (1,275)	1,283,786	(1,046,723)
1880	2,120 (1,753)	1,693,096	(1,427,052)
1885	3,088 (2,751)	2,532,575	(2,305,692)
1890	3,646 (3,548)	2,989,059	(2,906,482)
1895	4,437 (4,347)	3,783,951	(3,714,580)
1900	4,652 (4,579)	4,836,048	(4,809,995)

Sources: Straits Settlements, Blue Book of Statistics, corresponding years, in C0277/4, 9, 14, 20, 29, 34, 39.

- Notes: 1) Figures in parentheses are for steamers.  
 2) Native craft are excluded.  
 3) Up to 1890, warships, transports and yachts are included in steamers.  
 4) In 1895, figures includes warships, transports and yachts, and figures in parentheses are the total of those for merchant vessels and warships &c.  
 5) In 1900, figures for warships, transports and yachts (304 vessels and 872,413 tons) are excluded.



Table 58. Imports of Coal to Singapore 1880-1910.

(in tons)

Year	Britain	Australia	Japan	India	Labuan	Sarawak	Others	Total
	%	%	%	%	%	%	%	%
1880	168,725 (98.8)	1,855 (1.1)			-	200 (0.1)	-	170,780 (100)
1881	251,976 (97.5)	4,320 (1.7)			160 (0.1)	720 (0.3)	1,278	258,454 (100)
1882	252,018 (97.0)	7,440 (2.9)			-	230 (0.1)	-	259,688 (100)
1883	278,236 (90.2)	24,567 (8.0)	4,155 (1.3)		-	1,523 (0.5)	-	308,481 (100)
1884	363,166 (92.8)	18,966 (4.8)	5,227 (1.3)		120 (0.0)	3,209 (0.8)	769	391,457 (100)
1885	288,590 (88.0)	32,375 (9.9)	1,695 (0.5)		290 (0.1)	3,890 (1.2)	1,050	327,890 (100)
1886	275,079 (91.7)	6,682 (2.2)	12,230 (4.1)		-	4,843 (1.6)	1,060	299,894 (100)
1887	239,977 (81.4)	23,390 (7.9)	24,576 (8.3)		2,242 (0.8)	4,743 (1.6)	-	294,928 (100)
1888	273,580 (74.0)	22,205 (6.0)	63,930 (17.3)	3,374 (0.9)	2,437 (0.7)	3,927 (1.1)	152	369,605 (100)
1889	255,554 (71.6)	55,543 (15.6)	32,974 (9.2)	6,568 (1.8)	504 (0.1)	4,878 (1.4)	728	356,749 (100)
1890	187,395 (60.3)	55,931 (18.0)	55,290 (17.8)	6,337 (2.0)	344 (0.1)	5,187 (1.7)	450	310,934 (100)
1891	212,433 (59.2)	62,839 (17.5)	57,362 (16.0)	8,460 (2.4)	5,136 (1.4)	12,581 (3.5)	-	358,809 (100)
1892	179,357 (54.6)	75,997 (23.1)	51,047 (15.5)	833 (0.3)	9,854 (3.0)	9,852 (3.0)	1,555	328,494 (100)
1893	146,335 (44.4)	38,403 (11.7)	118,380 (35.9)	14,929 (4.5)	3,620 (1.1)	7,654 (2.3)	150	329,470 (100)
1894	182,839 (42.1)	30,431 (7.0)	192,409 (44.3)	4,652 (1.1)	10,191 (2.3)	12,727 (2.9)	1,300	434,549 (100)
1895	149,762 (32.5)	42,279 (9.2)	194,053 (42.1)	18,773 (4.1)	29,843 (6.5)	18,001 (3.9)	8,056	460,768 (100)
1896	96,231 (22.0)	31,648 (7.2)	239,613 (54.7)	16,679 (3.8)	31,856 (7.3)	20,188 (4.6)	2,096	438,311 (100)
1897	97,040 (17.6)	55,842 (10.1)	279,869 (50.8)	72,243 (13.1)	13,637 (2.5)	23,403 (4.2)	9,127	551,161 (100)
1898	47,825 (9.4)	77,656 (15.3)	263,052 (52.0)	80,090 (15.8)	7,680 (1.5)	24,865 (4.9)	4,983	506,150 (100)
1899	91,750 (16.8)	63,860 (11.7)	280,666 (51.5)	73,696 (13.5)	5,742 (1.1)	23,494 (4.3)	5,331	544,537 (100)
1900	78,681 (11.9)	43,751 (6.6)	442,972 (66.9)	69,181 (10.5)	363 (0.1)	12,795 (1.9)	14,096	661,839 (100)
1905	64,335 (10.8)	66,720 (11.2)	261,553 (43.7)	172,374 (28.8)	917 (0.2)	4,733 (0.8)	27,730	598,361 (100)
1910	11,942 (1.9)	96,458 (15.5)	312,165 (50.3)	140,414 (22.6)	-	1,071 (0.2)	59,014	621,064 (100)

Sources: Straits Settlements, Blue Book, corresponding years (CO 277/14, 15, 16, 17, 19, 21, 23, 25, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 44, 54).

Notes: 1) Total figures for 1891-1893, 1895, 1899 and 1905 are not consistent because of rounding of figures.

2) "India" appears under "British India" until 1890 and under "Calcutta" after 1891.

The number and total tonnage of vessels entering the port of Singapore are shown in Table 57. Table 58 shows the imports of foreign coal into Singapore by country and the ratio of the total coal imports from 1880 to 1910. The total imports of coal into Singapore increased as a whole, with yearly fluctuations, from 170,780 tons in 1880 to 434,549 tons in 1894 and 661,839 tons in 1900. It must, however, be noted that the Singapore coal market expanded at a slower speed than the Shanghai and Hongkong coal markets. Imports of coal to Singapore were 544,537 tons in 1899, which was small by comparison with the Shanghai and Hongkong coal markets of the same year. The average tonnage of steamers entering Singapore was also small by comparison with Shanghai and Hongkong.<sup>(119)</sup> This implies that large steamers could travel to and from the Far East without having to replenish their supplies of coal at Singapore.<sup>(120)</sup> The annual average of coal imports to Singapore was 303,793 tons in the late 1880s, 352,451 tons in the first half of the 1890s and 500,185 tons in the second half of the 1890s.

In the 1880s, over 70 per cent of all coal was imported from Britain, but, as imports of coal from Australia and Japan increased, the market share of coal from Britain as a total of coal imports gradually declined from 91.7 per cent in 1886 to 81 per cent in 1887, 72 per cent in 1889 and 60 per cent in 1890. The combined share of coal from Britain and Australia remained, however, at over 76 per cent up until as late as 1892.

Japanese coal was first imported into Singapore in 1883, and took up a market share of less than 18 per cent until 1892. The contrasting trend of the decline in British coal and the rapid increase of Japanese coal was reported in 1890.<sup>(121)</sup> It was, however,

only after 1893 that Japanese coal began to take an important share in the Singapore coal market. In 1893, though British coal had already lost its overwhelming supremacy, imports of Japanese coal doubled from 51,047 tons in 1892 to 118,380 tons, and its market share also increased, from 16 per cent in 1892 to 36 per cent in 1893. In 1894 imports of Japanese coal amounted to 192,409 tons and comprised 44 per cent, superseding British coal which had a share of 42 per cent at 182,839 tons. Japanese coal was given a temporary advantage by the influence of the 1893 coal strike in Britain, it being stated that "Until the strike English coal only was taken at Singapore. Now, however, Japanese coal is principally supplied".<sup>(122)</sup> The Singapore Settlements' Annual Report for the Year 1894 stated that

Coal importations increased by over 100,000 tons, of which excess about one-third was contributed by the United Kingdom, but the feature of note is the position now taken by Japan, which has supplanted the United Kingdom as the principal seller.<sup>(123)</sup>

The share of British coal continued to decrease, falling to 12 per cent in 1900.<sup>(124)</sup> Imports of Australian coal did not increase and its share in the market varied from 6 per cent to 23 per cent during the period 1887-1900.

Annual imports of Japanese coal reached an average of 241,610 tons over the period 1894-1899. Japan enjoyed a predominant share of over 50 per cent after 1896 and took a 67 per cent share in the Singapore coal market in 1900. Japanese coal was chiefly used for mail steamers, while Welsh coal was used for British and other warships.<sup>(125)</sup>

Imports from India increased after 1897 and started to compete against Japanese coal,<sup>(126)</sup> while the consumption of Japanese coal

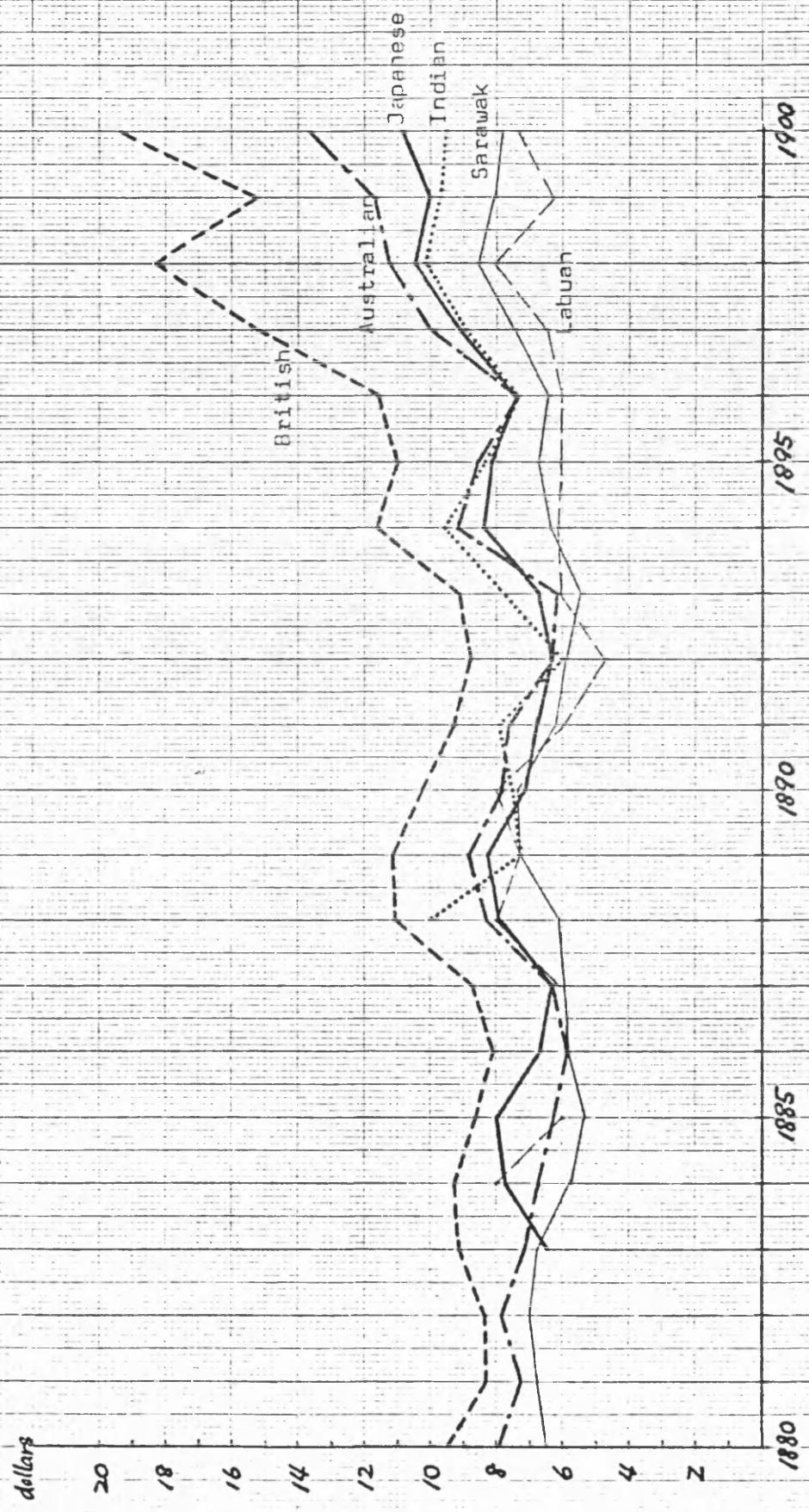
steadily increased in Bombay, "running Cardiff coal very hard in the matter of prices."<sup>(127)</sup>

Figure 11 shows the fluctuations in price of imported coal during the period 1880-1900. It is important to note that prices of coal in the Singapore market were higher than those in the Shanghai and Hongkong markets. While British coal was consistently the most expensive, the other coals competed against each other in terms of price. Labuan and Sarawak coal grew cheapest after 1891, but supply was irregular. The price movements of Australian, Japanese and Indian coal were complicated from 1887 to 1896, after which time Japanese coal emerged supreme, being available in large quantities to meet the demand from Singapore. In addition, imports from Japan were facilitated by the fall in the value of silver to gold.<sup>(128)</sup> In contrast, British coal suffered not only from the fall in silver but also from the rise in price caused by the miners' strike in 1898. The Annual Report for the Year 1898 pointed out that

The strikes in England and political complications in the Far East enhanced the price of Cardiff Coal, so that its use as bunker coal for the mercantile marine was greatly restricted.<sup>(129)</sup>

As can be seen in Table 58, it was not easy for Japanese coal to enhance its share in the Singapore market. However, the smallness of the market and its relatively high prices, compared with the Shanghai and Hongkong markets, made it possible for Japanese coal to compete on easier terms with other foreign coals. The same, however, also applied of course to the other foreign coals. As long as there was a sufficient supply and the price was reasonable, Japanese coal was able to keep the market in Singapore. It is possible that Japanese coal was always on the verge of being expelled

Fig. 11. Price Fluctuations of Imported Coal in the Singapore Market 1880-1900.  
(per ton)



Sources: See Table 58.

Table 59. Price Structure of Coal Imported into Singapore from Britain, Australia and Japan 1880-1899.

Year	Britain				Australia				Japan						
	Av. Export Price from Britain		Freight to Britain		Av. Export Price from N.S.W.		Freight to Australia		Av. Export Price to (G)		Freight to (H)		Av. Import Price (I)		
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	
s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	
1880	9.5	(2.48)	22.0	(5.80)	9.45	26.2	61.4	8.3	(2.44)	17.3	(4.55)	7.85	31.1	58.0	3.49
1881	9.5	(2.60)	18.9	(5.18)	8.35	31.1	62.0	8.3	(2.28)	21.3	(5.87)	7.25	31.4	81.0	3.45
1882	9.8	(2.59)	18.6	(4.96)	8.37	30.9	59.3	10.0	(2.68)	14.6	(3.89)	7.84	34.2	49.6	3.21
1883	9.9	(2.67)	21.6	(5.89)	9.16	29.1	64.3	11.0	(3.01)	12.9	(3.49)	7.15	42.1	48.8	3.18
1884	9.9	(2.66)	21.3	(5.80)	9.27	28.7	62.6	11.0	(3.00)	11.9	(3.21)	6.77	44.6	47.8	3.29
1885	9.4	(2.68)	18.6	(5.31)	8.65	31.0	61.4	11.0	(3.16)	10.3	(2.94)	6.24	50.6	47.1	3.29
1886	8.10	(2.56)	17.2	(4.97)	8.09	31.6	61.4	11.0	(3.18)	8.6	(2.46)	5.93	53.6	41.5	3.04
1887	8.9	(2.78)	19.3	(6.11)	8.71	31.9	70.1	11.0	(3.49)	10.0	(3.17)	6.32	55.2	50.2	3.43
1888	8.10	(2.90)	25.0	(8.20)	11.08	26.2	74.0	11.0	(3.61)	14.0	(4.59)	8.32	43.4	55.2	3.12
1889	10.9	(3.50)	21.2	(6.89)	11.16	31.4	61.7	11.0	(3.58)	13.3	(4.31)	8.84	40.5	48.8	3.83
1890	13.3	(3.93)	17.8	(5.24)	10.24	38.4	51.2	10.2	(3.02)	14.6	(4.30)	7.83	38.6	54.9	3.64
1891	12.10	(3.99)	13.9	(4.28)	9.30	42.9	46.0	11.0	(3.42)	-	-	7.64	44.8	-	3.55
1892	11.7	(4.10)	12.5	(4.39)	8.80	46.6	49.9	10.0	(3.54)	6.9	(2.39)	6.34	55.8	37.7	3.22
1893	10.5	(4.07)	12.9	(4.99)	9.14	44.5	54.6	10.0	(3.91)	7.9	(3.03)	6.14	63.7	49.3	3.00
1894	11.0	(5.19)	10.2	(4.80)	11.66	44.5	41.2	8.0	(3.78)	10.0	(4.72)	9.18	41.2	51.4	3.66
1895	9.9	(4.56)	10.6	(4.91)	10.99	41.5	44.7	7.6	(3.51)	9.3	(4.33)	8.59	40.9	50.4	3.87
1896	9.3	(4.25)	16.0	(7.34)	11.60	36.6	63.3	7.4	(3.37)	9.0	(4.13)	7.38	45.7	56.0	3.85
1897	9.5	(4.74)	15.9	(7.93)	15.21	31.2	52.1	7.4	(3.69)	-	-	10.02	36.8	-	5.57
1898	10.4	(5.41)	16.9	(8.77)	18.29	29.6	47.9	7.4	(3.84)	15.3	(7.98)	11.27	34.1	70.8	7.19
1899	11.3	(5.72)	14.9	(7.50)	15.27	37.5	49.1	8.0	(4.07)	14.0	(7.12)	11.71	34.8	60.8	6.10

Sources: (A) B.R. Mitchell and P. Deane, *Abstract of British Historical Statistics* (Cambridge: Cambridge University Press, 1962), pp.121, 304-305. (B) E.A.V. Angier, *Fifty Years' Freights 1869-1919* (London: Fairplay, 1920), pp.46, 50, 55, 61, 63, 66, 68, 70, 72, 79, 86, 87, 89, 90-93, 95, 98, 100, 103. (C), (F), (I) Straits Settlements, *Blue Book*, corresponding years (C0277/14, 15, 16, 17, 19, 21, 23, 25, 27-38). (D), (E) K.H. Burley, 'The Overseas Trade in New South Wales Coal and the British Shipping Industry, 1860-1914', *Economic Record*, Vol. 36, No. 75 (1960), p.413. (G) Toyo Keizai Shinpo-sha ed., *Nihon Boeki Seiran* (Tokyo, 1935), p.106. (H) 1887, 1888 & 1890: NCH, Commercial Intelligence, corresponding years. 1888 & 1891-99: Overland China Mail, Commercial Summary, corresponding years. Notes: 1) Figures of the Mex. dollar in parentheses are calculated on the basis of the Mex. dollar-Sterling exchange rates in Hsiao Liang-lin, *China's Foreign Trade Statistics 1864-1949* (Cambridge, Mass., 1974), pp.190-91. Figures for 1880 are calculated on the assumption that \$s.9<sup>d</sup>. equaled 1.53 Mex. dollars, and those for 1884 are calculated on the basis of the Hongkong dollar-Sterling exchange rates. 2) Freight rates are the average between the highest and lowest rates available in each year. Figures with asterisk in (H) are only one quotation available. 3) Figures in (B) are freight rates from Wales (Cardiff) to Singapore. 4) Figures in (G) are calculated on the basis of the Mex. dollar-Yen and Mex. dollar-Sterling exchange rates in Nihon Tokai Kenkyu-jo ed., *Nihon Keizai Iokai Shu* (Tokyo, 1958), p.171, and Hsiao, *ibid.*, pp.190-91.

from the Singapore market. The Japanese share of the market did not really reach beyond the 54.7 per cent which it attained in 1896, with the exception of the year 1900.<sup>(130)</sup>

Table 59 shows the price structure of coal imported into Singapore from Britain, Australia and Japan during the period from 1880 to 1899. Average export prices of coal from Britain were lower than those from Japan up until 1888 and those from Australia were almost equal to the latter until 1896. It is obvious in this table that a major factor which gave rise to the difference in sales price is the difference in freight rates. K. H. Burley observed that "A major factor in the successful disposal of N.S.W. coal overseas was its landed cost in relation to that of competing coals in foreign markets. The cost advantage enjoyed by N.S.W. coal ... derived from the cheap coal freights secured from its association with the British shipping industry."<sup>(131)</sup> However, figures in Table 59 seem to show that, as Australian coal was not able to compete with Japanese coal based on cheaper freight rates than those from Australia to Singapore, Australian coal was forced to change its export market from Asia to South America as shown in Table 60. As a whole, in Singapore, as imports of cheap Japanese coal which was based on cheaper freight rates increased, British and Australian coal became non-competitive owing to relatively high freight rates and were forced to withdraw from the Singapore market. However, as we shall see later, though Japanese coal grasped the market, it was not able to replace British coal of high quality for military uses.

Table 60. Distribution of Australian (N.S.W.) Coal Exports  
1861-1900 (Quinquennial Averages).  
(in thousand tons)

Year	%					North & South America		Total
	New Zealand	Pacific Isles	Asia	North America	North & South America	Others		
1861-65	54 (39.3)	8 (5.8)	49 (35.7)	15 (10.6)	2 (1.2)	10	138 (100)	
1866-70	90 (29.4)	21 (6.7)	130 (42.7)	53 (17.4)	6 (1.9)	6	304 (100)	
1871-75	117 (26.4)	44 (10.0)	162 (36.8)	106 (24.1)	3 (0.8)	8	441 (100)	
1876-80	159 (32.6)	50 (10.3)	161 (33.0)	106 (21.7)	6 (1.2)	6	487 (100)	
1881-85	166 (21.7)	83 (10.9)	257 (33.6)	194 (25.4)	50 (6.6)	13	764 (100)	
1886-90	156 (16.1)	96 (9.9)	238 (24.5)	339 (35.0)	131 (13.5)	11	970 (100)	
1891-95	163 (15.5)	137 (13.0)	182 (17.2)	289 (27.3)	266 (25.1)	21	1,057 (100)	
1896-1900	171 (12.4)	235 (17.1)	267 (19.5)	235 (17.1)	449 (32.7)	17	1,374 (100)	

Sources: K. H. Burley, 'The Overseas Trade in New South Wales Coal and the British Shipping Industry, 1860-1914', Economic Record, Vol. 36, No. 75 (1960), p. 411, and do., 'The Organization of the Overseas Trade in New South Wales Coal, 1860-1914', Economic Record, Vol. 37, No. 79 (1961), p. 381.



## 5. Coal and British Colonial Defence

Coal and coaling stations were indispensable for the British Navy to maintain its military and political influence in East Asia.<sup>(132)</sup> Figures for the quantity of coal supplied to British naval ships were reported as shown in Table 61. Coal imports for British naval use stood at 16.7 per cent of total coal imports into Shanghai in 1858, and at 5.5 per cent in 1859.<sup>(133)</sup>

Table 61. Coal Supply for the Use of British Navy in East Asia 1857-1859. (in tons)

Year	Singapore	Hongkong	Shanghai
1857	23,639		42,661
1858	-	3,092	4,916
1859	-	10,202	3,698

Source: An Account for Five Years ending the 31st day of December 1859 of the Quantity of STEAM COAL annually purchased for the Use of HER MAJESTY'S, and supplied to the Several DEPOTS Abroad, 363, in BPP XLII, pp. 2-3.

"In December 1874 the Admiralty called attention to the defenceless state of the Naval Establishment" at eleven coaling stations abroad including Singapore and Hongkong.<sup>(134)</sup> Assuming that all coaling stations in foreign territories would be closed to Britain in the case of war, the Admiralty realized that the question of coal supplies would be "one of the great difficulties which the Admiralty will have to meet" in order to protect the British trade or interest.<sup>(135)</sup> The Defence Committee advised on which coaling stations should be defended in order of "relative importance". Simon's Bay, the Cape of Good Hope, was the most

important coaling station. Two coaling stations in East Asia, Hongkong and Singapore, were given second and third priority respectively.<sup>(136)</sup>

In 1879, a commission was formed under the Earl of Carnarvon, Henry Howard Molyneux, "to inquire into the condition and sufficiency of the means both naval and military, provided for the defence of the more important sea ports ... and of the stations established or required" within British colonial possessions and dependencies "for coaling, refitting, or repairing the ships of Our Navy, and for the protection of the commerce" of the British colonies. It continued that "it is expedient to consider and determine in which of Our stations and ports it is desirable, on account of their strategical or commercial importance, to provide an organized system of defence, in addition to such general protection as can be afforded by Our Naval forces".<sup>(137)</sup>

Coaling stations were strategic points of vital importance which had to be defended.<sup>(138)</sup> The average coal carrying capacity was only 14 per cent of the displacement in naval ships, in comparison with 40 per cent in merchant vessels when equipped for war purposes.<sup>(139)</sup> This implied that naval ships needed coal supplies at suitable coaling stations for regular naval operations:

Coaling-stations are not only necessary for our cruizers, but indispensable for the Queen's ships, which have less coal capacity, and cannot do without intermediate stations.<sup>(140)</sup>

As we shall see later, "average days under steam making good the distance logged" of naval ships were generally less than 60 days a year, and "ships must be kept in readiness for unforeseen employment" at anchor for about 280 days a year, consuming coal for various firing and other practices.<sup>(141)</sup>

The second report of the Carnarvon Commission pointed out that "As regards the supply of coal to our own fleet, it is evident that, subject to conditions of defence, the more numerous and scattered the ports are at which coal can be obtained, the better."<sup>(142)</sup>

Sir Alexander Milne stated

In considering this large question of coal supply abroad, it must be clearly understood that unless all and each of the coaling places or stations ... are kept fully stocked and supplied with coal or patent fuel, the services of Her Majesty's ships would be paralyzed, coal being as essential for Her Majesty's service as ammunition; and it must be borne in mind that squadrons employed in the Mediterranean or elsewhere could not leave or be withdrawn from their several stations, and return to a distant harbour to obtain or replenish their coal supply; hence the necessity for screw colliers, capable of carrying 800 or 1,000 tons of coal, being attached to the principal coaling-depôts, as Malta, Aden, Trincomalee, Hong Kong or to the squadrons. Unless some such system is adopted, it will be most difficult to conduct naval operations during war.<sup>(143)</sup>

The commission drew the following conclusion:

No addition to the number and fighting power of your Majesty's ships will make up for the want of coaling-stations, which to be of use must be able to defend themselves. We desire to impress upon your Majesty's Government the paramount importance to the British Empire of secure coaling-stations. ... In a man-of-war, the limited capacity for carrying coal, taken in connection with the high rate of consumption, necessarily limits the range of effective action. Without secure and well-placed coaling-stations your Majesty's ships, however numerous and powerful, will be unable to protect trade, or perhaps even to reach distant parts of the Empire.<sup>(144)</sup>

It suggested that two classes of coaling stations were required:

one was "Refitting stations and harbours of refuge, in which coal is stored in large quantities", and the other was "Stations at which coal is and must always be kept for the navy, but for which it is unnecessary to provide an extensive system of defence."<sup>(145)</sup>

In East Asia the greater part of coal was expended in the north of Singapore, particularly north of Hongkong.<sup>(146)</sup> In reply to the proposal concerning coal supply on the China Station by G. O. Willes, vice-admiral and commander-in-chief of the Station,<sup>(147)</sup> the Admiralty

gave an instruction to use Takashima coal for trial in some ships, admitting that "from the proximity of the source of the former [Takashima coal], greater dependence could be placed upon timely supplies in case of emergency."<sup>(148)</sup> The Admiralty had already expressed a desire that Takashima coal should be used "in the usual proportion of one third to two thirds Welsh", simultaneously instructing that a trial should be made in some ships in the proportion of equal quantities "in view of the cost of freight of Welsh Coal to China and Japan".<sup>(149)</sup> This was accelerated by the regulations relative to "Coals, Coaling, and Economy of Fuel" in which the Admiralty paid attention to the extremely high prices at some places in purchasing coal.<sup>(150)</sup> After the trials of Takashima coal in mixture with Welsh or patent fuel in fourteen naval ships from October 1882 to August 1883,<sup>(151)</sup> the Admiralty drew the conclusion that "it does not appear desirable, at present, to depart from the usual practice of issuing two thirds Welsh, to one third Takashima, to the Ships on the China Station."<sup>(152)</sup>

Butterfield & Swire, agents for Miike coal, tried to sell Miike coal to the naval yard in 1883,<sup>(153)</sup> but the navy promptly refused this proposal, stating that "we are restricted to Takasima Coal for the present purchase".<sup>(154)</sup>

The Admiralty officially classified various coaling depots and places, home or abroad, with arrangements into three categories in accordance with how naval ships were supplied with coal at various coaling stations and places. Firstly, there were twenty-three "Admiralty depôts, which are kept complete with coal by supplies sent from England or other places by the Admiralty", secondly, "thirty-seven various places or stations in different parts of the world

to which coal is not sent by the Admiralty, but is obtained by local agreements or contracts, the contractors being bound to keep a certain fixed quantity of coal in store", and, finally, there were places where coal was purchased in the open market under the arrangement, when naval ships might require supplies of coal.<sup>(155)</sup>

In the area covered by the China Station, the Admiralty depots and places classified into first and second categories were as follows<sup>(156)</sup>:

- (1) Hong Kong (Storage room under cover 7,000 tons)
- Nagasaki\* ( " 3,200 tons)
- Hiogo\* ( " 3,800 tons)
- Yokohama\*

- (2) Singapore, Amoy\*, Shanghai\*, Labuan

Of these coaling stations, the five places with asterisks located in foreign territories would be closed to British naval ships during the time of war, so that in the steam route from Ceylon to Hongkong, Korea, and Japan "we lose all stations to the north of Hong Kong, Japan being closed during war, and we have no position on the coast of Corea(sic), unless the H. Islands could be obtained."<sup>(157)</sup>

Coal was arranged for supply to naval stations through coal agents in Cardiff on a contract basis.<sup>(158)</sup> The amount of coal consumption for naval use at Nagasaki and Yokohama was less than 4,000 tons per year (Table 62). Apart from coal brought from Cardiff, the remaining portion of coal required was annually purchased from local consigners.<sup>(159)</sup> Though the limit of the amount in purchasing coal was not set in Hongkong, it was restricted up to 1,000 tons in Nagasaki, and 800 tons both in Hyogo and Yokohama.<sup>(160)</sup> For the year 1883-84 a contract for supply of 800 tons coal was made with Gray & Co. at a price of \$6.60 per ton in Yokohama, and 1,100 tons was contracted with the Takashima Colliery at a price of \$4.80 in Nagasaki.<sup>(161)</sup>

Table 62. Coal Consumption for British Naval Use at Nagasaki and Yokohama 1878/79-1881/82.

Financial Year	NAGASAKI		YOKOHAMA		(in tons)
	Consumption	(Imports or Purchases)	Consumption	(Imports or Purchases)	
1878-79	2,767	2,015	-		429
1879-80	2,653	(2,138)	1,337	(3,050)	2,142
1880-81	1,691	(1,677)	1,108	(901)	1,935
1881-82	1,340	(3,980)	1,226	(1,826)	2,535

Source: Coaling Facilities of Naval Depots, Nagasaki and Yokohama, in ADM125/84.

Note: Figures in parentheses are calculated from those of 'Consumption' and 'Storage at the end of the year'.

Table 63. Coal Expenditure at Different Depots of the China Station, 1898/99-1902/03.

Year	Depot	Hongkong	Wei-hai-wei	Local Purchases	Total
1898-1899		23,405	5,140	53,362	81,907
1899-1900		23,700	3,600	36,342	63,642
1901-1902		41,183	4,690	53,766	99,639
1902-1903		76,200	25,100	54,500	155,800

Source: Admiralty to Commander-in-chief, China Station, 28 Feb. 1902, Enclosure (A), in ADM125/56.

Table 63 shows the coal expenditure at different depots of the China Station from 1898-99 to 1902-03, though it should be noted that the political situation of the Far East was different from the 1880s. Coal consumption rapidly increased towards the turn of the century. The quantity of local purchase by the China Station was not allowed to exceed the specified figures, so that the increase in coal required for naval use was brought from Britain, as we have already seen in Table 62.

Table 64 shows the distribution in coal consumption by ships at the China Station in 1900. Early in the first decade of the twentieth century, it was estimated that the China squadron required on average 16,000 tons of coal per month, of which 12,000 tons was to be sent from Britain and the balance of 4,000 tons was to be supplied from local contractors during times of "peace".<sup>(162)</sup> Japanese coal was mainly used for auxiliary purposes.<sup>(163)</sup> As political tension in the Far East increased in the second half of the 1890s, in particular after the Chiao-chou Affair of 1898, it was noted that the "import of Cardiff coal for naval use has increased to a considerable extent" and that it was "largely used by the American, French, German, Japanese and Russian navies."<sup>(164)</sup> This situation disturbed the coal market in the Far East. The demand for inferior Japanese coal was particularly influenced by fluctuations in the amount and price of Cardiff coal.<sup>(165)</sup>

Table 64. Coal Consumption at the China Station in 1900.

	Number of Ships	Aggregate Tonnage	Aggregate I.H.P.	Average days under steam making good the distance logged	Coal (tons)		
					Expended making good the distance	Other Purposes	Total
Battleships	4	33,950	21,500	54	8,595	16,445	25,040
1st class Cruisers	7	49,350	69,500	32	19,476	26,943	46,419
2nd class Cruisers	5	12,330	21,000	24	3,648	7,702	11,350
3rd class Cruisers	1	1,770	2,200	36	730	884	1,614
Sloops	4	4,220	5,000	20	1,264	1,498	2,762
Gunboats	6	5,609	5,750	43	3,456	2,407	5,863
Despatch Vessels.	1	1,700	2,000	50	1,255	1,203	2,458
Torpedo Boat Destroyers	5	1,850	29,800	100	n.a.	5,294	5,294
Shallow Draft Steamers	6	555	1,820	60	n.a.	1,264	1,264
Total	39	111,334	158,570	-	38,424	63,640*	102,064

Source: Admiralty to Commander-in-chief, China Station, 28 Feb. 1902, Enclosure (D), in ADM125/56.

Note: \* Of 63,640 tons, 3,000 tons was expended for laying and banking fires, steaming for which no distance was given &c., and 60,640 tons was consumed for auxiliary purposes.



## 6. Coal Exports and the Development of the Coal Industry in Japan

Coal exports from Japan developed after 1859 against the background of the expansion of the East Asian coal market following the rapid increase of the Eastern trade.

Table 65 shows the output and exports of coal in and from Japan after 1868.<sup>(166)</sup> The centre for coal exports was Nagasaki, where 97 per cent of the total coal exports was shipped on average during the period 1867-1880.<sup>(167)</sup> Annual exports increased from 88,408 tons for the period 1870-1874 to 185,578 tons for 1875-1879 and 362,912 tons for 1880-1884.<sup>(168)</sup>

P. & O. started a regular service between Shanghai and Nagasaki in 1859, which was extended further to Yokohama in 1864. Messageries Imperiales opened a regular service between Shanghai and Yokohama in 1865. In 1867 Pacific Mail began a regular service between San Francisco and Hongkong via Yokohama and Nagasaki. The latter, where their large steamers called six times a month, was the only coaling station on their Shanghai and Yokohama route.<sup>(169)</sup>

The demand for coal at Nagasaki increased both for steamers' use and for exportation to Shanghai,<sup>(170)</sup> and coal was said to be "the most important branch of the export trade of this port [Nagasaki]."<sup>(171)</sup> The number and total tonnage of vessels entering Nagasaki are shown in Table 66. Though the number of vessels entering Nagasaki remained around 300 from 1867 to 1881, steamers replaced sailing vessels rapidly after 1871.<sup>(172)</sup>

Coal prices at Nagasaki fluctuated in accordance with the price fetched by Japanese coal at Shanghai, where its value was fixed in relation to other foreign coals.<sup>(173)</sup>

Table 65. Japanese Coal Output and Exports of Coal from Japan 1868-1899.

Year	Output					Exports					
	Total	Takeshima	Miike	Chikuho	(E)	Lump & Dust	Ship's Use	Total	Value	yen	%
	(A)	(B)	(C)	(D)	(A)						
tons	tons	tons	tons	tons	tons	tons	tons	tons	Value	Value	%
1868						15,584	945	16,529	84,280		
1869						14,552	18,665	33,217	182,581		
1870						25,163	30,845	56,008	298,344		
1871						18,792	45,003	63,795	324,981		
1872						27,389	30,883	58,272	335,916		
1873			30,638			47,172	99,194	146,366	628,090		
1874	208,142		65,934 (31.7)			35,837	81,763	117,600	555,341		56.5
1875	567,221	125,060 (22.0)	32,837 (5.8)			51,305	150,928	202,233	1,010,590		35.7
1876	544,959	101,761 (18.7)	102,644 (18.8)			48,959	115,296	164,255	776,241		30.1
1877	499,106	93,260 (18.7)	54,589 (10.9)			74,906	86,442	161,348	735,475		32.3
1878	679,707	150,185 (22.1)	78,207 (11.5)			104,434	99,817	204,251	883,518		30.0
1879	857,549	187,272 (21.8)	120,186 (14.0)			175,236	70,566	195,802	777,173		22.8
1880	882,055	230,895 (26.2)	118,211 (13.4)			131,963	154,289	286,252	1,086,141		32.5
1881	925,198	237,666 (25.7)	168,899 (18.3)			117,277	177,526	294,803	1,104,438		31.9
1882	929,213	254,687 (27.4)	156,430 (16.8)			135,697	188,974	324,671	1,177,343		34.9
1883	1,003,421	236,881 (23.6)	158,592 (15.8)			124,669	264,872	389,541	1,357,936		38.8
1884	1,139,937	226,912 (19.9)	209,775 (18.4)			184,058	335,237	519,295	1,809,932		45.6
1885	1,293,678	270,476 (20.9)	248,137 (19.2)			191,800	399,889	581,689	1,975,967		45.0
1886	1,374,209	270,397 (19.7)	277,718 (20.2)			215,380	453,663	669,043	2,208,949		48.7
1887	1,746,296	302,086 (17.3)	317,717 (18.2)			145,567	559,368	704,935	2,337,806		40.4
1888	2,022,968	306,548 (15.2)	368,109 (18.2)			387,250	588,039	975,289	3,186,038		48.2
1889	2,388,614	265,008 (11.1)	462,276 (19.4)			773,460	330,361	1,053,821	4,346,639		44.1
1890	2,608,284	238,925 (9.2)	487,641 (18.7)			853,410	361,162	1,214,572	4,796,089		46.6
1891	3,179,654	200,918 (6.3)	574,330 (18.1)			895,320	344,501	1,239,821	4,749,735		39.0
1892	3,179,479	230,277 (7.2)	480,021 (15.1)			900,398	398,954	1,299,352	4,571,984		40.9
1893	3,323,583	203,015 (6.1)	598,034 (18.0)			1,094,754	410,659	1,505,413	4,817,913		45.3
1894	4,281,681	212,821 (5.0)	665,601 (15.5)			1,265,504	435,626	1,701,130	6,578,461		39.7
1895	4,794,417	177,665 (3.7)	649,334 (13.5)			1,376,068	468,747	1,844,815	7,604,789		38.5
1896	5,025,713	177,867 (3.5)	722,627 (14.4)			1,614,724	579,688	2,194,412	8,879,255		43.7
1897	5,188,157	153,905 (3.0)	623,252 (12.0)			1,530,147	572,865	2,103,012	11,545,800		40.5
1898	6,696,033	165,000 (2.5)	738,252 (11.0)			1,805,364	381,426	2,186,790	15,168,799		32.7
1899	6,775,572	164,938 (2.4)	708,501 (10.5)			2,013,695	473,919	2,487,614	15,164,867		36.7

Sources: 1) (A) Nihon Kogaku-kai, *Meiji Kogyo Shi*, Kogyo Hen (Tokyo, 1930), pp. 656-57. 2) (B) and (C) *Ibid.*, Table 76-2, pp. 650-59. 3) (D) Takano Mototaro, *Nihon Tanko Shi* (1908), pp. 172-73. Figures are the total quantity of coal sent from the five districts in Chikuho. 4) Coal Exports: *Nihon Boeki Seiran* (Tokyo, 1935), p. 106.

Table 66. Number and Tonnage of Vessels entering the Port of Nagasaki 1860-1895.

Year	Number of Vessels	Total Tonnage	
		tons	tons
1860	108	39,497	
1865	202	69,059	
1870	321	246,272	
1875	296	276,415	
1880	282	199,109	
1885	607 ( 554)	582,131 ( 553,184)	
1890	997 ( 925)	1,168,489 (1,140,308)	
1895	1,622 (1,552)	2,320,851 (2,286,391)	

Sources: CR, Nagasaki, corresponding years.

Notes: 1) Coastal trade is excluded.

2) Figures in parentheses are for steamers.

Table 67. Distribution of Coal at Nagasaki in 1872.

<u>Shipment from Nagasaki</u>	tons	%
to Shanghai.....	48,000	(40.9)
to Northern Chinese Ports.....	6,000	( 5.1)
to Yokohama.....	12,000	(10.2)
 <u>Sold at Nagasaki</u>		
to Pacific Mail Co. ....	27,499	(23.4)
to Other Steamers.....	12,000	(10.2)
to Men-of-War.....	12,000	(10.2)
Total		117,499 (100.0)

Source: CR 1872, Nagasaki, p. 64, in BPP, JAPAN, Vol. 5, p. 172.

The distribution of coal disposed of at Nagasaki in 1872 is shown in Table 67. Exports to Shanghai and northern Chinese ports amounted to 54,000 tons, constituting 46 per cent of the total distributed coal. Since 11,600 tons of Takashima coal shipped to Yokohama was used for the steamers of the Pacific Mail Steamship Co.,<sup>(174)</sup> 39,100 tons of coal, that is, 33 per cent of the total coal distributed at Nagasaki, was for the use of the Pacific Mail steamers. If the amount of coal for other steamers and men-of-war were added to these figures, 63,499 tons of coal, that is, 54 per cent of the coal distributed at Nagasaki was used for foreign steamers in Japan.<sup>(175)</sup> Therefore, as the coal exported to Chinese ports is regarded as being used for steamers, we can draw the conclusion that the coal disposed of in Nagasaki was mostly for steamers' use as a fuel.<sup>(176)</sup>

A British consular report mentioned bright prospects for the coal trade in Nagasaki in the mid-1860s:

This mineral [coal] is evidently destined to become of great importance, and is likely to form an important feature in the export trade of this port. ... These [Takashima, Karatsu, Hirado, and Hizen] mines have hitherto been worked by manual labour, but as soon as the proposed machinery has been introduced and placed in working order it is expected that they will produce a sufficient supply for the China and Japan ports, and I have no doubt will be considerably used by Her Majesty's ships on this station. The average price is from 5 to 6½ dollars per ton, whereas the English cannot be laid down for less than 18 to 20 dollars per ton.<sup>(177)</sup>

Coal production during the Bakumatsu and early Meiji periods was estimated at 390,000 tons,<sup>(178)</sup> and, according to Table 65, 38.6 per cent of the total coal output in Japan was exported on average during the period from 1875 to 1899. In particular, this ratio reached 45.5 per cent on average for the period 1884-1890. Coal production constantly increased, and reached 5,026,000 tons

in 1896 and 6,696,000 tons in 1898.

Takashima and Miike mines were main coal mines in the 1870s and 1880s, producing from 28 to 44 per cent of the total coal production and playing a leading role in the development of the coal industry in Japan. Other mines were generally small in size, poorly equipped and produced only inferior coal mainly for domestic salt manufacturing.<sup>(179)</sup> Various descriptions of coal such as Takashima, Karatsu, Matsushima, Koyaki and Miike which were all bituminous were delivered to Nagasaki for exportation.<sup>(180)</sup>

Soon after the opening of the ports, engineers of men-of-war and private steamers had expressed the opinion that "the Coal now mined" "is well adapted for sea going steam vessels" when "mixed with Welsh Coal",<sup>(181)</sup> and Takashima coal was supposed to be sent to Shanghai for sale.<sup>(182)</sup> Takashima coal was said to be "almost equal to the best English or Welsh"<sup>(183)</sup> and it was estimated that 25 tons of the best Japanese coal such as Takashima would give the same result for steaming purposes as 20 tons of Welsh or English coal.<sup>(184)</sup> A British consular report concluded: "The importance of the Takashima mine to Japanese trade and shipping is so evident".<sup>(185)</sup> Takashima screened coal was widely used by men-of-war of the French, American, Russian and German navies and small or dust coal was used by shipping companies such as Pacific Mail, P. & O., Occidental and Oriental Steamship Co., and Mitsubishi mail steamers.<sup>(186)</sup> Up until 1868 Takashima coal had been worked "on too limited a scale"<sup>(187)</sup> and "produced but a small quantity of coal, owing to the defective system of mining pursued by the natives".<sup>(188)</sup> It was after 1868 that the Takashima coal mine developed as a modern colliery with the Western mining technology on an agreement between Glover & Co. and the Saga

clan.<sup>(189)</sup> "Glover & Co. obtained a joint lease of the property, in partnership with the Prince of Hizen [Saga], and sank a shaft of 150 feet deep on the opposite side of the island, where they struck the 8 ft. seam."<sup>(190)</sup> However, as Glover & Co. went bankrupt, the mine was purchased by the government in 1874 and then sold to Goto Shojiro in the same year.<sup>(191)</sup> Coal produced at Takashima, which was about five miles away from Nagasaki, was carried to Nagasaki by a fleet of from 60 to 80 junks towed by a small steamer.<sup>(192)</sup> Though it is said that 300-400 labourers were employed at Takashima in 1868,<sup>(193)</sup> the Takashima faced a shortage of labour in the mid-1870s, particularly with the commencement of the Satsuma Rebellion in 1877.<sup>(194)</sup> This labour situation forced a change in the existing labour organization system, the so-called Naya-Seido, from one in which the company relied on contractors who controlled the labour supply to one in which the former contractors came under the management of the company as heads of the labour organizations.<sup>(195)</sup>

The annual output of coal at Takashima increased from 35,000 tons in 1869 to 125,000 tons in 1875 and 210,000 tons in 1880.<sup>(196)</sup> An American consular report stated that "The Takashima Coal has been gradually coming more and more into favour as a steam Coal, both for vessels of war and merchant steamers."<sup>(197)</sup> The Takashima Colliery was transferred to Mitsubishi management in 1881, but new machinery was not introduced nor existing equipments expanded until 1888.<sup>(198)</sup> In 1889 when the purchase price was finally depreciated,<sup>(199)</sup> Mitsubishi started to sink a new shaft, but this undertaking had to be abandoned owing to technological difficulties in sea-bottom coal mining.<sup>(200)</sup> Most of Takashima coal was contracted for in advance by 1887,<sup>(201)</sup> but the output of the Takashima mine began to

decrease after reaching a peak in 1888. Its importance in coal exports was gradually lost for three main reasons; the opening of the ports of Moji and Karatsu in 1889, the prevalence of a virulent epidemic of cholera in 1889, and the diminished output of the mine in itself.<sup>(202)</sup> The failure in developing a new coal-seam made Mitsubishi pay greater attention to the Chikuho coal fields after 1889.<sup>(203)</sup>

Table 68 shows the shipments and sales of Takashima coal during the period from 1872 to 1895. According to figures available in this table, the ratio of coal exported to the total distributed coal was 43.9 per cent which meant that the main market for Takashima coal was not the overseas market but the domestic market, Nagasaki and Yokohama. Figures also show that around 60 per cent of the exported Takashima coal was destined for Hongkong from 1883 up to 1891. The cost structure of Takashima coal in 1882 is shown in Table 69.

Under Mitsubishi management after 1881 the Naya-Seido was strengthened. The market conditions in which Takashima coal faced severe competition from other foreign coals and Miike coal overseas might well have led to an intensification of labour similar to that resorted to by the Miike Colliery as we shall see later. In any case labour was intensified around 1885 and 1886, and reached a peak in 1887.<sup>(204)</sup> The state of affairs at Takashima was exposed in the next year 1888 as a major social problem around this time by the periodical Nihonjin, so-called Takashima Tanko Mondai (Problems at the Takashima Colliery).<sup>(205)</sup>

The Miike coal mine was purchased by the government in 1873, which continued to operate it up until 1888.<sup>(206)</sup> It developed under

Table 68. Shipments and Sales of Takashima Coal 1872-1895.

Year	Exported to				Shipped to Yokohama	Sold at Nagasaki	Total	Stock*	Total Output
	Shanghai	Hongkong	Singapore	Other Ports					
1872					11,600	19,400	31,000	10,300	41,300
1873	27,257 <sup>1)</sup>			795	14,358	23,522	65,932	16,528	82,460
1874									79,387
1875	25,046	12,932		5,013	2,237	78,506	123,734	-	124,930
1876	16,848	19,517		6,365	2,672	46,647	92,049	-	101,876
1877									94,276
1878		57,401					120,715	21,057	-
1879		73,095					150,544	36,371	170,810
1880		104,590			5,149 <sup>2)</sup>	113,431	223,170	23,111	209,874
1881		92,468				157,550	250,018	16,332	226,107
1882		63,019				149,695 <sup>3)</sup>	212,714	57,089	253,677
1883	38,500	80,098		5,497	17,655 <sup>2)</sup>	153,099	294,849	15,189	252,949
1884	40,057	69,323		-	33,740 <sup>2)</sup>	119,427	262,547	5,405	252,763
1885	42,900	59,288		3,916	36,796 <sup>2)</sup>	127,428	270,328	21,442	286,365 <sup>4)</sup>
1886							341,654	19,850	340,062
1887							416,982	29,221	426,351
1888	77,012	129,839	8,425	2,443	83,825 <sup>2)</sup>	166,242	467,786	7,642	446,207
1889	58,023	82,914	3,408	-	106,338 <sup>2)</sup>	135,206	385,889	16,018	394,265
1890	54,364	111,393	-	35,907 <sup>5)</sup>	69,985	139,413	411,062	8,751	403,795
1891	51,433	98,638	7,457	8,983	64,906 <sup>2)</sup>	71,970	303,387	19,267	322,674
1892	71,389	77,676	17,985	11,881	68,007 <sup>2)</sup>	101,539	348,477	22,498	370,975
1893	48,599	49,925	16,897	4,622	34,875 <sup>2)</sup>	131,866	286,784	3,000	252,320
1894									
1895							166,078	-	144,753

Sources: CR, Nagasaki, corresponding years.

Notes: 1) including coal exported to other Chinese ports. 2) including other Japanese ports. 3) including coal sold at Takashima. 4) including coal produced at Nakanoshima after this year. 5) including Singapore and Japanese ports other than Yokohama and Nagasaki. 6) \* on 31 Dec., or 1 Jan., next year.



Table 69. Pro forma Sales of 1 ton of Takashima Lump Coal  
at Shanghai in 1882 (ex. sailing-ship)

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Price per ton Takashima lump coal  
ex godown..... 4.25 Taels

Charges

Freight per ton by sailing-ship,* say.....	\$1.30	
Discharging.....	\$0.06	
Export duty.....	\$0.22	
Marine insurance.....	\$0.01 <sup>40</sup>	
	<hr/>	
	\$1.59 <sup>40</sup>	
1 dol. 59.40c., at exchange 73 per cent...Tls	1.16 <sup>36</sup>	
Import duty.....	0.05 <sup>57</sup>	
Wharfage.....	0.01	
Landing and storing for 1 month.....	0.30	
Fire insurance.....	0.01	
Brokerage.....	0.04 <sup>25</sup>	
Commission at 2½ per cent.....	0.10 <sup>62</sup>	
Miscellaneous charges.....	0.04 <sup>25</sup>	
	<hr/>	
		1.73 <sup>05</sup>
		<hr/>
		2.51 <sup>95</sup>

Taels 2.51<sup>95</sup> at 73 per cent. = 3 dol. 46 c. net per ton.

\*N.B. - Charters of sailing-ships from Shanghai have the privilege of shipping cargo from Shanghai free, so that coal freight would not probably exceed 1 dol. 30 c., as above estimated.

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Source: CR 1882, Nagasaki, p. 39, in BPP, JAPAN, Vol. 7, p. 153.

the influence of demand from overseas and the system in production was organized to adjust itself to demand in the overseas market.<sup>(207)</sup> The Miike colliery was given an opportunity to develop as a modern colliery with the introduction of Western technology as a result of the governmental direct export policy in which coal was regarded as one means for obtaining foreign currencies. In 1876 the government sent samples of Miike coal to Shinagawa Tadamichi, the then Japanese consul to Shanghai, in order to investigate the demand for coal there. Shinagawa suggested that a market would possibly exist for Miike coal, if it were sold at a low price.<sup>(208)</sup> In 1876, simultaneously, Mitsui Bussan Kaisha was appointed sole agent of Miike coal and opened their Shanghai branch to facilitate coal exports.<sup>(209)</sup> This was the first direct step into the Asian market.<sup>(210)</sup> Up until then coal exports had been handled by Western and Chinese merchants. Takashima coal continued to be sold and exported through Western merchants in Nagasaki. The commencement of direct exporting of coal by Mitsui Bussan implied a breakthrough into the already established export system controlled by Western merchants under the treaty. Miike coal was sold to consumers in China such as Jardine, Matheson & Co., Butterfield & Swire and the China Merchant Steam Navigation Co. through Western coal dealers in China from the Shanghai branch of Mitsui Bussan.<sup>(211)</sup>

Exports of Miike coal were facilitated by the appointment of Kuchinotsu, which was situated at the southern extremity of the Shimabara Peninsular, as a special port for the shipment of Miike coal and the loan of a sailing vessel Chihaya Maru to Mitsui Bussan by the government for transporting coal in 1878.<sup>(212)</sup>

Coal was mostly shipped to its destination from the port of

Kuchinotsu and only a small quantity was sent to Nagasaki for shipment.<sup>(213)</sup> Table 70 shows the distribution of shipments and sales of Miike coal. It should be noted that in the first half of the 1880s the main market of Miike coal changed from domestic to overseas market, particularly Shanghai up until 1884.<sup>(214)</sup>

The employment of convicts on a full scale made it possible for Miike coal to keep a low sales price which enabled it to overcome competition in the Shanghai market.<sup>(215)</sup> Though Japanese coal had already established predominance in Shanghai, it was not easy for Japanese coal to enter the Hongkong market, because Japanese coal was not supplied in a sufficient quantity at a reasonable price. Miike coal advanced into Hongkong in 1882, though the insufficient supply of Miike coal formed an obstacle to its penetration of the Hongkong market. In accordance with the demand from Mitsui Bussan, the Miike colliery set winches, introduced drainage pumps and improved ventilation in order to increase output.<sup>(216)</sup> The Hongkong branch of Mitsui Bussan, which had been formed in 1878 for exchange purposes and closed in 1881, was reopened in 1886 for the sale of coal.<sup>(217)</sup> Mitsui Bussan increased the number of coal-carrying ships in order to transport coal in large quantities.<sup>(218)</sup>

By contrast with the rapid mechanization of these processes, the actual face-work in coal mining itself was not mechanized and convicts continued to be employed on a large scale<sup>(219)</sup> to maintain the low production costs which were necessary in order to overcome the keen competition not only in the Hongkong but also in the Singapore market. The employment of convicts which began on a full scale in 1876 was intended to solve a difficulty in recruiting skilled coal miners from adjacent agricultural areas.<sup>(220)</sup> The

Table 70. Shipments and Sales of Miike Coal 1877-1899. (in tons)

Year	Export to <sup>1)</sup>				Total	Sold for Domestic Market <sup>2)</sup>	Total Output <sup>3)</sup>
	Shanghai	Hongkong	Singapore	Other Ports			
1877	200	-	-	209	409	55,690	54,589
1878	7,512	-	-	-	7,512	96,380	78,207
1879	34,067	-	-	-	34,067	74,271	120,186
1880	62,105	577	-	7,532	70,214	85,985	118,211
1881	55,467	-	-	13,535	69,002	73,723	168,899
1882	89,038	-	-	2,264	91,302	54,686	156,430
1883	56,882	15,177	-	5,230	77,289	65,131	158,592
1884	77,054	29,291	6,407	12,662	125,414	95,452	209,775
1885	81,864	85,405	-	12,603	179,872	50,038	248,137
1886	59,805	110,627	9,600	6,198	186,230	99,516	277,718
1887	54,739	116,917	11,724	9,770	193,150	109,710	317,717
1888	62,946	102,225	31,620	20,511	217,302	-	368,109
1889	106,027	141,196	9,331	22,355	278,909	142,257	469,686
1890	95,779	141,275	25,867	30,784	293,705	171,594	495,462
1891	90,399	185,549	24,892	26,260	327,100	169,853	597,990
1892	83,299	162,457	41,668	24,482	311,906	197,343	488,533
1893	100,298	225,415	69,540	34,611	429,864	213,256	599,249
1894							666,446
1895							649,416
1896							734,217
1897							633,121
1898							749,772
1899							719,836

- Source: 1) 1877-1891: Ueda Jushiro, 'Ueda Yasusaburo Nenpu', Mitsui Bunko Ronso, No. 7 (1973), pp. 318-19.  
 1892-93: Sumiya Mikio, Nihon Sekitan Sanqyo Bunseki (Tokyo: Iwanami Shoten, 1968), p. 265.
- 2) 1877-78: Tanaka Osamu, 'Kobo-sho Shokan Jigyo no Haraisage to Miike Tanko no Haraisage', in Otsuka Hisao et al. eds., Shihonshiqi no Keisei to Hattan (Tokyo: Tokyo Daigaku Shuppan-kai, 1968), p. 81.  
 1879-87: Kasuga Yutaka, 'Kanei Miike Tanko to Mitsui Bussan', Mitsui Bunko Ronso, No. 10 (1976), p. 230.  
 1889-93: Sumiya, ibid., p. 265.
- 3) 1877-88: Nihon Kogaku-kai, Meiji Kogyo Shi, Kogyo Hen (Tokyo: Nihon Kogaku-kai, 1930), pp. 658-59.  
 1889-99: 'Mitsui Kozan Goju-nen Shi Ko', quoted from Kasuga Yutaka, 'Mitsui Zaibatsu ni okeru Sekitan-gyo no Hatten Kozo', Mitsui Bunko Ronso, No. 11 (1977), p. 121.

number of convicts employed reached 631 in 1879, that is, 41 per cent of the total employees of 1,659.<sup>(221)</sup> After around 1882 and 1883 the employment of convicts came to play a more important role as a main labour force in the Miike colliery not only to restrain wages of non-convict labourers but also to solve labour scarcity.<sup>(222)</sup> The increase in production while maintaining low wages from the late 1870s, which was required to overcome competition by means of low sales prices and expand the market for Japanese coal overseas, led necessarily to intensification of labour controls which resulted in frequent riots by miners in 1883, 1884, 1885 and 1887.<sup>(223)</sup>

The decline of costs per ton of Miike coal, which was facilitated by the decrease in cost for actual face-work, became conspicuous, particularly after 1883, as shown in Table 71.<sup>(224)</sup> Furthermore, the increase in the number of coal-carrying ships possessed by Mitsui Bussan enabled them to decrease freight rates without

Table 71. Production Cost of Miike Coal 1880-1887 (per ton)

Year	Total Expense		Cost for Actual Face-Work	
	yen		yen	
1880	1.98	(100)	1.76	(100)
1881	2.10	(106)	1.85	(105)
1882	2.83	(143)	2.07	(118)
1883	1.93	(97)	1.36	(77)
1884	1.37	(69)	1.02	(58)
1885	1.28	(65)	0.82	(47)
1886	1.10	(56)	0.77	(44)
1887	1.04	(53)	0.64	(36)

Source: Kasuga Yutaka, 'Kanei Miike Tanko to Mitsui Bussan', Mitsui Bunko Ronso, No. 10 (1976), p. 304.

Notes: 1) Years are financial.

2) Figures in parentheses are indexes calculated by the author.

being influenced by fluctuations in the outside freight market. The average cost for freight per ton of coal between Shanghai and Kuchinotsu decreased from \$2.82 in 1881 to \$2.00 in 1884 and \$1.78 in 1887.<sup>(225)</sup> The price of Miike coal rapidly decreased with the decline both in costs of coal mining and in freight rates.<sup>(226)</sup>

The Miike colliery was transferred from the government to Mitsui management in 1888.<sup>(227)</sup> In 1886 the market situation in Singapore was surveyed in order to expand the market for Miike coal for the purpose of coming out of the depression in the Japanese domestic coal market.<sup>(228)</sup> In 1888, Ueda Yasusaburo, the manager of the Shanghai branch of Mitsui Bussan, expressed a hope of opening a Singapore branch<sup>(229)</sup> in consequence of the great increase in demand for Miike coal which was hastened by the decrease of Tekashima coal and the coal miners' strike in Australia.<sup>(230)</sup>

The flood at Katsutate colliery, one of Miike mines, in 1890 made it clear that "The most difficult obstacle in working this coal field is the drainage", as the overlaying strata were composed of gravels and sand.<sup>(231)</sup> The drainage shaft with pumping machinery imported from Britain was completed in 1893, and this drainage problem was thereafter no longer difficult.<sup>(232)</sup>

Chikuho coal, produced in northern Kyushu, was mainly in demand for domestic salt manufacturing until the late 1880s.<sup>(233)</sup> Coal mining in the Chikuho coal fields was mechanized with the use of winches and the introduction of drainage pumps in some large collieries in the late 1880s.<sup>(234)</sup> Exports of this coal were facilitated by the abolition of export duty on coal in 1888, the appointment of Moji as a special export port in 1889 and the completion of railways between the Chikuho region and Moji in 1893.<sup>(235)</sup>

In addition, the lack of coal caused by coal miners' strike in Australia in 1888 and the consequent rise in coal prices in the Hongkong and Singapore markets gave big enterprises such as Mitsubishi an opportunity to consider the profitability of investing in the Chikuho coal mines.<sup>(236)</sup> Many coal mines started during the period from 1887 to 1890, which was characterised by a "coal fever".<sup>(237)</sup>

A British consular report stated that

Simultaneously with the increased production, lower prices ruled at Nagasaki and elsewhere. The coal had to be sold or shipped on some terms so as to secure funds to continue working, with the result that at Hong-Kong, Manila, and Shanghai, Japan coals (outside of Takashima and the coal from the other mines of the Mitsu Bishi Company) can hardly be given away in these times of depression. The small mine owners are in financial difficulties, and no doubt many of them will have to close up. These mines will then probably fall into the hands of the Mitsu Bishi Company and other large companies, who will work them on business methods and regulate production so as to keep prices on a paying level.<sup>(238)</sup>

Up to 1893 the coal trade was "depressed in consequence of over-production, causing extremely low prices to rule", and the market was "flooded with Japanese coals, mostly of very inferior qualities" which "helped to keep down prices."<sup>(239)</sup> The outbreak of the Sino-Japanese War in 1894 provided another opportunity to develop the Chikuho coal mines on a large scale. The price of coal rose considerably through the sudden increase in demand for coal caused by rising tension in the political situation of the Far East.<sup>(240)</sup>

Mitsubishi had however already paid attention to the Chikuho coal mines in 1889 after failing to develop further the Takashima coal mine owing to technological difficulties.<sup>(241)</sup> Mitsui Bussan established a department dealing with coal in 1894 and positively committed itself to the Chikuho coal mines through giving financial assistance to coal mining enterprises which produced coal of good quality but suffered from lack of sufficient capital, in exchange for obtaining

privileges in distributing coal.<sup>(242)</sup> Mitsui intended to establish themselves as a leading firm in the coal industry and maintain the advantage of Miike coal in the market by controlling good-quality coals which would compete with Miike coal.<sup>(243)</sup>

Table 72 shows the distribution of coal consumption in Japan after 1884. Coal for factories' use increased at a faster rate than that for steamers' use, reaching a 50 per cent share of the total domestic coal consumption in 1896.<sup>(244)</sup> This increase reflected the rapid economic development encouraged by the government in the post Sino-Japanese War period.<sup>(245)</sup> Therefore, the development of the coal industry and the increase of coal exports were based both on the expansion in demand for domestic use and the rapid expansion of the overseas market.<sup>(246)</sup> The increase in political tension of the Far East made the coal market unstable, because it caused an imbalance between supply and demand of and for coal. This widened the difference in quotations, being accelerated by speculation.<sup>(247)</sup> In particular, the Chiao-chou Affair in 1898 led to a rise in the price of coal. When surplus coal of superior type such as Cardiff coal, originally imported for military purposes, was available on the market, inferior Japanese coal had to be sold at a loss.<sup>(248)</sup>

Table 73 shows the ports for coal exports for the period 1894-1898. Nagasaki was the main coal exporting port from the 1860s to the 1880s. Coal exports from Kuchinotsu gradually increased after its appointment as a special port for the shipment of Miike coal in 1878, replacing the previous position which Nagasaki had. As exports of Chikuho coal increased, Moji became the main port for coal exports in the 1890s, particularly after the Sino-Japanese War.



Table 72. Coal Consumption in Japan 1884-1900.

Year	For		Railways		Factories		Salt Manufacturing		Total	
	Steamers	%		%		%		%		%
1884	178	(27.1)	14	(2.1)	88	(13.5)	376	(57.3)	655	(100)
1886	237	(27.6)	18	(2.1)	147	(17.1)	456	(53.1)	858	(100)
1887	252	(30.3)	20	(2.4)	164	(19.7)	395	(47.6)	830	(100)
1888	389	(35.8)	27	(2.5)	286	(26.3)	384	(35.4)	1,086	(100)
1889	393	(33.8)	44	(3.8)	367	(31.6)	359	(30.8)	1,163	(100)
1890	461	(32.2)	69	(4.8)	424	(29.7)	477	(33.3)	1,430	(100)
1891	444	(29.4)	99	(6.5)	521	(33.9)	455	(30.1)	1,519	(100)
1892	432	(25.1)	118	(6.9)	723	(42.4)	439	(25.6)	1,712	(100)
1893	438	(25.1)	126	(7.2)	729	(41.4)	458	(26.2)	1,751	(100)
1894	524	(22.4)	168	(7.2)	1,101	(47.2)	537	(23.1)	2,330	(100)
1895	747	(27.8)	223	(8.3)	1,198	(44.5)	522	(19.4)	2,689	(100)
1896	693	(22.6)	260	(8.5)	1,565	(51.0)	551	(18.0)	3,069	(100)
1897	893	(24.9)	350	(9.8)	1,847	(51.4)	501	(13.9)	3,591	(100)
1898	791	(18.0)	391	(8.9)	2,548	(58.0)	663	(15.1)	4,393	(100)
1899	1,245	(24.7)	500	(9.9)	2,615	(51.9)	675	(13.4)	5,035	(100)
1900	1,464	(27.8)	507	(9.6)	2,653	(50.4)	639	(12.1)	5,262	(100)

Source: Sumiya Mikio, Nihon Sekitan Sangyo Bunseki (Tokyo: Iwanami Shoten, 1968), pp. 190, 244, 345.

Table 73. Coal Exports from Japan by Port 1894-1898.

Year	Nagasaki	Moji	Kuchinotsu	Karatsu	Total
	tons	tons	tons	tons	tons
1894	324,761	388,017	384,831	73,126	1,170,735
1895	374,862	376,871	448,747	74,550	1,275,030
1896	404,215	647,350	430,339	49,703	1,531,607
1897	392,849	672,155	346,968	72,958	1,484,930
1898	413,715	788,027	370,732	80,547	1,653,021

Source: DCRTF, No. 2355, Nagasaki for the Year 1898, p. 11, in BPP, CHINA, Vol. 10, p. 663.

## 7. Japan's Coal Exports and the Eastern Coal Market.

Unlike silk and tea, coal exports were handled by Japanese merchants (Table 74). This was partly because it was neither advantageous nor convenient for Western merchants to deal with a bulky cargo such as coal. Even so, as shown in Table 75, 87.9 per cent of coal exports were carried by foreign vessels.

Table 76 shows the relationship between Japan's coal exports and the Eastern coal market in terms of price and freight rates. The ratio of the average Japanese export price to the market price in Shanghai was 56 per cent during the period 1871-1897. Freight rates moved independently from the coal price, so that the market price was influenced by the fluctuation of freight rates. Freight rates varied from year to year, however they stabilised particularly after 1883 and even showed a tendency to decline. The extent to which rates accounted for the price of Japanese coal in Shanghai decreased steadily. The Japanese export price jumped to \$3.83 in 1889, but it was neutralised by a decline in freight rates up to 1893. The price of Japanese coal in Hongkong changed in the same way as the Shanghai market. The ratio of the Japanese export price to the market price in Hongkong was 59 per cent during the period 1875-1899. Freight rates were of course slightly higher than those to Shanghai.

Though Japanese coal established predominance in Shanghai, it was not easy even then for Japanese coal to enter the Hongkong market, because Japanese coal was not supplied in sufficient quantity at a reasonable price.

The further the distance from Japan, the greater the competition

Table 74. Coal Exports by Japanese Merchants 1882-1895

Year	Total Exports (A)	Exports by Japanese Merchants	(B) (B) (A)
	tons	tons	%
1882	135,697	103,634	76.4
1885	191,800	181,562	94.7
1890	853,410	445,331	52.2
1895	1,376,068	1,245,820	90.5

Sources: Dai-Nihon Gaikoku Boeki Nenpyo, for the Year 1882, pp. 8, 55; 1885, pp. 19, 202; 1890, pp. 15, 232; 1895, pp. 19, 268.

Note: Coal for ship's use is excluded.

Table 75. Coal Exports by Destination and by Ship in 1896.

Area	By Japanese Vessels	By Foreign Vessels	Total
	tons	tons	ton
<u>Asia</u>			
China	45,086	625,726	670,812 (41.5)
Hongkong	128,325	476,772	605,097 (37.5)
British India	11,201	231,261	242,462 (15.0)
Others	11,005	43,137	54,142 ( 3.4)
<u>Europe</u>	-	4,400	4,400 ( 0.3)
<u>U.S.A.</u>	-	26,512	26,512 ( 1.6)
<u>Others</u>	551	10,748	11,299 ( 0.7)
<b>Total</b>	<b>196,168 (12.1)</b>	<b>1,418,556 (87.9)</b>	<b>1,614,724 (100)</b>

Source: Nihon Teikoku Dai-Juroku Tokei Nankan (for the year 1896), pp. 609-10.

Note: Figures in parentheses are the percentage.

Table 76. Japan's Coal Exports and the Eastern Coal Market 1871-1899.

Year	Av. Export Price from Japan			Shanghai			Hongkong			Singapore		
	(A)	(B)	(C)	(A)	(B)	(C)	(A)	(B)	(C)	(A)	(B)	(C)
1871	5.34	5.46	-	8.05	67.8	-	-	-	-	-	-	-
1872	6.58	6.57	2.63	8.00	74.7	29.9	104.6	-	-	-	-	-
1873	4.77	4.60	2.70	7.83	50.7	35.5	94.2	-	-	-	-	-
1874	4.09	3.94	3.88	8.18	40.2	47.4	95.6	-	-	-	-	-
1875	4.16	4.04	2.25	6.96	50.0	37.3	90.3	1.05	0.25	49.0	22.4	71.4
1876	3.83	3.87	1.95	8.51	45.5	22.9	60.4	2.00	7.00	55.3	28.6	83.9
1877	3.86	3.74	2.63	8.15	45.9	20.2	74.1	2.13	7.00	53.4	30.4	83.0
1878	3.66	3.33	1.95	7.28	45.7	26.8	72.5	1.75	7.00	47.6	25.0	72.6
1879	3.63	3.63	2.30	5.93	61.2	30.8	100.0	-	5.75	63.1	-	-
1880	3.49	3.49	2.68	6.31	55.3	45.6	100.9	2.35	6.25	55.0	37.6	93.4
1881	3.37	3.45	2.68	7.08	48.7	37.9	86.6	2.88	6.75	51.1	42.7	93.8
1882	3.21	3.21	2.05	6.31	50.9	32.5	83.4	-	6.13	52.4	-	-
1883	3.17	3.18	1.63	5.22	60.9	31.2	92.1	1.75	5.00	54.0	30.2	85.0
1884	3.30	3.29	1.70	6.09	54.0	27.9	81.9	1.45	6.25	52.6	23.2	75.8
1885	3.27	3.29	1.43	5.32	61.8	26.9	80.7	1.53	5.65	50.2	27.1	85.3
1886	3.22	3.04	1.25	5.22	50.2	23.9	82.1	1.38	4.75	64.0	29.1	93.1
1887	3.41	3.43	1.40	5.51	62.3	25.4	87.7	1.88	4.85	70.7	30.8	109.5
1888	3.09	3.12	1.43	6.85	45.5	20.9	66.4	2.05	5.05	53.3	35.0	88.3
1889	3.80	3.83	1.38	6.93	55.3	19.9	75.2	1.88	6.00	55.7	27.3	83.0
1890	3.63	3.64	1.23	6.74	54.0	18.2	72.2	1.50	6.13	59.4	24.5	83.9
1891	3.55	3.55	1.10	6.50	54.6	16.9	71.5	1.65	6.13	57.9	26.9	84.8
1892	3.17	3.22	1.05	6.16	52.3	17.0	69.3	1.40	5.38	59.9	26.0	85.9
1893	3.00	3.00	1.05	6.16	48.7	17.0	65.7	1.90	4.63	64.8	41.0	105.8
1894	3.69	3.66	2.08	7.17	51.0	29.0	80.0	2.55	6.63	55.2	38.5	93.7
1895	3.93	3.87	1.88	6.89	56.2	27.3	83.5	2.00	5.75	67.3	34.8	102.1
1896	3.87	3.85	0.95	6.69	57.5	14.2	71.7	1.20	5.30	71.6	22.3	93.9
1897	5.44	5.57	1.50	7.50	74.3	20.0	94.3	1.65	8.38	66.5	19.7	86.7
1898	6.70	7.19	1.83	-	-	-	-	1.00	10.25	70.1	18.3	80.4
1899	5.85	6.10	2.03	-	-	-	-	2.53	8.25	73.9	30.7	104.6

Sources: (A) Toyo Keizai Shinpo-sha ed., *Nihon Boeki Seiran* (Tokyo, 1935), p. 106; Yokohama-shi Shi, Vol. 3, Pt. II (Yokohama, 1903), pp. 205, 359; Nihon Inaki Kenkyu-jo ed., *Nihon Keizai Tokai Shu* (Tokyo, 1958), p. 171; Hsiao Liang-lin, *China's Foreign Trade Statistics* (Cambridge, Mass., 1974), pp. 190-91. (B) NCH, Commercial Intelligence, corresponding years. (C) See fn. 9. (D) Overland China Mail, Commercial Summary, corresponding years. Figures for 1875-1878, 1880 and 1891, NCH, Commercial Intelligence, corresponding years. Figures for 1887, 1888 (lowest) and 1890, NCH, Commercial Intelligence, corresponding years. (E) See Table 58.

Notes: 1) Figures in (A) are calculated on the basis of the Max. dollar-yen exchange rates. 2) Freight rates are the average between the highest and lowest rates available in each year. Quotations are mainly nominal rates and exclude rates without mentioning "coal" freight. 3) Figures in (B) are from Nagasaki or Kuchinotsu to Shanghai up until 1894, and from Moji to Shanghai after 1895. 4) Figures in (C) are calculated from those in tael on the basis of the exchange rates in Hsiao Liang-lin, *Ibid.*, CR 1876, Summary of Commercial Reports in Japan, pp. 40-41, and Nihon Ginko Tokai-kyoku, *Ipono Shuyo Keizai Tokai* (Tokyo, 1966), p. 310. 5) Figures in (C) after 1876 and (E) are the average between the highest and lowest prices in June and December in each year. 6) For 1898 and 1899, no quotations are available for coal from the main Japanese mines in Shanghai.

with other coals. In Singapore, as we have seen, though the smallness of the market and the relatively high market price of coal favoured an increase in Japanese coal imports, Japanese coal had to be supplied in large quantities at a low price in order to overcome the competition.

The later increase in demand for coal was caused by the rising tension in the political situation of the Far East. Although Japanese coal was able to keep established markets because transactions were mainly carried out on a contract basis, the increase in imports of coal from Britain for naval use influenced Japanese coal in Hongkong. However, since the rise in price of Japanese coal was offset by the decline in freight rates from 1896 to 1898 and imports of British coal did not increase, due to the 1898 coal strike, Japanese coal was able to maintain its predominant position in the Hongkong market. The increase in domestic coal consumption and the consequent rise in production costs also created a market situation in which "but a small margin of difference is left between the cost at which coal can be laid down in Manila, Singapore, and Hong-Kong from Australia and from Japan", making Australian coal more competitive.<sup>(249)</sup>

The advance of Japanese coal into the Eastern market reveals an interesting pattern in Japan's coal exports. It was Takashima coal, which was the best Japanese coal, that opened up the new market. Takashima coal always played an important role as a spear-head in defeating other foreign coals in the face of keen competition from Britain and Australia, and paved the way for other Japanese types of coal, such as Miike coal, which were inferior in quality to Takashima coal. A British consular report for the year 1887

pointed out that "a peculiar feature of the business was that this [Takashima] coal was sought after from more distant ports than has hitherto been the case."<sup>(250)</sup>

Takashima coal had ousted British and Australian coal from the Shanghai market by 1873. When Takashima coal exports were shifted to Hongkong, partly in the face of strong competition from Miike coal, Miike coal took over the Shanghai market for Japanese coal and established an overwhelming position in 1880 against the background of a general increase in demand for coal both for steamers and for factories in China. Miike coal was exported to Hongkong from the mid-1880s onwards, leaving the Shanghai market to Chikuho coal which was inferior in quality to Miike coal. In the Hongkong market, Takashima coal competed strongly against British and Australian coal, supported by the supply of Miike coal in large quantities, and Japanese coal gained control of the Hongkong coal market in 1886. Chikuho coal which came to the Shanghai market to supplement Miike coal was exported from the late 1880s, reached Singapore in the 1890s and played a major role in establishing the market for Japanese coal there.

## CONCLUSION

I have performed a statistical review of Japan's export trade with reference to her three main export articles of raw silk, tea and coal, in the context of the development of the world economy in the second half of the nineteenth century. Industrialization of the European countries and of the United States changed the structure of the world economy, transforming the pattern of the worldwide supply and demand relationship which existed between the primary producing and the developed countries. Japan was able to increase her export trade through exploiting this structural change in the world economy. Exports developed in connection with overseas markets, with support from the rapid development of export industries and the favourable international economic situation provided by the expansion of world trade and rapidly changing world economic structure. Additional factors were the development of a worldwide transportation and telecommunication network and the depreciation of foreign exchange rates.<sup>(1)</sup>

Japan's economic development took place within the framework of the commercial treaties with the Western powers. Although the contribution made by the Meiji government should not be overestimated, it did play a great role in preparing the institutional set-up for industrialization, protecting the domestic market from the encroachment of foreign capital and encouraging the development of domestic industries.<sup>(2)</sup> Both traditional and modern industry developed under the protection of the economic policies of the Meiji government. It was Japan's centralized and independent government, and the effective



economic policies which it was able to institute, which made the path of her economic development so different from China's. It must, however, be noted that the economic and trade policies of the Meiji government would not have succeeded without the benefit of the experience gained by the Bakufu during the period before the Meiji Restoration.

Japan's first responses to the international economy date from her incorporation in 1859. In two main export articles, raw silk and tea, she had to challenge the Chinese monopoly and competed with Chinese products on the European and the American markets. As a Japanese export, silk provides an example of how Japan was able to increase its exports successfully during the industrialization process, through change and adjustment to the demand in overseas markets. Tea provides a contrasting example of a case in which Japan was not able to increase its exports, although they played an important role in early Japanese economic development until the introduction of modern industries in the late 1880s.

Japanese silk was exported to the European market after the opening of the ports. Exports were increased to supplement the deficiency of Chinese silk caused by a decline in production due to the Taiping Rebellion. This was facilitated by the opening of regular services by P. & O. and Messageries Imperiales in the mid-1860s. The possibilities of market expansion of Japanese silk depended on its competitiveness not only with Chinese and Bengal silk but also with European silk. In the second half of the 1860s, the market for Japanese silk became restricted, partly because of the recovery of Chinese and European silk, and partly because of the increase in

competition between various types of Asian silk caused by the opening of the Suez Canal in 1869. In addition, the increase of raw silk exports from Japan had simultaneously caused a deterioration in quality and a consequent decrease in competitiveness with other silk on the European market. Japanese silk faced continuous direct competition in the European market from Chinese and Bengal silk up to the mid-1870s, chiefly owing to a steady deterioration in quality and the consequent decline in price and also because of competition from abundant and cheaper supplies of European silk in the late 1870s and early 1880s. In both quality and price, Japanese silk had to face keen competition from Italian, Chinese and Bengal silk on the European market. Possibilities for market expansion were restricted by the stagnation of domestic raw silk production, technological deficiencies in silk reeling and the consequent decline in quality. A combination of these factors made it necessary to shift the export market from Europe to the United States.

Since the sericulture and silk reeling industries were based on seasonal and intensive manual labour, the difference in productivity between Japan and the advanced silk producing countries such as France and Italy was small by comparison with the cotton industry. It was therefore possible for Japanese silk to compete with French and Italian silk of superior quality in the international market soon after the opening of the ports in 1859, in view of the highly developed nature of the silk industry in Japan. This fact equally implied, however, that because of the small gap in productivity and technology, Japanese silk had to face severe competition from Chinese and Bengal silk although they were of inferior quality.

However, as the Japanese share in the European silk market was small, particularly in comparison with Chinese silk, the quality of Japanese silk did not have to be good in order to meet demands. It was enough that its quality was comparatively better than Chinese and Bengal silk. This limit on the expansion of Japan's raw silk exports to the European market did however make necessary a rapid change of its export market from Europe to the United States.

Table 77. Japanese Raw Silk in the United States Market.

Period	Use	Warp	Weft	Machine twist & Sewing silk
1870s		Japanese	Chinese	
1880s	French Italian	Japanese	Chinese	
1890s	French, Italian Chinese(Filature)	Japanese	Chinese	Chinese

Faced with the difficulty of expanding its European market in the early 1870s, Japan found a temporary solution and was able to increase exports by shifting her export market from Europe to the United States, which had emerged as a silk manufacturing country with the continuous expansion of the silk trade. This was facilitated by the completion of the Trans-Continental Railway in 1869. As the American silk industry developed in the 1870s, exports of Japanese silk to be used as the warp increased. The increase of silk exports from Japan was adversely affected by the diffusion of the power loom

in the 1880s and 1890s. In the 1880s, owing to the increase of superior Italian and French silk for the warp, Japanese silk was gradually ousted from the warp market to the weft market where it gradually replaced the inferior Chinese silk. In the 1890s Japanese silk was almost completely expelled from the warp market due to a continuous deterioration in quality and shifted to the weft market, where it completely expelled Chinese silk. In other words, Japan adjusted her raw silk exports according to the demands of the American silk industry, changing her main market from the warp to the weft. Coming in between European and Chinese silk both in quality and price, Japanese silk was thus able to remain in keen competition on the United States market.

The decline in quality of Japanese silk in the 1890s signalled the need for Japanese silk manufacturers in re-reel producing districts to reorganize their mode of production immediately.

In the expansion of the world silk trade, with the popularization of and increasing demand for silk fabrics, there was considerable geographical specialization between countries which were raw silk suppliers and countries which were raw silk consumers. By the end of the nineteenth century, Chinese raw silk specialized in meeting French requirements with regard to the type of silk manufacture and the consequent quality of raw silk needed, while Japan catered for the United States.<sup>(3)</sup> Japan took advantage of market conditions, changing the quality of her exported raw silk from hanks, which were produced by sedentary reeling machines, to re-reels and filatures by improving reeling technology in order to meet overseas demand. Japan's silk exports became to a great extent dependent on the United

States market from the first decade of the twentieth century. (See Table 18.) This was in line with the rapid development of good-quality silk production as a result of technological progress.<sup>(4)</sup> Japan's increasing dependence on the United States market meant however that she was vulnerable to fluctuations in the American economy; Japanese silk exports received a severe blow at the time of the 1929 economic depression.<sup>(5)</sup>

Tea was another of Japan's main export articles, being sent to Britain until 1865. After that it was exclusively exported to the American market, depriving China of its monopoly of the United States market for green tea. The rapid increase in tea exports inevitably caused a deterioration in quality after 1871 as a consequence of hurried and careless preparation. However, the American green tea market remained relatively small in size, and Japanese tea had achieved success in its competition with Chinese tea by the mid-1870s. Nevertheless, it still had to face difficulties from competition with alternatives such as black tea from India, Ceylon and China, and also coffee and cocoa. In the second half of the 1870s, Japanese tea began to lose its former popularity among American consumers as quality deteriorated as a result of over-production. This deterioration in quality continued throughout the 1880s and 1890s. Though Japanese tea was able to maintain its market in the 1880s, the increase in the cost of labour and materials in Japan made it more difficult for Japanese tea to maintain a favourable market price in the United States. Exports of green tea from Japan suffered a severe blow in the 1890s because of deteriorating quality and a sharp rise in production costs.

Unlike raw silk and tea, Japanese coal exports developed in connection with the East Asian market, competing with British and Australian coals with the help of the depreciation of silver value.

The coal market in the East was formed and developed in the middle of the nineteenth century, during a stage of worldwide economic development. It was facilitated by the expansion of the market and the evolution of marine transportation and communication, which took place particularly after the opening of the Suez Canal in 1869. The coal industry in Japan developed considerably after the introduction of Western mining technology to supply coal to steamers engaged in the Eastern trade. As the demand for coal depends basically upon the combined factors of quality, supply and price, it is understandable why Japanese coal was in demand in the East and why, therefore, coal exports from Japan increased rapidly. Japanese coal was suitable for use in both steamers and factories and could be supplied at a lower price in order to gain an increasing market. Japanese coal was therefore able to overcome severe competition and established a predominant position in the Eastern market.

Table 78 shows the position of Japanese coal in the Eastern market. Japanese coal gained control over the Shanghai market in the mid-1870s, the Hongkong market in the mid-1880s, and the

Table 78. Japanese Coal in the Eastern Market.

Market	Period of keen competition with other coals	Year when Japanese coal took the highest share	Year when Japanese coal took over 50% share
Shanghai	1870-1873	1873	1875
Hongkong	1879-1886	1884	1886
Singapore	1888-1896	1894	1896

Singapore market in the mid-1890s. The advance of Japanese coal exports into the Asian market was in line with the gradual change in the pattern of Japan's foreign trade from Europe and the United States to Asia. The further the distance from Japan, the longer it took for dominance over other coals to be gained. Japan was, however, able to overcome the keen competition and expand coal exports by means of maintaining low production costs and reducing freight rates. As heavy industries developed after the Russo-Japanese War (1904-1905), domestic coal consumption grew rapidly, and a consequent shortage of coal for exportation led to a higher sales price for Japanese coal in overseas markets. This endangered the established market for Japanese coal by causing severe competition with Chinese and Australian coals. This made export from Japan disadvantageous and coal was gradually directed solely to the domestic market.<sup>(6)</sup>

While silk and tea trade was exclusively in the hands of Western merchants and shipping lines, the development of Japan's coal industry and maritime transportation was closely connected with the formation of the Zaibatsu, especially with Mitsubishi and Mitsui. Mitsubishi's interest in the Takashima coal mine began because of its shipping concerns, and expanded to the Chikuho coal mines in the 1890s. Mitsui was given an opportunity of becoming involved in coal exports and the coal industry by Mitsui Bussan's appointment as sole agent for Miike coal in 1876. Its involvement was increased by its actual purchase of the Miike coal mines in 1888 in order to compete with Mitsubishi. In any case, the coal industry became a very important field of activity both for Mitsubishi

and Mitsui.<sup>(7)</sup> It would not therefore be an exaggeration to say that coal exports played an important and strategic role in the early economic development of Japan.

It seems possible to conclude from this analysis of Japan's export trade that the most important factor in its expansion was a relative, not absolute, strength in competitiveness on the overseas market. Entrance into established markets and increases in exports were attained by keeping prices at a relatively low level. This was mainly due to maintenance of or reduction in production costs.<sup>(8)</sup> However, it does not necessarily follow that wages were low. In raw silk production, competitiveness was realized by low cocoon prices and technological developments in sericulture and silk reeling. Coal exports increased because of the reduction in production costs obtained through introducing high-productivity machinery, together with a decline in freight rates and depreciation in silver value. However, the competitiveness of Japanese tea was rapidly weakened by unfavourable overseas market conditions, such as keen competition from other alternatives and increases in production costs.

Exports of primary products in any case played an important and strategic role in industrialization as "a stepping board" both in encouraging the development of export industries themselves and in obtaining the foreign currencies needed for industrialization. By the mid-1890s Japan had passed through the first stage of modern economic development.<sup>(9)</sup> As industry developed, Japan's trade pattern became increasingly independent, comprising both trade with the industrialized countries of Europe and with the United States and trade with the undeveloped countries of Asia. This process was



inevitable, for Japan, as a latecomer country, could only attain industrialization through adjusting herself to the contemporary international economic situation.

FOOTNOTES

INTRODUCTION

- (1) The main factor which led to the differing industrialization patterns of China and Japan was not the way in which they were incorporated into the international economy but the way in which they responded on the basis of their previous development. In contrast to W. W. Rostow's narrow view of economic growth, which neglects the sphere of international economic relations (The Stages of Economic Growth, 2nd ed. (Cambridge: Cambridge University Press, 1971)), F. V. Moulder has attempted to reinterpret Japan's development in the world context through comparison with China (Japan, China and the Modern World Economy (Cambridge: Cambridge University Press, 1977)). However, one can hardly call objective an approach which seeks to explain the incorporation of China and Japan into the world economy through looking at the external role of the Western powers and ignoring all domestic factors apart from the governmental. (See ibid., p. 98 ff.) A. J. H. Latham has emphasized the importance of Asian and African countries in the economic development of the nineteenth century. (The International Economy and the Undeveloped World 1865-1914 (London: Croom Helm, 1978)) See also Ubukata Naokichi, Toyama Shigeki and Tanaka Masatoshi eds., Rekishi-zo Sai-kosei no Kadai (Tokyo: Ochanomizu Shobo, 1966), p. 12.
- (2) Investigation of the reasons why Japan was the only non-Western nation to attain modern economic growth in the late nineteenth century would seem to require further analysis, including comparative surveys of cultural and social conditions in Asian as well as Western countries. See S. Kuznets, Modern Economic Growth (New Haven and London: Yale University Press, 1966), pp. 290-94, 458-60. For commercial and agricultural developments before the opening of Japan, see C. D. Sheldon, The Rise of the Merchant Class in Tokugawa Japan 1600-1868 (New York: J. J. Augustin, 1958); T. C. Smith, The Agrarian Origins of Modern Japan (Stanford: Stanford University Press, 1959); W. B. Hauser, Economic Institutional Change in Tokugawa Japan (London: Cambridge University Press, 1974).
- (3) See H. Myint, The Economics of the Developing Countries, 4th (revised) ed. (London: Hutchison, 1973).
- (4) P. Deane and W. A. Cole, British Economic Growth 1688-1959, 2nd ed. (Cambridge: Cambridge University Press, 1969), pp. 28-30, 309-12; D. C. North, The Economic Growth of the United States 1790-1860 (Englewood Cliffs: Prentice-Hall, 1961), pp. 64-77; A. Maizels, Industrial Growth and World Trade (Cambridge: Cambridge University Press, 1963), pp. 111-12, 124; R. Nurkse, 'Patterns of Trade and Development', in J. D. Theberge ed., Economics of Trade and Development (New York: John Wiley & Sons, 1968); R. F. Emery, 'The Relation of Exports and Economic Growth', Kyklos, Vol. 20 (1967), p. 483.

- (5) W. W. Lockwood emphasizes the major role of foreign trade in Japan's industrialization. (The Economic Development of Japan, expanded ed. (Princeton: Princeton University Press, 1968), Chapter 6.) See also Mizunuma Tomoichi, 'Meiji Koki ni okeru Kiito Yushutsu no Doko', Shakai Keizai Shigaku, Vol. 28, No. 5 (1963), pp. 4-6, and 'Gaikoku Boeki no Hatten to Shihon no Yushutsu', in Kajinishi Mitsuhaya ed., Nihon Keizai-shi Taikei, Vol. 6 (Tokyo: Tokyo Daigaku Shuppan-kai, 1965), pp. 249-63; Nawa Toichi, Nihon Bosekiogyo to Genmen Mondai Kenkyu (Tokyo: Daido Shoin, 1937), p. 466; Shinohara Miyohei, Nihon Keizai no Seicho to Junkan (Tokyo: Sobun-sha, 1961), p. 288 ff.; A. C. Kelly and J. G. Williamson, Lessons from Japanese Development (Chicago and London: The University of Chicago Press, 1974), Chapter 12.

For the role of traditional industries in Japan's industrialization, see Furushima Toshio, Sanjyo Shi, III (Tokyo: Yamakawa Shuppan-sha, 1966); Shoda Kenichiro, Nihon Shihonshugi to Kindai-ka (Tokyo: Nihon Hyoron-sha, 1971), p. 158 ff.; Nakamura Takafusa, Senzenki Nihon Keizai Seicho no Bunseki (Tokyo: Iwanami Shoten, 1971), Chapter 2.

- (6) It is widely understood that the state has a significant role to play in the industrialization of latecomer countries. Japan is no exception to this rule. What is important is the nature of the relationship between the state and the private sector in economic development. For the role of the state in industrialization, see A. Gerschenkron, Economic Backwardness in Historical Perspective (Cambridge, Mass.: The Belknap Press of Harvard University Press, 1962), Chapter 1; Lockwood, op.cit., Chapter 10; H. Rosovsky, Capital Formation in Japan (Glencoe: Free Press, 1961), pp. 23, 24, 36; A. Maddison, Economic Growth in Japan and the USSR (London: G. Allen & Unwin, 1969), pp. 12, 14.

For the relationship between the public and private sectors, see Shoda, op.cit., Chapter 3; Kobayashi Masaaki, Nihon no Koogyoka to Kangyo Haraisage (Tokyo: Toyo Keizai Shinpo-sha, 1977); T. C. Smith, Political Change and Industrial Development in Japan (Stanford: Stanford University Press, 1955), Chapter 4; B. K. Marshall, Capitalism and Nationalism in Prewar Japan (Stanford: Stanford University Press), Chapter 2.

- (7) My conceptual framework comes from the last two headings cited by Karl Marx in his disposition for the analysis of the bourgeois economic system: foreign trade and world market. (A Contribution to the Critique of Political Economy, Preface (Moscow: Progress Publishers, 1970), p. 19.) In his draft "Introduction" he mentions "international conditions of production. International division of labour. International exchange. Export and import. Rate of exchange", and "world market and crises." (Ibid., p. 214.)

## CHAPTER I

- (1) D. K. Aldcroft and H. W. Richardson, The British Economy 1870-1939 (London: Macmillan, 1969), p. 62.
- (2) E. A. G. Robinson, 'The Changing Structure of the British Economy', The Economic Journal, Vol. 64, No. 255 (1954), pp. 447-48.  
I do not intend here to discuss the concept of the imperialism of free trade. For this, see J. Gallagher and R. Robinson, 'The Imperialism of Free Trade', and O. MacDonagh, 'The Anti-Imperialism of Free Trade', both in A. G. L. Shaw ed., Great Britain and the Colonies 1815-1865 (London: Methuen, 1970). These discussions should be seen in the light of detailed area studies: see D. C. M. Platt, Finance, Trade, and Politics in British Foreign Policy 1815-1914 (Oxford: Clarendon Press, 1968) and D. K. Fieldhouse, Economics and Empire 1830-1914 (London: Weidenfeld and Nicolson, 1973).
- (3) A. H. Imlah, Economic Elements in the Pax Britannica (Cambridge, Mass.: Harvard University Press, 1958), p. 189
- (4) W. W. Rostow, The World Economy (London: Macmillan, 1978), p. 67.
- (5) J. D. Chambers, The Workshop of the World, 2nd ed. (Oxford: Oxford University Press, 1968). W. H. B. Court, A Concise Economic History of Britain from 1750 to Recent Times (Cambridge: Cambridge University Press, 1954), p. 317.
- (6) W. Ashworth, An Economic History of England 1870-1939 (London: Methuen, 1960), p. 141.
- (7) W. Schlote, translated by W. O. Henderson and W. H. Chaloner, British Overseas Trade from 1700 to the 1930s (Oxford: Basil Blackwell, 1952), p. 43. For foreign competition, see D. K. Aldcroft ed., The Development of British Industry and Foreign Competition 1875-1914 (London: G. Allen & Unwin, 1968), and, for the American impact on the world economy, see W. Woodruff, America's Impact on the World (London: Macmillan, 1975), Chapter 7.
- (8) Fieldhouse, op.cit., p. 11.
- (9) S. B. Saul, Studies in British Overseas Trade 1870-1914 (Liverpool: Liverpool University Press, 1960), p. 62; Court, op.cit., p. 319; A. G. Kenwood and A. L. Loughhead, The Growth of the International Economy 1820-1960 (London: G. Allen & Unwin, 1971), p. 103. See also A. O. Hirschmann, 'The Commodity Structure of World Trade', The Quarterly Journal of Economics, Vol. 57, No. 4 (1943).  
What happened was that the relative contribution of Britain's entrepot trade was reduced. Quinquennially, the annual average of re-exports as a proportion of total imports gradually declined after a peak of 19.5 per cent for the period 1861-65. (Imlah, op.cit., p. 170.)  
The state of the international economy in the second half of the nineteenth century should be seen in the light of the Great Depression. For discussion of this matter, see H. L. Beales,

- 'The "Great Depression" in Industry and Trade', Economic History Review, Vol. 5, No. 1 (1934); D. J. Coppock, 'British Industrial Growth during the "Great Depression"(1873-1896): A Pessimist's View', and A. E. Musson, 'British Industrial Growth, 1873-96: a Balanced View', both in Economic History Review, 2nd series, Vol. 17, No. 2 (1964); S. B. Saul, The Myth of the Great Depression 1873-1896 (London: Macmillan, 1969).
- (10) S. Kuznets, 'Quantitative Aspects of the Economic Growth of Nations: X. Level and Structure of Foreign Trade: Long-Term Trends', Economic Development and Cultural Change, Vol. 15, No. 2, Part II (1967), p. 33.
- (11) Ashworth, op.cit., pp. 147-48, and A Short History of the International Economy since 1850, 3rd ed. (London: Longman, 1975), pp. 215-16.
- (12) Kuznets, 'Level and Structure of Foreign Trade', p. 38. The term "underdeveloped countries" means countries outside the United States, Canada, the United Kingdom including Ireland, and Europe.
- (13) Britain's share in world industrial production decreased from 31.8 per cent in 1870 to 26.6 per cent in 1881/85 and 19.5 per cent in 1896/1900. In contrast, the United States' share increased from 23.3 per cent in 1870 to 28.6 per cent in 1881/85 and 30.1 per cent in 1896/1900, and Germany's share from 13.2 per cent to 13.9 per cent and 16.6 per cent over the same periods. (League of Nations, Industrialization and Foreign Trade (Geneva: League of Nations, 1945), p. 13.)
- (14) Schlote, op.cit., B. Chapter 2, 3. S. B. Saul, 'Export Economy 1870-1914', Yorkshire Bulletin of Economic and Social Research, Vol. 17, No. 1 (1965), p. 13.
- (15) Aldcroft ed., op.cit., p. 31; Aldcroft and Richardson, op.cit., pp. 71-74. Ashworth, An Economic History of England, pp. 142-45. See also C. P. Kindleberger, 'Foreign Trade and Economic Growth: Lessons from Britain and France, 1850 to 1913', Economic History Review, 2nd series, Vol. 14, No. 2 (1961).
- (16) M. Simon, 'The Pattern of New British Portfolio Foreign Investment, 1865-1914', in A. R. Hall ed., The Export of Capital from Britain 1870-1914 (London: Methuen, 1968), pp. 39-40.
- (17) Saul, Studies in British Overseas Trade, pp. 44-45, 60. Ashworth, An Economic History of England, p. 149. F. E. Hyde, Blue Funnel (Liverpool: Liverpool University Press, 1956), p. 138.
- (18) Imlah, op.cit., Table 4, pp. 70-75. Aldcroft and Richardson, op.cit., pp. 93-94.

- (19) Ashworth, A Short History of the International Economy, pp. 217-19, and 'The Late Victorian Economy', Economica, New series, Vol. 33, No. 129 (1966), pp. 26-27. A. J. Brown, 'Britain in the World Economy 1870-1914', Yorkshire Bulletin of Economic and Social Research, Vol. 17, No.1 (1965), p. 47.
- (20) P. Mathias, The First Industrial Nation (London: Methuen, 1969), p. 314.
- (21) Ashworth, A Short History of the International Economy, p. 210.
- (22) Saul, Studies in British Overseas Trade, pp. 60-64, 114.
- (23) Court, op.cit., p. 320.
- (24) Aldcroft ed., op.cit., p. 23. See also Saul, 'The Export Economy 1870-1914', pp. 9, 12.
- (25) W. A. Lewis, 'World Production, Prices and Trade, 1870-1960', Manchester School, Vol. 20, No. 2 (1952), p. 117. Saul, The Myth of the Great Depression, pp. 30, 54, and 'The Export Economy 1870-1914', p. 11. R. A. Church, The Great Victorian Boom 1850-1873 (London: Macmillan, 1975), p. 66.
- (26) A. J. Brown, op.cit., p. 47. See also H. W. Richardson, 'Retardation in Britain's Industrial Growth, 1870-1913', Scottish Journal of Political Economy, Vol. 12, No. 2 (1965).
- (27) See Ashworth, An Economic History of England, pp. 150-51.
- (28) S. C. Lockwood, Augustine Heard and Company 1858-1862 (Cambridge, Mass.: East Asian Research Center, Harvard University, 1971), p. 103. C. K. Harley, 'The Shift from Sailing Ships to Steamships, 1850-1890: A Study in Technological Change and Its Diffusion', in D. N. McCloskey ed., Essays on a Mature Economy: Britain after 1840 (London: Methuen, 1971), p. 224.
- (29) Through the opening of the Suez Canal, the distance between London and Singapore was reduced by 28.8 per cent from 11,740 nautical miles via the Cape to 8,362 nautical miles, that between London and Hongkong by 25.6 per cent from 13,180 nautical miles to 9,799 nautical miles and that between London and Shanghai by 24.1 per cent from 14,050 nautical miles to 10,669 nautical miles. The number of ships using the Canal increased from 485 in 1870 to 2,026 in 1880. (J. Rabino, 'The Statistical Story of the Suez Canal', Journal of the Royal Statistical Society, Vol. 50, Part III (1887), pp. 522, 526.)
- (30) G. C. Allen and A. G. Donnithorne, Western Enterprise in Far Eastern Economic Development: China and Japan (London: G. Allen & Unwin, 1954), p. 269. See also W. P. Mangum to W. H. Seward, 20 Oct. 1871, in Despatches from United States Consuls in Nagasaki, 1860-1906, Vol. 2.

- (31) CR 1872, Shanghai, p. 149, in BPP, CHINA, Vol. 10, p. 459. See also C. Mackenzie, Realms of Silver (London: Routledge and Kegan Paul, 1954), p. 70; F. E. Hyde, Far Eastern Trade 1860-1914 (London: A. & C. Black, 1973), pp. 62-63.
- (32) Britain's share in world shipping fell towards the turn of the century due to successful competition from Germany, and in the Far East, from Japan in particular. (See D. K. Aldcroft, 'The Mercantile Marine', in Aldcroft ed., op.cit.)
- (33) B. Cable, A Hundred Year History of the P. & O., 1837-1937 (London: Nicholson and Watson, 1937), pp. 105, 173.
- (34) M. Medzini, French Policy in Japan during the Closing Years of the Tokugawa Regime (Cambridge, Mass.: East Asian Research Center, Harvard University, 1971), p. 109.
- (35) The journey from San Francisco to Hongkong took about twenty-two days. A British consular report for the year 1868 stated that "the opening of this line is an interesting feature in the relations of the Western world with China and the far(sic) East generally, and cannot fail to be productive of important results". (CR 1868, Kanagawa, p. 309, in BPP, JAPAN, Vol. 4, p. 329.) For the comment on the Pacific Mail line by the United States consul, see G. S. Fisher to W. H. Seward, No. 48, 9 Oct. 1865, in Despatches from United States Consuls in Kanagawa, 1861-1897, Vol. 2.
- (36) Allen and Donnithorne, op.cit., p. 124.
- (37) H. A. Innis, A History of the Canadian Pacific Railway (Toronto: University of Toronto Press, 1923), p. 138. G. Musk, Canadian Pacific 1883-1968, revised ed. (London: Canadian Pacific, 1968), p. 2.
- (38) Hyde, Blue Funnel, p. 56. For shipping conferences in regard to the Far East, see Hyde, Blue Funnel, Chapter 4, and Far Eastern Trade, pp. 24-41; S. Marriner and F. E. Hyde, The Senior John Samuel Swire 1825-98 (Liverpool: Liverpool University Press, 1967), Chapters 8, 9; B. M. Deakin (with T. Seward), Shipping Conferences (Cambridge: Cambridge University Press, 1973), pp. 29-36.
- (39) 'Kahei Seido Chosa-kai Hokoku', Kaidai, in Meiji Zenki Zaisei Keizai Shiryo Shusei, Vol. 12 (Tokyo: Kaizo-sha, 1933), pp. 1-2.
- (40) See DCRTF, No. 1266, Shanghai for the Year 1892, p. 14, in BPP, CHINA, Vol. 18, p. 206; DCRTF, No. 1605, Shanghai for the Year 1894, p. 14, in BPP, CHINA, Vol. 19, p. 192; DCRTF, No. 1786, Hyogo and Osaka for the Year 1895, pp. 46-47, in BPP, JAPAN, Vol. 10, pp. 204-205.
- (41) 'Kahei Seido Chosa-kai Hokoku', p. 198 ff.

- (42) For the importance of Japan and China to changes in the pattern of trade and in international monetary settlements, see Hyde, Far Eastern Trade, Chapter 9.
- For the problems surrounding the opening of China and the development of trade and diplomatic relations, see J. K. Fairbank, Trade and Diplomacy on the China Coast (Cambridge, Mass.: Harvard University Press, 1953), and B. Dean, China and Great Britain (Cambridge, Mass.: East Asian Research Center, Harvard University, 1974). For British interests in Japan and the treaty negotiations, see W. G. Beasley, Great Britain and the Opening of Japan 1834-1858 (London: Luzac, 1951), and The Meiji Restoration (Stanford: Stanford University Press, 1973), Chapter 4.
- (43) See 'General Report by Sir H. S. Parkes, and Note to Japanese Minister for Foreign Affairs respecting the Causes obstructing the Development of Trade', Sir H. Parkes to the Earl of Derby, Hakodate, 30 Aug. 1874, Inclosure, p. 112, in BPP, JAPAN, Vol. 5, p. 438.

## CHAPTER II

- (1) The United States had taken the initiative in opening Japan because of their immediate and practical need for coaling stations on the long-distance Pacific steamer line to China, and for ports of refuge for whaling vessels in the Northern Pacific. (See Yokohama-shi ed., Yokohama-shi Shi, Vol. 2 (Yokohama: Yurin-do, 1959), pp. 1-50.) For developments in domestic politics, see W. G. Beasley, Select Documents on Japanese Foreign Policy (London: Oxford University Press, 1955), Introduction, and The Meiji Restoration; Yokohama-shi Shi, Vol. 2, pp. 133-157.
- (2) Trade was the fundamental element to Britain's expansion in the Far East and fair and equal treatment for British trade and finance continued to be a principal element in British foreign policy even after Britain had gone on the defensive in the mid-1880s. (Platt, op.cit., pp. 263-65, 367-68.) While the vast potentialities of the China market attracted interest from British manufacturers, Japan was thought to be without commercial prospects. (Beasley, Great Britain and the Opening of Japan, pp. 85-86.)
- For the basic difference in viewpoints between British merchants and the British government, especially the Board of Trade and the Foreign Office, on the China market, see N. A. Pelcovits, Old China Hands and the Foreign Office (New York: Octagon Books, 1969 (Reprint)). This applied to Japan trade as well.
- For extraterritoriality, see F. C. Jones, Extraterritoriality in Japan and the Diplomatic Relations Resulting in its Abolition 1853-1899 (New Haven: Yale University Press, 1931), Chapters 3, 4; J. E. Hoare, 'The Japanese Treaty Ports, 1868-1899: A Study of the Foreign Settlement' (Unpublished Ph.D. Thesis, University of London, 1971), Chapters 3, 4.



- (3) Duties on cotton and woollen manufactures, the main export articles from Britain, were at 20 per cent in the trade regulations drawn up by Japanese with the United States, but were revised to 5 per cent in the regulations with Britain. (T. Dennett, Americans in Eastern Asia (London: Macmillan, 1922) pp. 359-60.) See also Yokohama-shi Shi, Vol. 2, pp. 181-87.
- (4) See Yokohama-shi Shi, Vol. 2, pp. 474-95.
- (5) Ibid., p. 503.
- (6) 'Correspondence respecting the Revision of the Japanese Commercial Tariff', Inclosure in No. 1, in BPP, JAPAN, Vol. 3, p. 495 ff.
- (7) Yamazawa Ippai and Yamamoto Yuzo, Boeki to Kokusai Shushi (LTES Vol. 14) (Tokyo: Toyo Keizai Shinpo-sha, 1979), p. 77.
- (8) For the treaty revision process, see Jones, op.cit., Chapters 5-8, and Inoue Kiyoshi, Joyaku Kaisei (Tokyo: Iwanami Shoten, 1955).
- (9) This still left conventional tariff rates of from 5 per cent to 15 per cent on many items. Though this law could not protect domestic infant industries, the important thing was that foreign merchants were no longer protected by extraterritoriality. It was not until 1911 that Japan finally recovered complete tariff autonomy. (See Kinoshita Etsuji, 'Shihonshugi no Seiritsu to Gaikoku Boeki', in Kawai Ichiro et al., Koza Nihon Shihonshugi Hattatsu-shi Ron (Tokyo: Nihon Hyoron-sha, 1968), Vol. 1, pp. 236-40. For fluctuations in tariff rates by commodity, see Okura-sho, Zeikan-bu ed., Nihon Kanzei Shi Shiryo, Vol. 2 (Tokyo, 1958). For tariff rates revision in China, see S. F. Wright, China's Struggle for Tariff Autonomy: 1843-1938 (Shanghai: Kelly and Walsh, 1938).
- (10) Kiryu Orimono-shi Hensan-kai, Kiryu Orimono Shi, Vol. 2 (Kiryu: Kiryu Orimono Dogyo Kumiai, 1938), pp. 90-125; Sawada Akira, Edo-jidai ni okeru Kabu Nakama Kumiai Seido, tokuni Nishijin Oriya Nakama no Kenkyu (Kyoto: Daigaku-do Shoten, 1967 (Reprint)), pp. 235-42; Yokohama-shi Shi, Vol. 2, pp. 337-47, 577-630.
- (11) Shinbo Hiroshi, 'Bakumatsu-ki Meiji-ki no Kakaku Kozo', Shakai Keizai Shigaku, Vol. 33, No. 1 (1967), p. 17, and J. R. Huber, 'Effect on Prices of Japan's Entry into World Commerce after 1858', Journal of Political Economy, Vol. 79, No. 3 (1971), pp. 616-19. For further discussion, see Sugiyama Shinya, 'Bakumatsu Meiji Shoki ni okeru Kiito Yushutsu no Suryo-tekki Sai-kento', Shakai Keizai Shigaku, Vol. 45, No. 3 (1979), pp. 51-55.
- (12) CR 1864, Kanagawa, p. 290, in BPP, JAPAN, Vol. 4, p. 108. See also Hashimoto Jubei, Kiito Boeki no Hensen (Tokyo: Maruyama-sha Honten, 1902), pp. 26-27; Yamaguchi Kazuo, Bakumatsu Boeki Shi (Tokyo: Chuo Koron-sha, 1943), p. 229.

- (13) Yamaguchi, ibid., pp. 234-40.
- (14) Yamaguchi, ibid., pp. 281-90. Ishii Takashi, Bakumatsu Boeki Shi no Kenkyu (Tokyo: Nihon Hyoron-sha, 1944), pp. 323-332. Yokohama-shi Shi, Vol. 2, pp. 347-53. For price rises during the late Tokugawa period, see Shinbo, op.cit., and 'Bakumatsu no Bukka Hendo 1830-67', Keizai Kenkyu, Vol. 26, No. 4 (1975).
- (15) Yamaguchi, ibid., pp. 290-99. Ishii, ibid., pp. 332-46. Yokohama-shi Shi, Vol. 2, pp. 353-64.
- (16) Yamaguchi, ibid., p. 296. Yokohama-shi Shi, Vol. 2, p. 364.
- (17) Yamaguchi, ibid., p. 298.
- (18) Yamaguchi, ibid., p. 309 ff. Ishii, op.cit., p. 400 ff. Yokohama-shi Shi, Vol. 2, p. 395 ff.
- (19) Neale to the Japanese Ministers for Foreign Affairs, Yokohama, 26 Sept. 1863, in M. Paske-Smith, Western Barbarians in Japan and Formosa in Tokugawa Days, 1603-1868 (Kobe: J. L. Thompson, 1930), p. 208.
- (20) Yokohama-shi Shi, Vol. 2, pp. 415-17.
- (21) 'Kiito Yokohama Yushutsu Shirabe', 2-1, (51) and (52), in Yokohama-shi Shi, Shiryō Hen, Vol. 1 (Yokohama: Yurin-do, 1960), p. 205. See also Yokohama-shi Shi, Vol. 2, p. 425.
- (22) Yokohama-shi Shi, Vol. 2, pp. 408, 432.
- (23) Ibid., pp. 433-35.
- (24) Winchester to Alcock, 6 Oct. 1864, p. 14, in BPP, JAPAN, Vol. 4, p. 138; 'Kiito Yokohama Yushutsu Shirabe', 3-2, (117), p. 283.
- (25) Yokohama-shi Shi, Vol. 2, p. 430.
- (26) Alcock to Russell, Yokohama, 15 Oct. 1864, No. 75, p. 131, in BPP, JAPAN, Vol. 1, p. 289.
- (27) Yokohama-shi Shi, Vol. 2, p. 455.
- (28) Ibid., p. 459.
- (29) For Bakufu policy after 1865, see Yamaguchi, op.cit., pp. 328-49; Ishii, op.cit., pp. 448-96; Yokohama-shi Shi, Vol. 2, pp. 459-73.
- (30) Yamaguchi, ibid., pp. 338-39. For the trading ventures of some clans, see ibid., pp. 349-63.

- (31) For French trade policy towards Japan during this period, see Medzini, op.cit., Chapters 6, 10; R. L. Sims, 'French Policy towards Japan, 1854-1894' (Unpublished Ph.D. Thesis, University of London, 1968), Chapter 8; J. P. Lehmann, 'France and Japan 1850-1885' (Unpublished Ph.D. Thesis, University of Oxford, 1975), Chapters 1, 3; Ishii Takashi, Zotei Meiji Ishin no Kokusai-teki Kankyo (Tokyo: Yoshikawa Kobun-kan, 1973), pp. 615-58, 713-18; Shibata Michio and Shibata Asako, 'Bakumatsu ni okeru Furansu no Tainichi Seisaku', Shigaku Zasshi, Vol. 76, No. 8 (1975); Yamaguchi, op.cit., pp. 344-46.
- (32) Yamaguchi, ibid., pp. 346-49. Kanno Wataro, Bakumatsu Ishin Keizai-shi Kenkyu (Kyoto: Mineruba Shobo, 1961), Chapter 7.
- (33) See Suzuki Takeo ed., Zaisei Shi (Tokyo: Toyo Keizai Shinpo-sha, 1962), pp. 5-9. For the Shoho-shi and Tsusho-shi, see Okada Shunpei, Bakumatsu Ishin no Kahei Seisaku (Tokyo: Moriyama Shoten, 1955), pp. 71-93; Niwa Kunio, Meiji Ishin no Tochi Henkaku (Tokyo: Ochanomizu Shobo, 1962), pp. 81-119; Shinbo Horoshi, 'Ishin-ki no Shogyo, Kinyu Seisaku', Shakai Keizai Shigaku, Vol. 27, No. 5 (1962); Mamiya Kunio, 'Shoho-shi no Soshiki to Kino', Shakai Keizai Shigaku, Vol. 29, No. 2 (1963).
- (34) Revenues from issuing paper money and borrowings took up 72.6 per cent and 14.3 per cent respectively of total government finance in 1868, and 69.5 per cent and 2.6 per cent in 1869. It was not until 1873 that tax revenue became important. (Koichi Emi, Government Fiscal Activity and Economic Growth in Japan 1868-1960 (Tokyo: Kinokuni-ya, 1963), p. 113.)
- (35) 'Kasei Koyo', in Meiji Zenki Zaisei Keizai Shiryo Shusei, Vol. 13 (Tokyo: Kaizo-sha, 1934), p. 304.
- (36) Nakamura Naomi, Okuma Zaisei no Kenkyu (Tokyo: Azekura Shobo, 1968), pp. 19-30. See also A. E. Tiedemann, 'Japan's Economic Foreign Policies, 1868-1893', in J. W. Morley ed., Japan's Foreign Policy 1868-1941 (New York and London: Columbia University Press, 1974), p. 122.
- (37) For policy differences within the government, see Oe Shinobu, 'Chuo Shuken Kokka no Seiritsu', in Iwanami Koza Nihon Rekishi, Vol. 15 (Tokyo: Iwanami Shoten, 1962), and 'Okubo Seiken-ka no Shokusan Kogyo Seisaku Seiritsu no Seiji Katei', in Inada Shoji ed., Meiji Kokka Keisei Katei no Kenkyu (Tokyo: Ochanomizu Shobo, 1966); Harada Mikio, Nihon no Kindai-ka to Keizai Seisaku (Tokyo: Toyo Keizai Shinpo-sha, 1972), Chapter 2; Ishizuka Hiromichi, Nihon Shihonshugi Seiritsu-shi Kenkyu (Tokyo: Yoshikawa Kobun-kan, 1973), Chapter 1.
- For details of the history and activities of the Kobu-sho, see 'Kobu-sho Enkaku Hokoku', in Meiji Zenki Zaisei Keizai Shiryo Shusei, Vol. 17 (Tokyo: Kaizo-sha, 1933), and, for the development of the armament industry, see Ishizuka, ibid., Chapter 3.

- (38) Kobayashi, op.cit., pp. 56, 57. Ishizuka, ibid., pp. 108 and Table 2-1-1. See also Nagai Hideo, 'Shokusan Kogyo Seisaku Ron', Hokkaido Daigaku Bungaku-bu Kiyo, No. 10 (1961), pp. 133, 148-51.
- (39) Tiedemann, op.cit., p. 120. E. P. Reubens deals with the role of foreign capital in Japan. ('Foreign Capital and Domestic Development in Japan', in S. Kuznets, W. E. Moore and J. J. Spengler, Economic Growth: Brazil, India, Japan (Durham: Duke University Press, 1955.)) For details of railway construction, Tanaka Tokihiko, Meiji Ishin no Seikyoku to Tetsudo Kensetsu (Tokyo: Yoshikawa Kobun-kan, 1963).
- (40) Nagai, op.cit., p. 137. Ishimura Zensuke, Kogyo-ken no Kenkyu (Tokyo: Keiso Shobo, 1960), pp. 70-146.
- (41) Tiedemann, op.cit., pp. 118-19.
- (42) Harada, op.cit., p. 115.
- (43) Shoda, op.cit., p. 117.
- (44) Nagai, op.cit., p. 142. Harada, op.cit., p. 118, and Ishizuka op.cit., p. 291. In 'Shokusan Kogyo ni kansuru Kengi-sho' of 1874, Okubo expressed his views on the policy of encouraging industries, stressing the importance of the growth of the private sector. (Okubo Toshimichi Monjo, Vol. 5, pp. 561-66.)
- (45) Okubo, 'Honsho [Naimu-sho] Jigyo no Mokuteki o Sadamuru no Gi' (May 1875), in Okubo Toshimichi Monjo, Vol. 6, pp. 363-66. Okuma and Okubo, 'Yushutsu Buppin o motte Gaisai Shokyaku no Gi ni tsuki Ukagai' (Oct. 1875), in ibid., pp. 462-64. Okubo, 'Kaigai Chokubai no Kigyo o Hiraku no Gi' (Oct. 1875), in ibid., pp. 465-82. See also Nakamura, Okuma Zaisei no Kenkyu, pp. 120-21; Tiedemann, op.cit., pp. 128-29.
- (46) Shoda Kenichiro, 'Meiji Zenki no Chiho Sangyo o meguru Seifu to Minkan', in Takahashi Kohachiro ed., Nihon Kindai-ka no Kenkyu, Part I (Tokyo: Tokyo Daigaku Shuppan-kai, 1972), p. 153. See also Kinoshita, op.cit., pp. 247-48.
- (47) Kobayashi, op.cit., pp. 58, 62.
- (48) Ibid., p. 59. See also Tsuchiya Takao, 'Meiji Zenki Sangyo-shi ni okeru Hakuran-kai no Igi', and 'Meiji Zenki Sangyo-shi ni okeru Kyoshin-kai no Igi', both in Tsuchiya, Meiji Zenki Keizai-shi no Kenkyu (Tokyo: Nihon Hyoron-sha, 1944).
- (49) Okuma and Okubo, 'Yushutsu Buppin o motte Gaisai Shokyaku no Gi ni tsuki Ukagai'. Unno Fukuju, Meiji no Boeki (Tokyo: Hanawa Shobo, 1967), p. 72.
- (50) See Noshomu-sho, 'Meiji Jusan-nen Men To Kyoshin-kai Hokoku', pp. 1-2, in MZSHS, Vol. 9, No. 1. In 1876 raw silk exports greatly increased due to the bad cocoon harvest in Europe.

- (51) Harada, op.cit., p. 145; Oishi Kaichiro, "'Shokusan Kogyo" to "Jiyu Minken" no Keizai Shiso', in Cho Yukio and Sumiya Kazuhiko eds., Kindai Nihon Keizai Shiso Shi, Vol. 1 (Tokyo: Yuhikaku, 1969), p. 52; Nakamura, Okuma..., Chapter 3; Tiedemann, op.cit., pp. 132-33. For financial and currency problems during the period of the second half of the 1870s and early 1880s, see a number of articles in Japan Gazette, The Currency of Japan (Yokohama, 1882).
- (52) See Tiedemann, ibid., pp. 134-38.
- (53) Nakamura, Okuma..., Chapter 5. Okubo Toshikane, 'Meiji Juyonen no Seihen', in Meiji Shiryo Kenkyu Renraku-kai ed., Meiji Seiken no Kakuritsu Katei (Tokyo: Ochanomizu Shobo, 1954).
- (54) See G. C. Allen, A Short Economic History of Modern Japan, 3rd revised ed. (London: G. Allen & Unwin, 1972), pp. 50-53; Suzuki ed., op.cit., pp. 37-42; Harada, op.cit., Chapter 4.
- (55) Oishi, op.cit., pp. 50-62. See also Nakamura, Okuma..., pp. 202-203; Harada, op.cit., p. 179; Ishizuka, op.cit., pp. 135-36; Kobayashi, op.cit., p. 113
- (56) Oishi, ibid., p. 60.
- (57) Kobayashi, op.cit., pp. 102-108.
- (58) For details of the transfer of government enterprises, see Kobayashi, ibid., Chapters 5-12, and Smith, Political Change and Industrial Development in Japan, Chapter 8.
- (59) See H. T. Patrick, 'Japan 1868-1914', in R. Cameron ed., Banking in the Early Stages of Industrialization (New York: Oxford University Press, 1967), p. 267, and also DCRTF, No. 38, Trade of Kanagawa for the Year 1885, p. 7, in BPP, JAPAN, Vol. 8, p. 19.  
The account of the Yokohama Specie Bank is based on the following studies: Yokohama-shi Shi, Vol. 3, Part I (Yokohama: Yurin-do, 1961), pp. 665-88; ibid., Vol. 3, Part II (1963), Pt. 5, Chapter 3; ibid., Vol. 4, Part II (1968), Pt. 5, Chapter 3; Mizunuma Tomoichi, 'Meiji Zenki Yokohama Shokin Ginko no Gaikoku Kawase Kinyu', Tochi Seido Shigaku, No. 15 (1962); Watanabe Sahei and Kitahara Michitsura eds., Ginko (Gendai Nihon Sangyo Hattatsushi, Vol. 26) (Tokyo: Kojun-sha, 1966), pp. 136-47; Imuta Toshimitsu, 'Meiji Zenki ni okeru Boeki Kinyu Seisaku', in Ando Yoshio ed., Nihon Keizai Seisaku Shi Ron (Tokyo: Tokyo Daigaku Shuppan-kai, 1973); Shibuya Ryuichi ed., Meiji-ki Nihon Tokushu Kinyu Rippo Shi (Tokyo: Waseda Daigaku Shuppan-bu, 1977), Pt. 1, Chapters 1, 2.
- (60) Matsui Kiyoshi ed., Kindai Nihon Boeki Shi, Vol. 1 (Tokyo: Yuhikaku, 1959), pp. 373-74.
- (61) The following description is based on Yamaguchi Kazuo ed., Nihon Sangyo Kinyu Shi Kenkyu, Seishi Kinyu Hen (Tokyo: Tokyo Daigaku Shuppan-kai, 1966), pp. 10-12, 25-35, 35-74. See also

Yokohama-shi Shi, Vol. 4, Part I (Yokohama: Yurin-do, 1965) pp. 397-450, and Ishii Kanji, Nihon Sanshiqyo Shi Bunseki (Tokyo: Tokyo Daigaku Shuppan-kai, 1972), pp. 163-215.

For individual case studies of financing in Nagano, Yamanashi, Fukushima and Gunma Prefectures, see Yamaguchi ed., ibid., Chapters 2-5.

- (62) Yamaguchi Kazuo ed., Nihon Sangyo Kinyu Shi Kenkyu, Boseki Kinyu Hen (Tokyo: Tokyo Daigaku Shuppan-kai, 1970), Chapter 1, Section 1.

For the credit system supported by the Bank of Japan, see Ishii Kanji, 'Sangyo Shihon Kakuritsu Katei ni okeru Nihon Ginko Shinyo no Igi', Supplement of Yamaguchi Kazuo, Nihon Keizai Shi (Tokyo: Chikuma Shobo, 1968), and 'Nihon Ginko no Sangyo Kinyu', Shakai Keizai Shiqaku, Vol. 38, No. 2 (1972). For the role in finance of the Yokohama Specie Bank, see Yokohama-shi Shi, Vol. 4, Part II, pp. 743-65.

As for the original source of funds for industrialization, Nakamura Masanori points to the importance of funds accumulated by the landlord class on the basis of the "parasitic" landlord system (Kisei Jinushi-sei). (Kindai Nihon Jinushi-sei Shi Kenkyu (Tokyo: Tokyo Daigaku Shuppan-kai, 1979), Chapter 1.)

- (63) Yokohama-shi Shi, Vol. 4, Part II, p. 746.

- (64) Ibid., Vol. 3, Part I, pp. 624-25.

- (65) For the development of shipping, see Okuma Shigenobu, Fifty Years of New Japan, Vol. 1 (London: Smith, Elder, 1909), Chapter 19; Lockwood, The Economic Development of Japan, pp. 545-47; Yokohama-shi Shi, Vol. 4, Part I, pp. 510-616; Miwa Ryoichi, 'Kaijo Kotsu', in Furushima Toshio and Ando Yoshio eds., Ryutsu Shi, II (Tokyo: Yamakawa Shuppan-sha, 1975).

- (66) Yamaguchi Kazuo, 'Meiji Shoki no Gaikoku Kaiun to Mitsubishi Kaisha', in Nakamura Tsunejiro et al., Sekai Keizai Bunseki (Tokyo: Iwanami Shoten, 1962), pp. 143-45. Yokohama-shi Shi, Vol. 4, Part I, pp. 522-23.

- (67) DCRTF, No. 754, Trade of Yokohama for the Year 1889, p. 39, in BPP, JAPAN, Vol. 8, p. 481.

- (68) For the development of shipping by Mitsubishi, see Nippon Yusen Kaisha, Nanaju-nen Shi (Tokyo, 1956); Hatada Isao, Nihon no Zaibatsu to Mitsubishi (Tokyo: Rakuyu Shobo, 1978), pp. 36-44. For Iwasaki Yataro, see J. Hirschmeier, The Origins of Entrepreneurship in Meiji Japan (Cambridge, Mass.: Harvard University Press, 1964), pp. 221-26. K. Yamamura, A Study of Samurai Income and Entrepreneurship (Cambridge, Mass.: Harvard University Press, pp. 143-53.

- (69) Yamaguchi Kazuo, 'Meiji Shoki no Gaikoku Kaiun to Mitsubishi Kaisha', pp. 143-54. Nippon Yusen Kaisha, op.cit., pp. 11-12. See also, CR 1875, Hyogo and Osaka, pp. 22-23, in BPP, JAPAN, Vol. 5, pp. 604-605.

- (70) Nippon Yusen Kaisha, op.cit., pp. 15-19. This was related to some extent to Okuma's expulsion from the government in 1881, as Mitsubishi had close connections with him.
- (71) Hattori Kazuma, 'Nihon Yusen Kaisha no Seiritu', Keizai to Boeki, No. 85 (1964). Kaji Teruyoshi, 'Nidai Teiki-sen Kaisha no Soritsu', Kaiji Kotsu Kenkyu, No. 16 (1979).
- (72) Miwa, op.cit., p. 333.
- (73) Nippon Yusen Kaisha, op.cit., pp. 40-47.
- (74) See Inoue Yoichiro, 'Meiji Koki no Kaiji Seisaku', in Ando ed., op.cit., p. 159 ff.
- (75) Figures refer to the total of steamers and sailing ships: Japanese-style ships are excluded. Nihon Teikoku Tokei Nenkan, No. 1 (for the Year 1880), pp. 244-45; No. 11 (1892), p. 706; No. 20 (1900), p. 792.
- (76) DCRTF, No. 961, Foreign Trade of Japan for the Year 1890, p. 11, in BPP, JAPAN, Vol. 8, p. 627. See also figures for 1890 in Table 4.
- (77) J. K. Fairbank, A. Eckstein and L. S. Yang, 'Economic Change in Early Modern China: An Analytic Framework', Economic Development and Cultural Change, Vol. 9, No. 1 (1960), p. 17.
- (78) See, e.g., S. Marriner, Rathbones of Liverpool 1845-73 (Liverpool: Liverpool University Press, 1961), p. 47.
- (79) For the development of Jardine, Matheson & Co. in the early nineteenth century, see M. Greenberg, British Trade and the Opening of China 1800-42 (Cambridge: Cambridge University Press, 1951), and W. E. Cheong, Mandarins and Merchants (London: Curzon, 1979). For the activities of Jardine, Matheson & Co. in Japan and China during the second half of the nineteenth century, see J. McMaster, Jardines in Japan 1859-1867 (Gronigen, Druk V.R.B., 1966), and E. LeFevour, Western Enterprise in Late Ch'ing China (Cambridge, Mass.: East Asian Research Center, Harvard University, 1968).  
 For Butterfield and Swire, see Marriner and Hyde, op.cit., and C. Drage, Taikoo (London: Constable, 1970). For other firms engaged in the Far Eastern trade, see Kwang-Ching Liu, Anglo-American Steamship Rivalry in China 1862-1874 (Harvard University Press, 1962) for Russell & Co.; also Lockwood, Augustine Heard and Company; Marriner, op.cit.; S. Jackson, The Sassoons (London: Heinemann, 1968).  
 See also Allen and Donnithorne, op.cit.; Mackenzie, op.cit.; G. Fox, Britain and Japan 1858-1883 (Oxford: Clarendon Press, 1969), Chapters 2, 12, 14.

- (80) Marriner and Hyde, op.cit., p. 42; Marriner, op.cit., pp. 61, 62, 68; D. R. MacGregor, The Tea Clippers (Conway Maritime Press, 1972), p. 9. See also, G. S. Fisher to W. H. Seward, No. 19, 1 Oct. 1862, in Despatches from United States Consuls in Kanagawa, 1861-97, Vol. 1.
- (81) As Pelcovits had pointed out, the 1860s were also crucial in terms of British foreign policy towards China. (Op.cit., pp. 29-31.)
- (82) Marriner, op.cit., pp. 71, 112. Lockwood, Augustine Heard and Company, pp. 118-19.
- (83) Marriner, ibid., p. 158. Lockwood, ibid., p. 14.
- (84) See McMaster, op.cit., pp. 104-105.
- (85) Marriner, op.cit., p. 112.
- (86) LeFevour, op.cit., p. 48. Marriner, ibid., p. 37. Marriner and Hyde, op.cit., p. 121.
- (87) For joint account trading, see Marriner, ibid., pp. 68-73.
- (88) See LeFevour, op.cit., p. 48. "Western merchants in the China trade complained almost continuously of reduced profits" even in the 1870s and early 1880s. (C. F. Remer, The Foreign Trade of China (Shanghai: Commercial Press, 1926), p. 41.)
- (89) General Report on the Trade of Japan for the Year 1884, p. 116, in BPP, JAPAN, Vol. 7, p. 500. Figures are also available for 1882 and 1883, but the number of firms in Nagasaki is given at 19 for both years which seems implausible by comparison with figures of 53 and 56 in Hyogo and Osaka respectively. (Annual Summary of the Foreign Trade of Japan for the Year 1882, p. 42, in ibid., Vol. 7, p. 210; Summary of the Foreign Trade of Japan for the Year 1883, p. 196, in ibid., Vol. 7, p. 380.)
- (90) G. S. Fisher to W. H. Seward, No. 48, 9 Oct. 1865, in Despatches from United States Consuls in Kanagawa, 1861-1897, Vol. 2.
- (91) G. S. Fisher to W. H. Seward, No. 221, 18 Oct. 1866, in ibid., Vol. 3.
- (92) See, Mizunuma, 'Gaikoku Boeki no Hatten to Shihon no Yushutsu', pp. 281-92.
- (93) Yokohama-shi Shi, Vol. 5, Part I (Yokohama: Yurin-do, 1971), p. 212.
- (94) Many silk inspectors were Swiss. (Nakai Akio, Shoki Nihon-Suisu Kankei Shi (Tokyo: Kazama Shobo, 1971), p. 258.)



- (95) Another British consular report referred to figures for the season 1884-85:
- ... out of a total export of 25,402 bales, 4,964 bales [20 per cent] were exported by British merchants established in Japan, and, of the export to the United States, amounting ... to 11,143 bales, the quantity exported by British merchants was 1,879 bales [17 per cent] ... (CR 1884, General Report on the Trade of Japan for the Year 1884, p. 107, in BPP, JAPAN, Vol. 7, p. 491.
- (96) During the Bakumatsu period there had existed a different type of trade, between individual clans and Western merchants, but this type of trade was bypassed by an attempt to form a governmental trade organization in the early Meiji period. (See Unno Fukuju, 'Meiji Shonen no Boeki Mondai', in Iwanami Koza Nihon Rekishi, Vol. 15, p. 124 ff.)
- (97) Unno, Meiji no Boeki, p. 25. Nakamura Masanori, 'Kikai Seishi no Hatten to Shokusan Kogyo Seisaku', Rekishigaku Kenkyu, No. 290 (1964), pp. 25-26. For the functioning of export merchants in general, see Yokohama-shi Shi, Vol. 3, Part I, pp. 559-81.
- (98) 'Rengo Kiito Niazukarisho Kokuchi-sho' (1873), in Yokohama Shiyaku-sho, Yokohama-shi Shi Ko, Sangyo Hen (Yokohama: Yokohama Shiyaku-sho, 1932), pp. 441-42, and also in Yokohama Shogyo Kaigi-sho ed., Yokohama Kaiko Goju-nen Shi, Vol. 2 (Yokohama, 1909), p. 536.
- (99) For export merchants in the silk trade, see Yokohama-shi Shi, Vol. 3, Part I, pp. 581-603.
- (100) Hara Zenzaburo, Kiito Boeki Ron (1898), quoted by Yokohama-shi Shi, Vol. 3, Part I, p. 636.
- (101) The custom of silk transaction in Kobe was a completely opposite and favourable example: the price was set at the beginning of the transaction and cancellation were not general regardless of reports from overseas markets. (Kaiko Sanju-nen Kinen-kai, Kobe Kaiko Sanju-nen Shi, Vol. 2 (Kobe 1898), p. 378.)
- (102) Yokohama Kaiko Goju-nen Shi, pp. 535-36. For similar price manipulations in silkworm egg transactions, see 'Sanshu Shoho', in Meiji Bunka Zenshu, Vol. 9 (Tokyo: Nihon Hyoron-sha, 1929), pp. 83-84.
- (103) Yokohama Kaiko Goju-nen Shi, Vol. 2, pp. 536-37. Fujimoto Jitsuya, Kaiko to Kiito Boeki, Vol. 2 (Tokyo: Toko Shoin, 1939), p. 624.
- (104) Kobe Kaiko Sanju-nen Shi, Vol. 2, pp. 650-52. Nihon Cha Yushutsu Hyaku-nen Shi Hensan Iin-kai ed, Nihon Cha Yushutsu Hyaku-nen Shi (Tokyo: Nihon Cha Yushutsu Kumiai, 1959), quoted by Cho Yukio, 'Meiji Zen-Chu-ki no Sho-Eigyō', in Kawashima Takeyoshi and Matsuda Tomoo eds., Kokumin Keizai no Sho-ruikei (Tokyo: Iwanami Shoten, 1968), p. 638.

- (105) Kobe Kaiko Sanju-nen Shi, Vol. 2, p. 375.
- (106) Neither the Bakufu nor the Meiji government were willing to make any compromises in enforcement beyond what was already stipulated in the treaties, and took a strict attitude towards the commercial activities of Western merchants. (See Oyama Azusa, Kyu Joyaku-ka ni okeru Kaishi Kaiko no Kenkyu (Tokyo: Otori Shobo, 1967), p. 15, footnote (22).)  
 Japanese researchers emphasize the positive importance of such advances as a case of economic penetration by foreign capital. However, further research is required, on the basis not of assumptions about the colonialistic intentions of strong Western merchants but of substantial detailed case studies. (See Unno, 'Meiji Shonen no Boeki Mondai', pp. 128-29; Nakamura Satoru, 'Kaiko', in Rekishigaku Kenkyu-kai and Nihonshi Kenkyu-kai eds., Koza Nihonshi, Vol. 5 (Tokyo: Tokyo Daigaku Shuppan-kai, 1970), pp. 66-67; Yokohama-shi Shi, Vol. 2, pp. 711-27.)  
 Direct investment by foreigners within the treaty ports was also important, although it is not dealt with here. See Nakamura, 'Kaiko', pp. 67-69.
- (107) Jardine, Matheson & Co. seem to have commenced advances on a large scale at the end of 1862. (S. J. Gower to J. Whittall, Yokohama, 15 Dec. 1862, and 27 Dec. 1862, both in JMA, B10/9/196, 197.)
- (108) Takasu-ya, Hambei, Taguchi-ya, Sugimori-ya, and Nambu Mino-no-kami are mentioned. See, e.g., S. J. Gower to A. Perceval, 26 May 1863, in JMA, B10/9/250; S. J. Gower to J. M. & Co. (Hongkong), 16 Feb. 1864, in JMA, B10/9/350; S. J. Gower to W. Keswick, 15 Feb. 1865, in JMA, B10/9/492; C. S. Hope to W. Keswick, 12 Mar. 1865, in JMA, B10/9/504.  
 Loans to Taguchi-ya and Sugimori-ya were, however, temporary. (C. S. Hope to J. M. & Co. (Hongkong), 16 Dec. 1865, in JMA, B10/9/564.) It was in 1865 that Jardine, Matheson & Co. made an exclusive contract of silk purchase with Nambu Mino-no-kami. (S. J. Gower to E. Whittall, 17 Jan. 1865, in JMA, B10/9/484.) They might have thought that it was better to keep a close relationship with the financially reliable Nambu, given the trouble faced with Takasu-ya.
- (109) S. J. Gower to A. Perceval, Yokohama, 4 Feb. 1863, in JMA, B10/9/215.
- (110) S. J. Gower to A. Perceval, Yokohama, 26 May 1863, in JMA, B10/9/250; S. J. Gower to J. Whittall, Yokohama, 27 May 1863, in JMA, B10/9/253. For the Takasu-ya affair, see Yokohama-shi Shi, Shiryo Hen, Vol. 4 (Yokohama: Yurin-do, 1967), pp. 375-90.
- (111) Gower was strongly prohibited by A. Perceval from making advances to "natives" for cotton purchases. (S. J. Gower to W. Keswick, Yokohama, 16 Nov. 1863, in JMA, B10/9/324.)
- (112) S. J. Gower to J. M. & Co. (Hongkong), Yokohama, 16 Feb. 1864, in JMA, B10/9/350.

- (113) Yokohama-shi Shi, Vol. 2, p. 715.
- (114) S. J. Gower to E. Whittall, Yokohama, 17 Jan. 1865, in JMA, B10/9/484; C. S. Hope to W. Keswick, 12 Mar. 1865, in JMA, B10/9/504; C. S. Hope to W. Keswick, 31 Mar. 1865, in JMA, B10/9/513; C. S. Hope to W. Keswick, 27 May 1865, in JMA, B10/9/526.
- Jardine, Matheson & Co. would not give any further advance to Nambu until the previous one had been cleared. Hope, Jardine's current Yokohama agent, did not have any intention of giving an advance to Nambu in the following year. (C. S. Hope to W. Keswick, 15 Mar. 1866, in JMA, B10/9/580.)
- (115) C. S. Hope to W. Keswick, Yokohama, 17 Mar. 1865, in JMA, B10/9/505.
- (116) H. P. Austin to J. M. & Co. (Shanghai), Yokohama, 1 May 1868, in JMA, B10/9/710. References to a debt in "Hambei's Takasu-ya account" amounting to \$13,490.20 signified advances given to Takasu-ya through Hambei.
- (117) E. H. Norman gave four main reasons why no foreign capital was introduced into Japan: the depreciation of non-convertible notes, the difference in the monetary standard, the unequal treaty system, and the fear of the dangers that might arise from a late-awaking nation's dependence on foreign capital. (Japan's Emergence as a Modern State (New York: Institute of Pacific Relations, 1940), pp. 114-17.) However, none of these factors seem to explain the differences between China and Japan. Despite the fact that both countries were placed in similar conditions, foreign capital in China was willing to enter the interior market beyond the treaty ports. The most important and fundamental element could be institutional - the existence of a centralized and independent government which could resist the economic encroachment of foreign capital into the country-, and the Western merchants' negative view of the investment potential of the Japanese compared with the China market.
- For loans by Western merchants to clans, see 'Hansai Shuroku' and 'Kyu-han Gaikoku Hosai Shobun Roku', both in Meiji Zenki Zaisei Keizai Shiryo Shusei, Vol. 9 (Tokyo: Kaizo-sha, 1933), and Sekiyama Naotaro, 'Kyu-shohan no Gaikoku Fusai Shobun', Shakai Keizai Shigaku, Vol. 1, No. 2, 1931.
- (118) See Okubo, 'Kaigai Chokubai no Kigyo o Hiraku no Gi', in Okubo Toshimichi Monjo, Vol. 6, p. 466.
- For a number of business difficulties occurring between Japanese and Western merchants, see Yokohama Kaiko Goju-nen Shi, Vol. 2, pp. 642-69; Kobe Kaiko Sanju-nen Shi, Vol. 2, pp. 356-395; Shigefuji Takeo, Nagasaki Kyoryu-chi to Gaikoku Shonin (Tokyo: Kazama Shobo, 1967).
- (119) See Yokohama-shi Shi, Vol. 4, Part II, Pt.4, Chapter 3; Hirschmeier, op.cit., pp. 196-97, 289-90.

- (120) For this affair, see, CR 1881, Part II, Kanagawa, pp. 38-39, in BPP, JAPAN, Vol. 7, pp. 50-51; T. B. van Buren to W. Blaine, No. 572, 10 Oct. 1881 (Recent Trouble in the Silk Trade), in Despatches from United States Consuls in Kanagawa, 1861-1897, Vol. 12.
- There are a number of studies on this affair, see Inoue, Joyaku Kaisei, pp. 69-71; Suzuki Ryo, 'Meiji Ju-nen-dai ni okeru Gaikoku Boeki to Burujoajii', Nihonshi Kenkyu, No. 35 (1958); Yokohama-shi Shi, Vol. 3, Part I, pp. 753-98; ibid., Vol. 3, Part II, pp. 106-24; Unno, Meiji no Boeki, Chapters 3-6.
- (121) A. P. Andrew, 'The End of the Mexican Dollar', Quarterly Journal of Economics, Vol. 18 (1904). For China, see F. H. H. King, Money and Monetary Policy in China 1845-1895 (Cambridge, Mass.: Harvard University Press, 1965), Chapters 3, 4, 7, 8.
- (122) The extent of the outflow of gold from Japan is unknown. Ishii Takashi gives an estimate of around 300,000 ryo. (Yokohama-shi Shi, Vol. 2, p. 306.) See also J. McMaster, 'The Japanese Gold Rush of 1859', The Journal of Asian Studies, Vol. 19, No. 3 (1960), p. 283.
- For currency problems in the late Tokugawa period, see P. Frost, The Bakumatsu Currency Crisis (Cambridge, Mass.: East Asian Research Center, Harvard University, 1970); Yokohama-shi Shi, Vol. 2, pp. 294-335.
- (123) Okura Takehiko and Shinbo Hiroshi, 'Bakumatsu no Kahei Seisaku', in Shinbo Hiroshi and Yasuba Yasukichi eds., Kindai Iko-ki no Nihon Keizai (Tokyo: Nihon Keizai Shinbun-sha, 1979), p. 292.
- (124) Ono Kazuichiro, 'Nihon ni okeru Mekishiko Doru no Ryutsu to Sono Kozai' (3), Keizai Ronso, Vol. 81, No. 5 (1958), pp. 32, 35.
- (125) CR 1867, Kanagawa, p. 308, in BPP, JAPAN, Vol. 4, p. 328.
- (126) Mackenzie, op.cit., pp. 48, 96; Hora Tomio, Bakumatsu Ishin-ki no Gaiatsu to Teiko (Tokyo: Azekura Shobo, 1977), p. 242. See also, CR 1873, Hyogo and Osaka, p. 26, in BPP, JAPAN, Vol. 5, p. 352.
- (127) M. S. Collis, Wayfoong: The Hongkong and Shanghai Banking Corporation (London: Faber & Faber, 1965), Chapter 2; Allen and Donnithorne, op.cit., p. 215.
- (128) Collis, ibid., p. 48. Mackenzie, op.cit., p. 99.
- (129) CR 1870, Kanagawa, p. 8, in BPP, JAPAN, Vol. 4, p. 534.
- (130) Matsui ed., op.cit., Vol. 1, p. 323. See also Andrew, op.cit., pp. 345-46; Yokohama-shi Shi, Vol. 3, Part II, Pt. 4, Chapter 3.

## CHAPTER III

- (1) Nakamura, Senzen-ki Nihon Keizai Seicho no Bunseki, pp. 31-32.
- (2) Masao Baba and Masahiro Tatemoto, 'Foreign Trade and Economic growth in Japan : 1858-1937', in L. Klein and K. Ohkawa eds., Economic Growth: The Japanese Experience since the Meiji Era (Homewood: Richard D. Irwin, 1968), p. 174. For the world trade elasticity of exports from Japan, Nakamura Takafusa gives estimates of 2.7 for the period 1881-97 and 2.4 for the period 1898-1913.(Nakamura, ibid., p. 34.)
- (3) Baba and Tatemoto, ibid., p. 177.
- (4) K. Kojima, Japan and a Pacific Free Trade Area (Berkeley & Los Angeles: University of California Press, 1971), p. 10.
- (5) Yamaguchi, Bakumatsu Boeki Shi, p. 13. Ishii, Bakumatsu Boeki Shi no Kenkyu, pp. 54-57.
- (6) Yamaguchi, ibid., pp. 94, 101.
- (7) Ishii, Bakumatsu Boeki Shi no Kenkyu, p. 54.
- (8) See, CR 1878, Summary of Foreign Trade in Japan for the Year 1878, p. 15, in BPP, JAPAN, Vol. 6, p. 561.  
Arai Eiji has recently attempted to reconstruct trade returns during the Bakumatsu period on the basis of British consular reports.(Kinsei Kaisanbutsu Boeki Shi no Kenkyu (Tokyo: Yoshikawa Kobun-kan, 1975), pp. 571-87.) However, the figures in British consular reports do not include smuggling, imports of ships and armaments, or the outflow of gold.
- (9) Figures in this table are inconsistent with those in Table 3, which is based on official Japanese trade returns.
- (10) Marine products were exported to the China market, but their importance in terms of total exports rapidly declined. See, Arai, op.cit., Pt. 2, and Ogawa Kuniharu, Edo Bakufu Yushutsu Kaisanbutsu no Kenkyu (Tokyo: Yoshikawa Kobun-kan, 1963), Chapter 5.
- (11) See Ohkawa Kazushi, Takamatsu Nobukiyo and Yamamoto Yuzo, Kokumin Shotoku (LTES Vol. 1) (Tokyo: Toyo Keizai Shinpo-sha, 1974), pp. 97-105; Yamazawa and Yamamoto, op.cit.
- (12) Nihon Boeki Seiran (Tokyo: Toyo Keizai Shinpo-sha, 1935).
- (13) Ibid., p. 46; Horie Yasuzo, Meiji Ishin to Keizai Kindai-ka (Tokyo: Shibun-do, 1963), p. 139; Baba and Tatemoto, op.cit., pp. 166, 167.

- (14) Shoda Kenichiro, 'Senzen-ki Nihon no Gaikoku Boeki o meguru Jakkan no Kosatsu', Waseda Seiji Keizai-gaku Zasshi, Nos. 244, 245 combined issue (1976), p. 204.
- (15) Ono Kazuichiro, 'Dai-Ichiji Taisen Zengo no Gaikoku Boeki', in Kawai et al. eds., op.cit., Vol. 2, p. 243.
- (16) Shoda, 'Senzen-ki no Gaikoku Boeki', p. 209; Nakanishi Ichiro, '"Kin Yushutsu Sai-Kinshi" Igo no Boeki, Kawase Mondai', in Kawai et al. eds, ibid., Vol. 3, p. 262.
- (17) Unno Fukuju points out the importance of the 1880s to the formation of Japan's trade structure. (Report by Unno, in Ishii Takashi et al., Sekai Shihonshugi to Kaiko (Tokyo: Gakusei-sha, 1972), pp. 168-71.)  
For the development of cotton manufacturing, see Takamura Naosuke, Nihon Boseki-gyo Shi Josetsu, 2 vols. (Tokyo: Hanawa Shobo, 1971); Kajinishi Mitsuha ed., Seni, Part I (Gendai Nihon Sangyo Hattatsu-shi, Vol. 11) (Tokyo: Kojun-sha, 1964), Pt. 2, Chapters 1, 4, and Pt. 3, Chapter 1.
- (18) Yamazawa Ippei and Yamamoto Yuzo point out the close relationship between the expansion of industrial production and the change in trade structure. ('Trade and Balance of Payments', in K. Ohkawa and M. Shinohara, Patterns of Japanese Economic Development (New Haven: Yale University Press, 1979), p. 136.)
- (19) Mizunuma, 'Gaikoku Boeki no Hatten to Shihon no Yushutsu', pp. 252-55; Matsui ed., op.cit., Vol. 1, p. 85; Takamura Naosuke, 'Sangyo Boeki Kozo', in Oishi Kaichiro ed., Nihon Sangyo Kakumei no Kenkyu, Part I (Tokyo: Tokyo Daigaku Shuppan-kai, 1975), p. 69; Shoda, 'Senzen-ki Nihon no Gaikoku Boeki', pp. 214-15.
- (20) Yukizawa Kenzo and Maeda Shozo, Nihon Boeki no Choki Tokei (Kyoto: Doho-sha, 1978), p. 88.
- (21) Yamazawa and Yamamoto, Boeki to Kokusai Shushi, pp. 86, 87.

## CHAPTER IV

- (1) F. R. Mason, The American Silk Industry and the Tariff (Cambridge, Mass.: American Economic Association, 1910), p. 171; F. W. Taussig, Some Aspects of the Tariff Question (Cambridge, Mass.: Harvard University Press, 1931), p. 237; Yokohama-shi Shi, Vol. 3, Part I, p. 473.
- (2) Yokohama-shi Shi, Vol. 2, p. 560. These figures are based on British consular reports.

- (3) Ishii, Bakumatsu Boeki Shi no Kenkyu, pp. 256, 257; Yokohama-shi Shi, Vol. 2, p. 550.
- (4) CR 1865, Kanagawa, p. 244, in BPP, JAPAN, Vol. 4, p. 200. See also Yamaguchi, Bakumatsu Boeki Shi, p. 32; Ishii, ibid., p. 258; Yokohama-shi Shi, Vol. 2, p. 550.
- (5) Previous studies have used the figures given in Western Barbarians in Japan and Formosa in Tokugawa Days by M. Paske-Smith. However, as he did not name the sources from which he quoted, his figures, which seem to have been taken from some circular or circulars issued by foreign firms, cannot be verified. (Ibid., p. 215. See Yamaguchi, Bakumatsu Boeki Shi, p. 31; Ishii, Bakumatsu Boeki Shi no Kenkyu, p. 206; Yokohama-shi Shi, Vol. 2, p. 572.)

Figures for the distribution of raw silk exports by country are also available from 1863-64 to 1865-66 in the United States consular report as shown below:

	(in bales)		
	1863/64	1864/65	1865/66
United States	223	272	723
England	5,149	9,523	6,814
France	5,960	4,239	4,082
Shanghai	4,269	2,288	-
Hongkong	330	205	-
Totals	15,931	14,527	11,419

(Source: G. S. Fisher to W. H. Seward, No. 221, 18 Oct. 1866, in Despatches from United States Consuls in Kanagawa, 1861-1897, Vol. 3.)

Some differences are visible between Table 14 and the table by Paske-Smith. In particular, according to Paske-Smith, 205 bales were exported to the United States in 1864/65. This is not verified however, and seems to be a misprint. According to Yokohama Prices Current and Market Report, the same amount of 205 bales was exported to France in 1863/64, and, according to the above table in the United States consular report, 205 bales were also exported to Hongkong in the same year 1864/65.

- (6) Paske-Smith, op.cit., p. 215.
- (7) Ibid.
- (8) See, footnote (31) in Chapter 2. For France's interests in Asian silk, see Fieldhouse, op.cit., pp. 203-206, 210.
- (9) The Suez Canal route forced P. & O. to transfer their terminal port from Southampton to London. (Cable, op.cit., pp. 166-67.)
- (10) G. S. Fisher to W. H. Seward, No. 48, 9 Oct. 1865, in Despatches from United States Consuls in Kanagawa, 1861-1897, Vol. 2. See also, Holdsworth's Silk Circular, Shanghai, 4 July 1866, in JMA, PCMR 46; CR 1866, Shanghai, p. 105, in BPP, CHINA, Vol. 7, p. 369.

- (11) G. S. Fisher to W. H. Seward, No. 19, 1 Oct. 1862, and No. 41, 1 Oct. 1863, both in Despatches from United States Consuls in Kanagawa, 1861-1897, Vol. 1. See also, CR 1864, Shanghai, p. 88, in BPP, CHINA, Vol. 6, p. 578.
- (12) Holdsworth's Silk Circular, Shanghai, 4 July 1866, in JMA, PCMR 46. According to this circular, 455 bales of Japanese silk were exported from Japan to Shanghai for reshipment in the season of 1858/59, that is, before the actual opening of Japan.  
A British consular report stated that "12,055 bales of Japanese silk passed through the port of Shanghai in 1865. Only a few hundred were landed." (CR 1865, Shanghai, p. 130, in BPP, CHINA, Vol. 7, p. 656.)
- (13) Holdsworth's Silk Circular, 4 July 1866, and 4 July 1867, both in JMA, PCMR 46.
- (14) Raw silk which was thick and therefore poor in quality, unlike the raw silk which Japan exported, was also imported into Japan from China, for manufacturing domestic silk goods. (Noshomu-sho Nomu-kyoku, Yushutsu Juyohin Yoran, Nosan no Bu, Sanshi (Tokyo, 1896), pp. 33, 40.)
- (15) Silk exports were drastically decreased by the first large-scale economic depression in 1890 after the boom in the second half of the 1880s. For this, see Oshima Kiyoshi, Nihon Kyoko Shi Ron, Part I (Tokyo: Tokyo Daigaku Shuppan-kai, 1952), and Nagaoka Shinkichi, Meiji Kyoko Shi Josetsu (Tokyo: Tokyo Daigaku Shuppan-kai, 1971).
- (16) Imanishi Naojiro, Obei Sanshigyo Shisatsu Fukumei-sho (Tokyo, 1902), p. 52.  
"London has always been the general entrepôt for all exports from the 'Far East.'" (CR 1865, Shanghai, p. 137, in BPP, CHINA, Vol. 7, p. 663.)
- (17) Noshomu-sho, Nomu-kyoku, Ifutsu no Sanshigyo (Tokyo, 1916), p. 121.
- (18) Ibid., pp. 14, 55-56.
- (19) The French silk industry became "highly sensitive to outside events likely to interrupt the flow of raw material or curtail foreign demand." (T. Kemp, Economic Forces in French History (London: Dennis Dobson, 1971), p. 185.)
- (20) Durant & Co's Circular, Copthall Court, [London], 4 Jan. 1861, in JMA, PCMR 41.
- (21) See 'Messageries Imperiales Company', The Economist, No. 1191 (23 June 1866), p. 760.
- (22) A British consular report stated that  
... since the working of the Messageries Imperiales line, the quantity of silk sent from China and Japan to Marseilles (we do not say landed there), has not increased." (CR 1865, Shanghai, p. 140, in BPP, CHINA, Vol. 7, p. 666.)



- (23) CR 1880, Kanagawa, p. 41, in BPP, JAPAN, Vol. 6, p. 705; CR 1881, Kanagawa, p. 36, in ibid., Vol. 7, p. 48; CR 1883, Kanagawa, p. 13, in ibid., Vol. 7, p. 181; CR 1878, Shanghai, p. 24, in BPP, CHINA, Vol. 13, p. 34.
- (24) Figures concerning the volume of raw silk reshipped from France in British vessels are available up to 1866 in the Annual Statement of the Trade and Navigation in the British Parliamentary Papers. Almost 100 per cent of raw silk was transported by British vessels.
- (25) General Report on the Trade of Japan for the Year 1884, p. 106, in BPP, JAPAN, Vol. 7, p. 490.
- (26) Before 1871, the title was the Annual Statement of the Trade and Navigation of the United Kingdom ....  
Imports of raw silk had been duty free since 1845 and exports of raw silk had also been duty free.
- (27) Journal of the Silk Supply Association, Vol. 1, No. 1 (Jan. 1870), p. 2.
- (28) As raw silk was not produced in Britain, the London silk market consisted of imported raw silk.  
For the silk industry in Britain, see F. O. Howitt, 'Silk - An Historical Survey with special reference to the Past Century', Journal of the Textile Institute, Vol. 42, No. 8 (1951), and Deane and Cole, op.cit., pp. 207-11. Silk consumption in Britain decreased from a peak of 10,370 thousand lb. in 1857 to 3,670 thousand lb. in 1870 and 1,220 thousand lb. in 1900.(C. T. Saunders, 'Consumption of Raw Materials in the United Kingdom: 1851-1950', Journal of the Royal Statistical Society, Vol. 115, Part III (1952), pp. 344-45.)
- (29) Circulars were issued by firms as market reports in which the quotation of goods handled, freight rates, and other relevant information were included. The number of circulars issued varies in accordance with the scale of the firm. Augustine Heard and Co., the American firm in China, distributed 199 circulars in 1863 all over the world: Boston 57, New York 43, other United States ports (mainly San Francisco, Baltimore, New Orleans) 21, London 21, other ports in the British Isles (mainly Glasgow and Manchester) 25, Australia 8, and miscellaneous 20.(Lockwood, Augustine Heard and Company, p. 18.)  
British and American consular reports were based on these circulars issued by firms. D. C. M. Platt comments that  
  
Generally speaking, the larger manufacturers and traders attached little importance to consular reports. They had their own sources of information through their branches, their agencies, or through the extensive network of British banking, insurance, and cable companies overseas; they stood to lose, in fact, rather than to gain by official broadcasting of commercial or financial information".(Platt, op.cit., p. 114.)

- (30) Durant & Co's Circular, 1 Jan. 1874, in JMA, PCMR 42.
- (31) The raw silk first exported from Japan was said to be Sodai silk (14-18 deniers). (Okoku Hakuran-kai Jimu-kyoku, 'Nihon Kiito no Setsu', translated by Hirayama Seiichiro (1873), p. 1. According to Paske-Smith, "The number of bales, which reached London in 1859 was 610, the price being [from] 16/6 to 27/- per lb." (Paske-Smith, op.cit., p. 216.)
- (32) CR 1862, Kanagawa, p. 210, in BPP, JAPAN, Vol. 4, p. 46.
- (33) Durant & Co's Circular, 4 Jan. 1861, in JMA, PCMR 41.
- (34) Ibid., 4 Jan. 1862, in JMA, PCMR 41.
- (35) Ibid., 1 Jan. 1863, in JMA, PCMR 41.
- (36) Eaton's Circular, London, 3 Jan. 1862, in JMA, PCMR 41.
- (37) Tsatlee was generally sedentary reeled silk produced in Chekiang and Kiangsu; all other sedentary reeled silk was called Taysaam. Tsatlee was from 20 to 40 deniers thick. It was in demand for domestic use and also in Europe. (Toa Kenkyu-jo, Shina Sanshiqyo Kenkyu (Tokyo: Osakayago Shoten, 1943), pp. 121, 183.)  
 For the development of the silk industry and silk trade in China, see Honda Iwajiro, Shinkoku Sanshiqyo Chosa Fukumei-sho (Tokyo, 1899); Toa Dobun-kai, Shina Keizai Zensho, Vol. 12 (Tokyo: Toa Dobun-kai, 1908), Pt. 1; Toa Kenkyu-jo, ibid.; Shih Min-hsiung, translated by E-tu Zen Sun, The Silk Industry in Ch'ing China (Ann Arbor: Center for Chinese Studies, University of Michigan, 1976); E-tu Zen Sun, 'Sericulture and Silk Textile Production in Ch'ing China', in W. E. Willmott ed., Economic Organization in Chinese Society (Stanford: Stanford University Press, 1972), pp. 102-106.
- (38) Arlès-Dufour & Co. [Silk Circular], Lyons, 27 Oct. 1862, in JMA, PCMR 41.
- (39) Waithman, Jacomb, & Hogg's Circular, London, 1 Jan. 1864, in JMA, PCMR 41.
- (40) Durant & Co's Circular, 4 Jan. 1861, in JMA, PCMR 41.
- (41) Fairbank, op.cit., p. 290, footnote b.
- (42) Waithman, Jacomb, & Hogg's Circular, 1 Jan. 1864, IN JMA, PCMR 41.
- (43) Durant & Co's Circular, 8 Sept. 1863, in JMA, PCMR 41.
- (44) Ibid., 1 Jan. 1864, in JMA, PCMR 41.
- (45) Waithman, Jacomb, & Hogg's Circular, 1 Jan. 1864, in JMA, PCMR 41.
- (46) Jacomb, Hogg & Co's Circular, 3 Jan. 1865, in JMA, PCMR 41.

- (47) This was partly because the productivity of the silk reeling industry in Japan had reached its limits. See above p. 56.
- (48) J. H. Clapham, Economic Development of France and Germany, 4th ed. (Cambridge: Cambridge University Press, 1936), p. 253.
- (49) Arlès-Dufour & Co. [Silk Circular], Lyons, 31 July 1869, in JMA, PCMR 40. See also Allen, op.cit., p. 38, and Allen and Donnithorne, op.cit., p. 201.
- (50) Eaton's Circular, 6 Jan. 1865, in JMA, PCMR 41. Jacomb, Hogg & Co's Price Current for China Mail, 25 Nov. 1867, in JMA, PCMR 41.
- Hanks were a dressing form of the silk which was produced by hand or sedentary reeling machine, and generally called Maebashi in the European market. (Fujimoto Jitsuya, Kaiko to Kiito Boeki, Vol. 2, (Tokyo: Toko Shoin, 1939), p. 385.) For dressing of silk, see Honda Iwajiro, The Silk Industry of Japan (Yokohama: The Japanese Imperial Silk Conditioning House, 1901), pp. 160-62.
- Japanese silk was divided into six classes in the overseas market; filatures, re-reels, hanks, Kakeda, Ohshu and Hamatsuki. (The Bureau of Commerce and Industry of the Imperial Department of States for Agriculture and Commerce, Japan, General View of Commerce and Industry in the Empire of Japan (Paris: M. de Brunoff, 1900), p. 131.)
- For details of Japanese silk during the Bakumatsu and early Meiji periods, Okoku Hakuran-kai Jimu-kyoku, 'Nihon Kiito no Hyoron', 'Nihon Kiito Orimono Kantei-sho', and 'Nihon Kiito Setsu' (1873).
- (51) Jacomb, Hogg & Co's Price Current for China Mail, 25 Nov. 1867, in JMA, PCMR 41.
- (52) CR 1873, Kanagawa, p. 56-57, in BPP, JAPAN, Vol. 5, pp. 382-83.
- (53) CR 1869, Kanagawa, p. 5, in BPP, JAPAN, Vol. 4, p. 393.
- (54) Report by Mr. Adams on the Deterioration of Japanese Silk (1871), p. 2, in BPP, JAPAN, Vol. 3, p. 56.
- (55) Ibid., p. 3, in BPP, JAPAN, Vol. 3, p. 57.
- (56) Report by Mr. Adams on the Central Silk Districts of Japan (1870), p. 10, in BPP, JAPAN, Vol. 2, p. 538.
- (57) Ibid., p. 11, in BPP, JAPAN, Vol. 2, p. 539.
- (58) Jacomb, Hogg & Co's Price Current for China Mail, 25 Nov. 1867, in JMA, PCMR 41.
- (59) The Silk Supply Journal, Vol. 1, No. 8 (Oct. 1870), p. 136.
- (60) Durant & Co's Circular, 2 Jan. 1871, in The Silk Supply Journal, Vol. 1, No. 9 (Jan. 1871), pp. 169, 170.

- (61) H. W. Eaton & Sons' Circular, London, 7 Apr. 1869, in JMA, PCMR 40.
- (62) Arlès-Dufour & Co. [Silk Circular], 16 Jan. 1869, in JMA, PCMR 40.
- (63) Frederick Huth & Co's Bi-monthly Silk Circular, London, 1 Jan. 1869, in JMA, PCMR 40.
- (64) H. W. Eaton & Sons' Circular, 4 Jan. 1873, in JMA, PCMR 41.
- (65) Ibid., 5 Jan 1874, in JMA, PCMR 41.
- (66) CR 1875, Kanagawa, p. 46, in BPP, JAPAN, Vol. 5, p. 628.
- (67) Waithman, Hogg & Co's Circular, 2 Feb. 1874, in JMA, PCMR 41.
- (68) CR 1875, Kanagawa, p. 46, in BPP, JAPAN, Vol. 5, p. 628.
- (69) Ibid.
- (70) CR 1878, Kanagawa, p. 41, in BPP, JAPAN, Vol. 6, p. 453; CR 1881, Kanagawa, p. 40, in BPP, JAPAN, Vol. 7, p. 52.
- (71) CR 1881, Kanagawa, p. 40, in BPP, JAPAN, Vol. 7, p. 52.
- (72) Quotations for Japanese silk are available in the "Weekly Price Current" column of The Economist after the 21 Mar. 1874 issue (No. 1595). Figures for silk other than Japanese which can be found in The Economist before 1874 are different from the circulars cited above.
- (73) Kilburn, Kershaw & Co's Report, quoted by The Silk Supply Journal, Vol. 1, No. 13 (Jan. 1872), p. 240.
- (74) IMC, Report on Trade at the Treaty Ports in China for the Year 1876, Part I, pp. 7-8, 32; CR 1878, Shanghai, p. 24, in BPP, CHINA, Vol. 13, p. 34; Report on the Fluctuations of Foreign Trade in China, in CR 1884, Part I, p. 73, in BPP, CHINA, Vol. 15, p. 85.
- (75) The price of French silk other than organzines and trams is not available. Chinese trams worked in France were widely transacted. See Arlès-Dufour & Co. [Silk Circular], 17 Jan. 1874, in JMA, PCMR 41, and *ibid.*, 9 Jan. 1880, in JMA, PCMR 43.
- (76) Church, op.cit., p. 42.
- (77) 'Commercial History and Review of 1876', The Economist, No. 1750 (10 Mar. 1877), p. 15.
- (78) Meiji Juni-nendo Shokyo Nenpo, in MZSHS, Separate Vol. 18, No. 6, p. 8.

- (79) V. S. Clark, History of Manufacture in the United States, Vol. 2 (New York: McGraw-Hill, 1929), p. 449.  
 For general descriptions of the silk industry before 1860, see F. Allen, American Silk Industry, Chronologically Arranged, 1793-1876 (New York: Silk Association of America, 1876); W. C. Wyckoff, 'Report on the Silk Manufacturing Industry of the United States', in U.S.A., Dept. of the Interior, Census Office, Report on the Manufacturing of the United States at the Tenth Census (1880) (hereafter Tenth Census), pp. 1-19; Clark, op.cit., Vol. 1 (New York: McGraw-Hill, 1929); A. S. Bolles, Industrial History of the United States from the Earliest Settlement to the Present Time (Norwich: Henry Bill, 1879), pp. 427-443.
- (80) Tenth Census, p. 19.
- (81) Ibid., p. 19.
- (82) F. Allen, 'Silk Manufactures', in U.S.A., Census Office, Twelfth Census of the United States (1900), Manufactures, Part III, Special Reports on Selected Industries (hereafter Twelfth Census), p. 203.
- (83) Ibid., p. 203.
- (84) Power looms were first imported from Germany and Switzerland. (Mason, op.cit., p. 111.)
- (85) The number of Jacquard attachments was 3,189 of the total power looms in 1880 and 5,905 in 1890. (Tenth Census, p. 28; B. Rose, 'Silk Manufacture', in U.S.A., Dept. of the Interior, Census Office, Report on Manufacturing Industries in the United States at the Eleventh Census (1890), Part III, Selected Industries (hereafter Eleventh Census), p. 222.)
- (86) Clark, op.cit., Vol. 3 (New York: McGraw-Hill, 1929), p. 212.
- (87) Mason, op.cit., pp. 45-46.
- (88) Ibid., pp. 42-43. "Most Paterson firms had warehouses in New York City, and their owners often included importers who supplied both foreign and domestic silk goods to the general trade." (Clark, op.cit., Vol. 2, p. 452.)
- (89) The annual average of imports of silk manufactures into the United States was as follows:
- |                |                    |
|----------------|--------------------|
| 1871-1880..... | 27,063,000 dollars |
| 1881-1890..... | 34,162,000         |
| 1891-1900..... | 29,775,000         |
| 1901-1905..... | 32,215,000         |
| 1906-1910..... | 33,725,000         |
- Source: U.S.A., Department of Commerce, Statistical Abstract of the United States, 1928, p. 674.  
 Note: Artificial silk is included.

- (90) For the history of the tariff on silk manufactures in the United States during this period, see Mason, op.cit., pp. 56-102, and F. W. Taussig, The Tariff History of the United States, 8th ed. (New York, 1931), pp. 248, 268-69, 297, 337-40. On the details of the Dingley Act, see The 27th Annual Report of the Silk Association of America (1899), pp. 62-68.
- (91) The ratios given by the Tenth, Eleventh and Twelfth Censuses, differ from my calculations. They are 13 per cent in 1860, 23 per cent in 1870, 38 per cent in 1880, 55 per cent in 1890 and 70 per cent in 1900. (Tenth Census, p. 21; Eleventh Census, p. 215; Twelfth Census, p. 203.)
- (92) Peter Temin writes that "Approximately 90 per cent of the growth in gross domestic product in the nineteenth century is explained by growth in the factors of production, but these factors only account for about half of the growth after 1900." (Causal Factors in American Economic Growth in the Nineteenth Century (London: Macmillan, 1975, p. 18.)
- (93) Clark, op.cit., Vol. 2, p. 118. See also G. Wright, 'An Econometric Study of Cotton Production and Trade, 1830-1860', in P. Temin ed., New Economic History (Penguin, 1973), p. 77. Population in the United States increased as follows:

Year	Number	Percentage of increase compared with preceding census
1830	12,866,020	33.5
1840	17,069,453	32.7
1850	23,191,876	35.9
1860	31,443,321	35.6
1870	39,818,449	26.6
1880	50,155,783	26.0
1890	62,947,714	25.5
1900	75,994,575	20.7

Source: U.S.A., Dept. of Commerce, Bureau of the Census, Historical Statistics of the United States: Colonial Times to 1970, Part I (Washington, 1975), p. 8.

- (94) Clark, op.cit., Vol. 3, p. 213.
- (95) Tenth Census, p. 17.
- (96) Twelfth Census, p. 222. It is also stated that "The results from improvements in throwing machinery during the past decade can therefore be broadly summed up in the statement that these improvements have made possible a saving of about 40 per cent in the floor space needed and about 20 per cent in cost of production over the older system, figuring all the savings resulting from less floor space, power, and processes required to turn out a corresponding amount of work." (Ibid., p. 223.)

- (97) Eleventh Census, p. 222.
- (98) Ibid., p. 222; Taussig, Some Aspects of the Tariff Question, p. 229.
- (99) Twelfth Census, p. 223.
- (100) Ibid., p. 208.
- (101) L. R. Wells, Industrial History of the United States, Revised ed. (New York, 1926), pp. 377-78.
- (102) Clark, op.cit., Vol. 1, p. 575.
- (103) Bolles, op.cit., pp. 431-33.
- (104) J. Schober, translated by R. Cuthill, Silk and Silk Industry (London, 1930), p. 248; Clark, op.cit., Vol. 1, pp. 326, 575.
- (105) Tenth Census, p. 19.
- (106) Ibid., p. 18.
- (107) Clark, op.cit., Vol. 1, p. 326.
- (108) Tenth Census, p. 19.
- (109) Clark, op.cit., Vol. 1, p. 327.
- (110) Hayakawa Naose, Kiito to Sono Boeki, Revised ed. (Tokyo: Dobun-kan, 1928), p. 42.  
As the duty on throwing silk remained until 1890, imports of tram and organzine dwindled rapidly in the 1880s and ceased to be important shortly after 1890. (Clark, op.cit., Vol. 2, p. 454, and Vol. 3, p. 212.)
- (111) Calculated from U.S.A., Treasury Dept., Chief of the Bureau of Statistics on the Commerce and Navigation of the United States, 1866-1870.
- (112) Bolles, op.cit., p. 438. For the history of Cheney Brothers, see H. H. Manchester, The Story of Silk and Cheney Silks (Cheney Brothers Silk Manufactures, 1916).
- (113) G. S. Fisher to W. H. Seward, No. 33, 6 Sept. 1864, in Despatches from United States Consuls in Kanagawa, 1861-1897, Vol. 2.
- (114) Bolles, op.cit., p. 442.
- (115) Tenth Census, p. 19; Mason, op.cit., p. 16.  
In 1867 Ezra Goodridge and Company, sewing silk and ribbon manufacturers, sent out F. Goodridge to set up a filature in China. (Mason, ibid., p. 16.)

- (116) The large amount in the 'others' column for 1874 is accounted for by 579,662 lb., valued at 2,140,432 dollars, imported from the United States of Columbia. (Commerce and Navigation of the United States, 1875, p. 65.) Imports of raw silk from Columbia were considerable over the period 1867 to 1874. (Ibid., 1868-1875.)
- (117) Mason, op.cit., pp. 17-18, 21-22. See also, CR 1873, Shanghai, p. 154, in BPP, CHINA, Vol. 11, p. 246.
- (118) Mason, ibid., pp. 23-24.
- (119) Ibid., pp. 24-25.
- (120) In addition, general attention was paid to silk manufacturing at the Centennial Exhibition held in Philadelphia in 1876. This encouraged the subsequent development of the silk industry. (Amerika Kengyo Kyokai, translated by Mitamura Hachiro, Sekai Kengyo no Koyo (Yokohama, 1905), pp. 22-23.)
- (121) In 1868, 713,068 lb., valued at 3,261,455 dollars, was imported at New York. This was 99 per cent of the total imports of 720,045 lb. and 98 per cent of their total value of 3,318,496 dollars. (Commerce and Navigation of the United States, 1869, pp. 90-91.)
- (122) The Trans-Continental Railway shortened the transportation time between San Francisco and New York from 22 days by sea route to 6 days by rail. (Yokohama Hochi Moshihogusa, 20 Aug. 1859, in Shinbun Shusei Meiji Hennen Shi, Vol. 1, p. 305.)
- R. Johnson, silk broker in New York, stated in 1868 that
- It is thought in due time [that] our manufacturers and dealers in Raw Silk will appreciate the direct importation of Silk from Japan and China, via California, as it will escape the selection of the finest stock for European markets. There are some good parcels of fine Japan Silk here, destined to London if not sold at satisfactory prices. Our market is well supplied with all grades of China and Japan Silk." (Prices Current for China Silk, &c., New York, 2 Mar. 1868, in JMA, PCMR 2.)
- (123) Commerce and Navigation of the United States, 1871, pp. 120-21.
- (124) Ibid., 1876-1886. In the second half of the 1880s, imports of Italian raw silk increased rapidly and then the share of raw silk imports at the two ports became about 60 per cent at San Francisco and about 40 per cent at New York.
- (125) Mason, op.cit., p. 18. Tomita Tetsunosuke, the then Japanese vice-consul to New York, asked the Silk Association of America for suggestions regarding the improvement of quality, strength, smoothness, twisting and reeling, and other ways in which they might adapt to the American market. (Letter of Tetsunosuke Tomita



to the Silk Association of America, in Mason, ibid., p. 19, and also Tomioka Seishi-jo Shi Hensan Iin-kai ed., Tomioka Seishi-jo Shi, Part I (Tomioka: Tomioka-shi Kyoiku Iin-kai, 1977), Material 189, pp. 408-12.)

- (126) Meiji Juni-nendo Shokyo Nenpo also stated on the same subject:

Demand from silk manufacturers in the United States was brisk, and, since there has been a tendency to purchase even coarse and low-classified silk at a high price, which might otherwise have been sold only at a low price in the European market, exports to the United States have increased considerably. (in MZSHS, Separate Vol. 18, No. 6, p. 30.)

See also, Summary of the Foreign Trade of Japan for the Year 1879, p. 16, in BPP, JAPAN, Vol. 6, p. 654.

- (127) W. Ryle, vice-president of the Silk Association of America, remarked on the improved quality of Japanese silk in the Fourth Annual Report in 1876. (Mason, op.cit., p. 22.)
- (128) Yokohama-shi Shi, Vol. 3, Part I, p. 516.
- (129) CR 1877, Kanagawa, p. 57, in BPP, JAPAN, Vol. 6, p. 307.
- (130) Meiji Jusan-nendo Shokyo Nenpo, in MZSHS, Separate Vol. 19, No. 2, p. 284; Eguchi Zenji and Hidaka Yasoshichi eds., Shinano Sanshi-gyo Shi, Vol. 3 (Nagano: Dai-Nihon Sanshi-kai Shinano Shi-kai, 1937), pp. 469, 1435.  
 'Denier' is the unit of weight for silk yarn and its estimated fineness. According to the Lyons standard of denier, 1 denier signified silk yarn which weighed 0.05313 gramme at a length of 476 metres. Japan used this criterion until 1904. After 1905, Japan adopted a new standard by which 1 denier signified silk yarn which weighed 0.05 gramme at 450 metres.  
 Generally speaking, 'thin thread' meant less than 11.5 deniers, 'medium thread' meant from 11.5 to 13.5 deniers, 'thick thread' meant from 13.5 to 17 deniers, and 'super thick thread' meant over 17 deniers. In the Yokohama market, however, 'thin thread' meant less than 12.5 deniers and 'thick thread' meant over 21½ deniers. (Hayakawa, op.cit., pp. 113-14.)
- (131) In weaving, better quality of threads tended to be used for the warp, and more weft was used. (Yushutsu Juyohin Yoran (1896), p. 76; Dai-Nihon Sanshi Kaiho, No. 29, p. 31.) According to an estimate by Takahashi Nobusada, the percentage of warp and weft used in silk manufacturing districts over the world was 40 per cent and 60 per cent respectively. (Ishii, Nihon Sanshi-gyo Shi Bunseki, p. 53, footnote (11).) However, it was usual practice for manufacturers occasionally to use silk designated for the warp as the weft or vice versa, if this was convenient and suited the kind of fabric being made. ('Beikoku Yushutsu Honpo Kiito Zappaku no Jijitsu Chosa, Zai Beikoku Nyuyoku Teikoku Ryoji Hokoku' (1893), in Yushutsu Juyohin Yoran (1896), p. 76.)  
 In the case of Habutae, there were four possible combinations

of warp and weft, that is, warp 1 to weft 1, warp 1 to weft 2, warp 2 to weft 1, and warp 2 to weft 2, and in pongee production there were eight possible combinations of thread. (M. Iketani, The Japan Silk Year Book (Yokohama: The Japan Silk Year Book Publishing Office, 1936), pp. 407, 408.)

- (132) Japanese silk was also used for machine twist and sewing silk production. (Fujimoto, op.cit., Vol. 3 (Tokyo: Toko Shoin, 1939), p. 482.)
- (133) CR 1878, Kanagawa, p. 41, in BPP, JAPAN, Vol. 6, p. 453.
- (134) Meiji Juichi-nendo Shokyo Nenpo, in MZSHS, Separate Vol. 18, No. 4, p. 14.
- (135) Ibid., p. 15. See also 'Meiji Jusan-nen Eikoku Shokyo Satsuyo', Tokyo Keizai Zasshi, 5 Mar. 1881, p. 223.
- (136) Meiji Juroku-nen Shokyo Nenpo, in MZSHS, Separate Vol. 19, No. 5, pp. 85-86.
- (137) Meiji Juichi-nendo Shokyo Nenpo, in MZSHS, Separate Vol. 18, No. 4, p. 15. 'Review of the Silk Season' by Vivianti Brothers, Yokohama, 10 Apr. 1882 (Extract from The Japan Herald), Enclosure No. 2, in T. B. van Buren to J. C. B. Davis, No. 617, 28 Mar. 1882, in Despatches from United States Consuls in Kanagawa, 1861-1897, Vol. 12.
- (138) Meiji Juichi-nendo Shokyo Nenpo, p. 17.
- (139) See Clark, op.cit., Vol. 2, p. 450.
- (140) Ibid. It was also partly because, as a result of the Rengo Kiito Niazukarisho Jiken in 1881, "many manufacturers there [United States], who had up to that time used Japan silks, discarded them in favour of Italian raws". ('Review of the Silk Season' by Vivianti Brothers, Yokohama, 10 Apr. 1882.)
- (141) According to Yamazawa Ippai, two-thirds of the increase of raw silk exports to the United States during the whole period from 1876 to 1910 can be explained by the effect of demand, which was strongest in filatures. ('Kiito Yushutsu to Nihon no Keizai Hatten', Keizai-gaku Kenkyu, No. 19 (1975), pp. 64-65.)
- (142) Yokohama-shi Shi, which is the authoritative work on trade from the Bakumatsu through the Meiji periods, states that
- ... according to the statistics of the United States, the percentage of Japanese silk in the raw silk imports of the United States was only 26.0 per cent in 1880, but gradually increased to 41.6 per cent in 1882, and to 43.7 per cent in 1884, surpassing European and Chinese silks. (Ibid., Vol. 3, Part I, p. 472.)

These figures are taken from Japanese sources and differ from those in Table 29, which is based on the original United States

- statistics. It must be noted that the rapid growth in Japanese silk exports to the United States after 1880 was due to the increasing demand for Japanese silk after 1875. As shown in Table 29, Japanese silk had a continuous advantage over European silk even in the second half of the 1870s and surpassed Chinese silk in 1882.
- (143) Griffin & Co's Silk Trade Review, No. 89, Yokohama, 31 Dec. 1883, in JMA, PCMR 82.
- (144) CR 1883, Kanagawa, p. 145, in BPP, JAPAN, Vol. 7, p. 315; CR 1884, Kanagawa, p. 54, in ibid., Vol. 7, p. 438; Yokohama Prices Current and Market Report, No. 516, 20 Mar. 1889, No. 532, 19 Dec. 1889, and No. 573, 1 July 1891, in JMA, PCMR 82.
- (145) DCRTF, No. 38, Kanagawa for the Year 1885, p. 7, in BPP, JAPAN, Vol. 8, p. 19.
- (146) Even in the first half of the 1880s, silk "of a coarser type, for which formerly few purchasers could be found, now finds a ready sale in the United States". (General Report on the Trade of Japan for the Year 1884, pp. 106-107, in BPP, JAPAN, Vol. 7, pp. 490-91.)
- (147) Sangyo Shinko Domei-kai, Zen Sekai Kiito Taisei (1892), p. 2.
- (148) Yushutsu Juyohin Yoran (1896), pp. 82-83; Dai-Niji Yushutsu Juyohin Yoran, No. 3an no Bu, Sanshi (1901), pp. 108-109. See also Figure 7.
- (149) Hara Gomei Kaisha, Obei Sangyo Ippan (Yokohama, 1900), p. 7; Imanishi Naojiro, Obei Sanshiqyo Shisatsu Fukumei-sho (1902), p. 73. For the characteristics of Japanese raw silk, see J. Chittick, Silk Manufacturing and its Problems (New York, 1913), Chapter 3.
- (150) Yushutsu Juyohin Yoran (1896), pp. 27-28, 76.
- (151) Imanishi, op.cit., p. 93.
- (152) Habutae exports increased from 42,387 tan, 819,000 yen (1.5 per cent of the total exports) in 1890 to 525,961 tan, 8,354,000 yen (6.1 per cent) in 1895 and 968,319 tan, 17,436,000 yen (8.5 per cent) in 1900.  
For the development of Habutae production, see Yokohama-shi Shi, Vol. 4, Part I, pp. 305-96; Furushima, Sangyo Shi, pp. 422-35; Kandatsu Haruki, Meiji-ki Noson Orimonogyo no Tenkai (Tokyo: Tokyo Daigaku Shuppan-kai, 1974), Chapters 3, 4.
- (153) Meiji Jusan-nendo Shokyo Nenpo, in MZSHS, Separate Vol. 19, No. 2, p. 256.
- (154) 'Kiito Sohin Shokyo Chui no Gi ni tsuki Nyuyoku Ryoji Hokoku' (1884), in Shinano Sanshiqyo Shi, Vol. 3, pp. 625-27.

- (155) 'Beikoku-muki Honpo Kiito no Sosei Ranzo ni Nagare Seika o Shisshitaru Ken'(1891), in Yushutsu Juyohin Yoran (1896), p. 40.
- (156) Imanishi, op.cit., pp. 73-74.
- (157) Hara Gomei Kaisha, op.cit., pp. 14, 15-16; Dai-Nihon Sanshi Kaiho, No. 28 (Oct. 1894), p. 42.
- (158) 'Beikoku-muki Honpo Kiito no Sosei Ranzo ni Nagare Seika o Shisshitaru Ken', p. 37.
- (159) DCRTF, No.1118, Foreign Trade of Japan for the Year 1891, pp. 11-12, in BPP, JAPAN, Vol. 9, pp. 107-108.
- (160) Yushutsu Juyohin Yoran (1896), p. 41.
- (161) See above p. 79.
- (162) 'Beikoku-muki Honpo Kiito no Sosei Ranzo ni Nagare Seika o Shisshitaru Ken'(1891), 'Beikoku-muki Honpo Kiito no Sosei Ranzo ni Nagaretaru Ken ni tsuki Zokuho'(1892), 'Beikoku-muki Honpo Kiito Zappaku no Jijitsu Chosa, Zai Beikoku Nyuyoku Teikoku Ryoji Hokoku'(1893), in Yushutsu Juyohin Yoran (1896), and also R. V. Briesen, Beikoku ni okeru Nihon-shi ni Kansuru Hiken (1896).
- (163) Dai-Nihon Sanshi-kai Hokoku, No. 1 (Apr. 1892), pp. 1-2.
- (164) Yushutsu Juyohin Yoran (1896), p. 34.
- (165) 'Beikoku-muki Yushutsu Honpo Kiito Zappaku no Jijitsu Chosa, Zai Nyuyoku Teikoku Ryoji Hokoku', p. 80.  
The quality of Shinshu silk was also deteriorating. (Dai-Nihon Sanshi Kaiho, No. 31 (Jan. 1895), p. 33.
- (166) See Briesen, op.cit., pp. 3-4, 5.
- (167) 'Beikoku-muki Yushutsu Honpo Kiito Zappaku no Jijitsu Chosa', p. 80. See also Yushutsu Juyohin Yoran (1901), p. 25.
- (168) Briesen, op.cit., p. 4. For the Shanghai silk filatures, see D. K. Lieu, The Silk Industry in China (Shanghai: Kelly & Walsh, 1941), Chapter 1.
- (169) Hara Gomei Kaisha, op.cit., pp. 14-15.
- (170) Yamazawa Ippei states that the reason for the increasing share of Japanese raw silk in the American market was that the long-term supply elasticity of Japan was larger than that of the raw silk producing countries of Europe. (Yamazawa, op.cit., pp. 69-70.)
- (171) The silk industry can be divided into three sectors: sericulture, silk reeling, and weaving (manufacturing). Silk reeling in Japan consisted of three main processes: reeling, re-reeling, and finishing (dressing and packing). For a detailed description of

- silk reeling methods, see Imperial Japanese Silk Conditioning House, The Silk Industry in Japan (Yokohama, 1909), pp. 132-42.
- (172) 'Kiito Yokohama Yushutsu Shirabe', 3-2, (117), in Yokohama-shi Shi, Shiryo Hen, Vol. 1, p. 282. See also above p. 12.
- (173) Further Report from Mr. Adams on Silk Culture in Japan (1870), p. 2, in BPP, JAPAN, Vol. 2, p. 550; Report by Mr. Adams on the Deterioration of Japanese Silk (1871), p. 2, in BPP, JAPAN, Vol. 3, p. 56.
- (174) See above pp. 57, 79-80.
- (175) Yamaguchi Kazuo, Zoho Meiji Zenki Keizai no Bunseki (Tokyo: Tokyo Daigaku Shuppan-kai, 1963), p. 15.
- (176) Summary of the Foreign Trade of Japan for the Year 1876, p. 31, in BPP, JAPAN, Vol. 6, p. 237.
- (177) CR 1869, Kanagawa, p. 5, in BPP, JAPAN, Vol. 4, p. 393; CR 1870, Kanagawa, p. 6, in ibid., Vol. 4, p. 532.
- (178) Report by Mr. Adams on the Central Silk Districts of Japan (1870), Inclosure 4, pp. 13-14, in BPP, JAPAN, Vol. 2, pp. 541-42.
- (179) Yokohama Shiyakusho, Yokohama-shi Shi Ko, Sangyo Hen (Yokohama, 1932), pp. 108-109; Gunma-ken Sanshiqyo Enkaku Chosa-sho, Kiito no Bu, Vol. 1, in MZSHS, Separate Vol. 50, No. 2, pp. 40-41, 43.
- (180) Itsuka-kai ed. Furukawa Ichibei O Den (1926), in Ryumon-sha ed. Shibusawa Eiichi Denki Shiryo, Vol. 14 (Tokyo: Shibusawa Eiichi Denki Shiryo Kanko-kai, 1957), pp. 456-57. See also Kajinishi ed. Seni, p. 96; Furushima, Sangyo Shi, p. 182.
- (181) For the Tomioka Filature, see Tomioka Seishi-jo Shi Hensan Iin-kai, Tomioka Seishi-jo Shi, 2 vols; 'Tomioka Seishi-jo Enkaku Taiyo', in Gunma-ken Sanshiqyo Enkaku Chosa-sho, pp. 61-75; Kajinishi Mitsuhaya, 'Tomioka Seishi-jo Setsuritsu Jijo', in Nihon Sangyo Shihon Seiritsu Shi Ron (Tokyo: Ochanomizu Shobo, 1965); Kato Yasuo, 'Tomioka Seishi-jo', in Chihoshi Kenkyu Kyogikai ed., Nihon Sangyo-shi Taikei, Vol. 4 (Tokyo: Tokyo Daigaku Shuppan-kai, 1959); Wada Ei, Tomioka Nikki (Maebashi: Jomo Shinbun-sha, 1973).
- (182) For filatures during the early Meiji period, see Smith, Political Change and Industrial Development in Japan, pp. 56-58.  
The role of Tomioka Silk Filature as a pilot firm in the development of the silk industry seems exaggerated. On this question, Furushima Toshio, Shihonseï Seisan no Hatten to Jinushisei (Tokyo: Ochanomizu Shobo, 1963), p. 276, and also Sangyo Shi, pp. 236-38.

- (183) Unno Fukuju puts more emphasis on the government's determination to reorganize the system through encouraging export merchants in Yokohama than on the deterioration in quality of Japanese silk abroad. (Unno, 'Meiji Shonen no Boeki Mondai', p. 137, and Meiji no Boeki, pp. 29-35.) By 1876 five or six big export merchants commanded 85 per cent of the total silk business (Review of the Japan Silk Trade from 1874 to 1877, Inclosure 2 of Summary of Commercial Reports for the Year 1876, p. 33, in BPP, JAPAN, Vol. 6, p. 239), but the intentions of the government were not realized due to the opposition of local silk producers: this regulation had to be abolished in 1877, although it had disrupted the penetration of Western merchants. (See Yokohama-shi Shi, Vol. 3, Part I, p. 138; also ibid., Vol. 3, Part I, pp. 86-123; Ishii Kanji, 'Mayu Kiito no Ryutsu', in Ando and Firushima eds., Ryutsu Shi, pp. 99-115.)
- For H. Parkes's general comments on the guild, see, CR 1872, H. Parkes to Earl Granville, Yedo, 23 May 1873, p. 78, in BPP, JAPAN, Vol. 5, p. 186; General Report by Sir H. S. Parkes, and Note to Japanese Minister for Foreign Affairs respecting the Causes obstructing the Development of Trade, H. Parkes to the Earl of Derby, Hakodate, 30 Aug. 1874, p. 103, in BPP, JAPAN, Vol. 5, p. 429.
- (184) Yokohama-shi Shi, Vol. 3, Part I, p. 64.
- (185) Notification calling for Information respecting Silk Culture by Home Department (Mar. 1870), in Further Paper respecting Silk Culture in Japan, p. 3, in BPP, JAPAN, Vol. 2, p. 557.
- (186) Sanshu Seizo Kisoku (1870, revised both in 1871 and 1872), Sanshu Genshi Kisoku (1872), Kiito Seizo Torishimari Kisoku (1873, revised in 1873), Kiito Aratame Kaisha Kisoku (1873), Kiito Baibai Kansatsu Watashikata Kisoku (1873, added in 1876), Sanshu Torishimari Kisoku (1873), Sanshu Seizo Kumiai Jorei (1875), Sanshigyo Kumiai Junsoku (1885), and Sanshu Kensa Kisoku (1886). (See, for instance, Sano Ei, Dai-Nihon San Shi, Sei-shi, (1898), in MZSHS, Separate Vol. 67, Nos. 1, 2.
- (187) Kajinishi ed., Seni, p. 97.
- (188) Furushima, Shihonseï Seisan no Hatten to Jinushisei, p. 276, and Sangyo Shi, pp. 236-38.
- (189) Furushima, Sangyo Shi, p. 166.
- (190) For regional differences in economic development during the Meiji period, see Oishi Kaichiro, Nihon Chiho Zai-Gyosei Shi Josetsu (Tokyo: Ochanomizu Shobo, 1961), pp. 86-92.
- (191) For the development of the silk industry in the Fukushima area, see Fujita Goro, Nihon Kindai Sangyo no Seisei (Tokyo: Ochanomizu Shobo, 1970), Chapter 3; Oishi, ibid., pp. 174-206; Yamaguchi ed., Nihon Sangyo Kinyu Shi Kenkyu, Seishi Kinyu Hen, Chapter 4; Ebato Akira, Sanshiqyo Chiiki no Keizai Chirigaku-teki Kenkyu (Tokyo: Kokin Shoin, 1969), Chapter 6; Shoji Kichinosuke, Meiji Ishin no Keizai Kozo (Tokyo: Ochanomizu Shobo, 1954), Pt. 1, Chapter 2, Section 1, and Pt. 2, Chapter 3.

- (192) See Yamaguchi ed., ibid., p. 563.
- (193) For the development of the silk industry in the Gunma area, see Gunma-ken Sanshigyo Enkaku Hokoku; Yamaguchi ed., ibid., Chapter 5; Ebato, op.cit., Chapters 4, 5; Yamamoto Saburo, Seishigyo Kindai-ka no Kenkyu (Maebashi: Gunma-ken Bunka Jigyo Shinko-kai, 1975); Fujii Mitsuo, Fujii Harue and Ikeda Masataka, 'Bakumatsu Kaiko Zengo ni okeru Hokumo Sanshigyo no Tenkai' (1), (2), Shakai Keizai Shigaku, Vol. 27, Nos. 4 and 5 (1962); Ishii Kanji, 'Zaguri Seishigyo no Hatten Katei', Shakai Keizai Shigaku, Vol. 28, No. 6 (1963); also Hirschmeier, op.cit., pp. 94-95.
- (194) See above Sections 2 and 3.
- (195) Furushima, Sangyo Shi, p. 231.
- (196) See Yamaguchi ed., Nihon Sangyo Kinyu Shi Kenkyu, Saishi Kinyu Hen, p. 571.
- (197) For the development of the silk industry in Nagano, see Yagi Haruo, Nihon Kindai Seishigyo no Seiritsu (Tokyo: Ochanomizu Shobo, 1960); Yamaguchi ed., ibid., Chapter 2; Ebato, op.cit., Chapter 1, 2; Kitajima Masamoto ed., Seishigyo no Tenkai to Kozo (Tokyo: Hanawa Shobo, 1970); Eguchi and Hidaka ed., Shinano Sanshigyo Shi, 3 vols; Hirasawa Kiyoto, 'Meiji Ju-Niju-nendai Nagano-ken Kikai Seishi Kogyo Kakuritsu-ki no Ichi-Kosaku', in Meiji Shiryo Rentaku-kai ed., Kindai Sangyo no Seisei (Tokyo: Ochanomizu Shobo, 1958).  
Yamanashi (Koshu) and Gifu (Mino) Prefectures are also classified in this category. For the Yamanashi area, see Yamaguchi ed., ibid., Chapter 3; Ishii Kanji, 'Kikai Seishigyo no Hatten Katei', Rekishigaku Kenkyu, No. 282 (1963); Nakamura Masanori, 'Kikai Seishi no Hatten to Shokusan Kogyo Seisaku', Rekishigaku Kenkyu, No. 290 (1964), and 'Sanshigyo no Tenkai to Jinushisei', Shakai Keizai Shigaku, Vol. 32, Nos. 5, 6 combined issue (1967); also Nagahara Keiji, Nakamura Masanori, Nishida Yoshiaki and Matsumoto Hiroshi, Nihon Jinushisei no Kosei to Dankai (Tokyo: Tokyo Daigaku Shuppan-kai, 1972).
- (198) Yamaguchi, Zoho Meiji Zenki Keizai no Bunseki, p. 131.
- (199) Kiyokawa Yukihiro, 'Gijutsu Kakusa to Donyu Gijutsu no Teichaku Katei', in Ohkawa Kazushi and Minami Ryoshin eds., Kindai Nihon no Keizai Hatten (Tokyo: Toyo Keizai Shinpo-sha, 1975), pp. 264-266; Furushima Toshio, 'Sho-Sangyo Hatten no Chiikisei', in Chihoshi Kenkyu Kyogi-kai, Nihon Sangyo-shi Taikei, Vol. 1 (Tokyo: Tokyo Daigaku Shuppan-kai, 1961), p. 347.
- (200) Yamaguchi, Zoho Meiji Zenki Keizai no Bunseki, p. 132.
- (201) Eguchi and Hidaka, op.cit., Vol. 3, pp. 1124-25. The size of filatures grew, the number of filatures under 49 basins decreasing from 466 in 1883 to 357 in 1893.

- (202) Yamaguchi ed., Nihon Sangyo Kinyu Shi Kenkyu, Seishi Kinyu Hen, p. 171.
- (203) See Yokohama-shi Shi, Vol. 4, Part I, pp. 54-57.
- (204) Nihon Tokei Kenkyu-jo ed., Nihon Keizai Tokei Shu (Tokyo: Nihon Hyoron Shinsha, 1958), p. 104.
- (205) CR 1870, Kanagawa, p. 6, in BPP, JAPAN, Vol. 4, p. 532.
- (206) CR 1874, Kanagawa, pp. 30, 32, in BPP, JAPAN, Vol. 5, pp. 526, 528; CR 1877, Kanagawa, p. 55, in BPP, JAPAN, Vol. 6, p. 305.
- (207) CR 1874, Kanagawa, p. 32, in BPP, JAPAN, Vol. 5, p. 528.
- (208) Summary of Foreign Trade of Japan for the Year 1876, p. 31, in BPP, JAPAN, Vol. 6, p. 237.
- (209) Unno Fukuju, 'Boeki-shijo ni okeru 1880-nendai', Rekishigaku Kenkyu, No. 253 (1961), p. 29; Yokohama-shi Shi, Vol. 3, Part I, p. 477.
- (210) Meiji Juni-nendo Shokyo Nenpo, No. 5, in MZSHS, Separate Vol. 18, No. 6, p. 9.
- (211) Ibid.
- (212) Mori Taikichiro, 'Taibei Kiito Boeki to Waga Kuni no Sanshigyo', in Ohara Keishi ed., Nichibei Bunka Kosho Shi, Vol. 2 (Tsusho Sangyo Hen) (Tokyo: Yoyo-sha, 1954), p. 230.  
Direct exports remained stagnant or even declined in quantity after 1885, owing to the withdrawal of government protection.  
(See above)
- (213) Yokohama-shi Shi, Vol. 3, Part I, p. 514.
- (214) Fujino Shozaburo, Nihon no Keiki Junkan (Tokyo: Keiso Shobo, 1965), pp. 335, 337.
- (215) Yamaguchi ed., Nihon Sangyo Kinyu Shi Kenkyu, Seishi Kinyu Hen, pp. 20-21.
- (216) See Ishii, 'Zaguri Seishigyo no Hatten Katei', p. 57; Yamamoto, Seishigyo Kindai-ka no Kenkyu, p. 88; Yokohama-shi Shi, Vol. 4, Part I, p. 87 ff.
- (217) Yokohama-shi Shi, Vol. 4, Part I, p. 83; Furushima, Sangyo Shi, p. 377.
- (218) Mori, op.cit., p. 231.
- (219) Nihon Keizai Tokei Shu, p. 106.
- (220) Ishii, Nihon Sanshigyo Shi Bunseki, pp. 49-50, 57.



- (221) Yokohama Kaiko Goju-nen Shi, Vol. 2, pp. 541-42; Fujimoto, op.cit., Vol. 3, pp. 471-73, 475-78; Dainihon San Shi, Sei-shi, in MZSHS, Separate Vol. 67, No. 2, pp. 504, 582; Yokohama-shi Shi, Vol. 3, Part I, p. 690, see also 694-717.
- (222) Yokohama Kaiko Goju-nen Shi, Vol. 2, p. 544; Fujimoto, ibid., Vol. 3, pp. 483-90; Dai-Nihon San Shi, Sei-shi, pp. 567-68, 579; Yokohama-shi Shi, Vol. 3, Part I, pp. 644, 690-91.
- (223) Fujimoto, ibid., Vol. 3, pp. 502-505; Yokohama-shi Shi, Vol. 3, Part I, pp. 641-43, 691.
- (224) Yokohama Kaiko Goju-nen Shi, Vol. 2, pp. 545-46; Fujimoto, ibid., Vol. 3, pp. 478, 492-502; Gunma-ken Sanshiqyo Enkaku Hokoku, pp. 171-73; Yokohama-shi Shi, Vol. 3, Part I, pp. 645-47.
- (225) Fujimoto, ibid., Vol. 3, pp. 507-18; Yokohama-shi Shi, Vol. 3, Part I, pp. 647-48.
- (226) Fujimoto, ibid., Vol. 3, p. 520 ff.; Yokohama-shi Shi, Vol. 3, Part I, p. 649 ff.
- (227) Yokohama-shi Shi, Vol. 3, Part I, pp. 654-56, 691.
- (228) For details of direct exports in the 1880s, see Fujimoto, op.cit., Vol. 3, pp. 559-61.
- (229) Matsui ed., op.cit., Vol. 2 (Tokyo: Yuhi-kaku, 1961), p. 183.
- (230) Mizunuma, 'Meiji Koki ni okeru Kiito Yushutsu no Doko', p. 13.
- (231) For details of silk exports by Japanese merchants, see Yokohama-shi Shi, Vol. 4, Part I, pp. 120-49, 158-70.
- (232) Mizunuma, 'Meiji Koki ni okeru Kiito Yushutsu no Doko', pp. 13-14. See also Yokohama Kaiko Goju-nen Shi, Vol. 2, pp. 563-65.
- (233) Mizunuma, ibid., pp. 14, 18-19. See also Togai Yoshio, Mitsui Bussan Kaisha no Keieishi-teki Kenkyu (Tokyo: Toyo Keizai Shinpo-sha, 1974), pp. 38-41.
- (234) Mizunuma, ibid., pp. 9-10; Yokohama-shi Shi, Vol. 4, Part I, pp. 171, 203.
- (235) Yokohama-shi Shi, Vol. 4, Part I, pp. 70-75.
- (236) K. Hemmi, 'Primary Product Exports and Economic Development: The Case of Silk', in K. Ohkawa, B. F. Johnson and H. Kaneda, Agriculture and Economic Growth: Japan's Experience (Tokyo: University of Tokyo Press, 1969), pp. 319, 322; Fujino, op.cit., pp. 339-61; Ishii, Nihon Sanshiqyo Shi Bunseki, p. 373.

- (237) See Unno Fukuju, 'Boeki', in Furushima and Ando eds., Ryutsu Shi, p. 258. For discussion of low wages of female reelers and the working conditions, see Noshomu-sho Shoko-kyoku, Shokko Jijo, pp. 127-59; Sumiya Mikio, Nihon Chin Rodo Shi Ron (Tokyo: Tokyo Daigaku Shuppan-kai, 1955), pp. 163-74; Kajinishi Mitsuhaya, Tatewaki Sadayo, Furushima Toshio and Oguchi Kenzo, Seishi Rodosha no Rekishi (Tokyo: Iwanami Shoten, 1955); Ishii, Nihon Sanshiqyo Shi Bunseki, Chapter 3; Takizawa Hideki, Nihon Shihonshugi to Sanshiqyo (Tokyo: Mirai-sha, 1978), Pt. 2, Chapter 1.

Wages of female reelers in the main silk producing countries, were reported to be as follows in the late 1890s:

	Wages (per day)	Working hours (per day)
Japan	0.35 francs	12-13 hours
China	0.35	12-13
Italy	1.00	12-13
France	1.50	10

(Source: Dai-Nihon Sanshi Kaiho, No. 57 (Mar. 1897), p. 47.)

- (238) See above Table 11.
- (239) CR 1883, Japan, Part II, Summary of the Foreign Trade of Japan for the Year 1883, pp. 188-189, in BPP, JAPAN, Vol. 7, pp. 372-373.
- (240) The business activities of Western silk merchants have hardly been analysed at all in earlier Japanese studies. Fujimoto Jitsuya's Kaiko to Kiito Boeki mentions the history of Western silk merchants in Yokohama. (Vol. 2, pp. 266-384.) Silk export business after 1896 is referred to in Yokohama-shi Shi (Vol. 4, Part I, pp. 149-58). See also above, Chapter 2, footnote (74).
- (241) CR 1866, Shanghai, p. 105, in BPP, CHINA, Vol. 7, p. 369.
- (242) Adamson, W. R., & Co.; Barnet, Geo., & Co.; Gilman & Co.; Gutschow & Co.; Heard, Augustine, & Co.; Jardine, Matheson & Co.; Overweg & Co.; Petrocochino & Co.; Reiss & Co.; Shaw, Brothers (this is regarded as an affiliated firm of Shaw, Cull & Co.); Textor & Co.; Trautmann & Co.
- (243) In earlier studies by Japanese scholars, it has been insisted that Western merchants enjoyed enormous profits in their transactions owing to the differences in price between Yokohama and the international market, London and Lyons. (See, in particular, Takahashi Keizai Kenkyu-jo, Nihon Sanshiqyo Hattatsu Shi, Part I (Tokyo: Seikatsu-sha, 1941), pp. 64-65.) However, this discussion turns on a miscalculation of the exchange rates. For details, see Sugiyama, 'Bakumatsu Meiji Shoki ni okeru Kiito Yushutsu no Suryo-teki Sai-Kento', pp. 51-55.
- (244) Marriner and Hyde, op.cit., p. 191. See also Marriner, op.cit., p. 32; Lefevour, op.cit., p. 152; Hyde, Far Eastern Trade, p. 208ff.

- (245) Allen and Donnithorne, op.cit., pp. 36, 245.
- (246) For details of silk exports by Western merchants after 1896, see Yokohama-shi Shi, Vol. 4, Part I, pp. 149-58.
- (247) See also Allen and Donnithorne, op.cit., p. 61, and Yokohama-shi Shi, Vol. 4, Part I, pp. 156-57.
- (248) Dai-Nihon Sanshi Kaiho, No. 25, pp. 25-27.
- (249) Y. Yasuba, 'Freight Rates and Productivity in Ocean Transportation for Japan, 1875-1943', Explorations in Economic History, Vol. 15, No.1 (1978), p. 30.
- (250) 'Seishi Shijun-kai Kiji'(1885), in MZSHS, Vol. 8, No. 4, pp. 96-97.
- (251) DCRTF, No. 1084, Yokohama for the Year 1891, p.11 , in BPP, JAPAN, Vol. 9, p. 47; ibid., No. 1255, Yokohama for the Year 1892, p. 12, in BPP, JAPAN, Vol. 9, p. 156; ibid., No. 1421, Yokohama for the Year 1893, p. 12 , in BPP, JAPAN, Vol. 9, p. 270; ibid., No. 1600, Yokohama for the Year 1895, p. 12 , in BPP, JAPAN, Vol. 9, p. 422; ibid., No. 1971, Yokohama for the Year 1896, p. 11 , in BPP, JAPAN, Vol. 10, p. 307.

## CHAPTER V

- (1) CR 1859, Nagasaki, p. 90, in BPP, JAPAN, Vol.4, p. 20; CR 1859, Kanagawa, p. 91, in ibid., Vol. 4, p. 21.  
It is said that tea was first exported from Nagasaki in large quantities by the order of the British merchant, Alt, who came there with a sample of Ureshino-cha produced in Kyushu.(Takimoto Seiichi and Mukai Shikamatsu eds., Nihon Sangyo Shiryo Taikei, Vol. 3 (Tokyo: Chugai Shogyo Shinpo-sha, 1926), p. 178.) The amount of tea sold in 1859 was said to be 400,000 kin at a price of from 8 to 18 Mexican dollars per picul.(Chagyo Kumiai Chuo Kaigisho, Nihon Chagyo Shi, Zoku Hen (Tokyo, 1936), p. 1.) According to Mie-ken Shi, the total quantity of tea exported from Japan in 1859 was 300,000 kin, of which over a half came from Ise.(Ibid.(Tsu: Mie-ken, pp. 203-204.) Otani Kahei, a main tea dealer in Yokohama, stated that tea exports in 1859 were 200,000 kin at a price of from 7 to 12 dollars.('Seicha Shudan-kai Nisshi', in MZSHS, Vol. 9, No. 2, p. 380.)
- (2) CR 1863, Kanagawa, p. 165, in BPP, JAPAN, Vol. 4, p. 95; CR 1863, Nagasaki, p. 23, in ibid., Vol. 4, p. 147. However, the value of tea exports were \$643,197 in Nagasaki and \$403,273 in Yokohama respectively.(CR 1863, Kanagawa and Nagasaki.)

- (3) In 1865 the quantity and value of tea exports from Nagasaki and Yokohama were 24,123 piculs, valued at 384,375 ichibus (\$1,195,406), from Nagasaki and 59,248 piculs, valued at \$1,777,440 from Yokohama. (CR 1865, Nagasaki, p. 6, in BPP, JAPAN, Vol. 4, p. 190; CR 1865, Kanagawa, p. 245, in ibid., Vol. 4, p. 201.)
- (4) CR 1862, Kanagawa, p. 211, in BPP, JAPAN, Vol. 4, p. 47; Aurther Capel & Co's Tea Circular, London, 8 Jan. 1867, in JMA, PCMR 35.
- (5) CR 1866, Kanagawa, p. 255, in BPP, JAPAN, Vol. 4, p. 243.
- (6) CR 1867, Kanagawa, p. 309, in BPP, JAPAN, Vol. 4, p. 329.
- (7) Paske-Smith, op.cit., p. 214.
- (8) Yokohama-shi Shi, Vol. 3, Part I, p. 487. Prices of tea exported from Yokohama were higher than those from Kobe, which meant that the quality of tea exported from Yokohama was superior to that from Kobe. (Ibid., p. 488.)
- (9) Shokyo Nenpo (for the Year 1882), No. 3, in MZSHS, Separate Vol. 19, No. 3, pp. 185-86.
- (10) Chagyō Kumiai Chuo Kaigi-sho, Nihon Cha Boeki Gaikan (Tokyo, 1935), p. 96.
- (11) Exports to Canada rapidly decreased after 1903 due to competition from Indian and Ceylon tea. (Yokohama-shi Shi, Vol. 4, Part I, p. 250.)
- (12) CR 1884, Hyogo and Osaka, p. 14, in BPP, JAPAN, Vol. 7, p. 398.
- (13) Shokyo Nenpo (for the Year 1883), in MZSHS, Separate Vol. 19, No. 5, p. 41; The Economist, No. 1985 (10 Sept. 1881), p. 1146.
- (14) IMC, Reports on Trade at the Treaty Ports in China for the Year 1876, Part I, p. 36.
- (15) IMC, Reports on Trade at the Treaty Ports, for the Year 1877, Part I, p. 55; Report on the Trade at the Ports in China open by Treaty to Foreign Trade, for the Year 1865, Part II, p. 129; Returns of Trade at the Treaty Ports, and the Trade Reports, for the Year 1884, Part I, p. 4.
- (16) IMC, Returns of Trade at the Treaty Ports, and the Trade Reports, for the Year 1884, Part I, p. 4.
- (17) IMC, Returns of Trade and Trade Reports for the Year 1893, Part II, Shanghai, p. 219.
- (18) See, CR 1868, Shanghai, p. 24, in BPP, CHINA, Vol. 9, p. 288.
- (19) IMC, Returns of Trade and Trade Reports for the Year 1891, Part I, p. 3.

- (20) CR 1865, Kanagawa, p. 241, in BPP, JAPAN, Vol. 4, p. 197.  
See also CR 1866, Kanagawa, p. 255, in ibid., Vol. 4, p. 243.
- (21) Reports on the Production of Tea in Japan, Inclosure 5 in No. 2, p. 10, in BPP, JAPAN, Vol. 3, p. 114.  
The same report stated that
- The difference between these two classes depends partly on the original quality of the leaf, as one tea is naturally more suitable for being made a green tea than another. But it depends also on the preparation, and it is possible out of the same leaf to make either green tea or black tea. In the preparation of black tea the leaf is taken when fresh, and after it is picked it is wetted and put into baskets, where it is allowed slightly to ferment. ...
- In addition to the sweating of the leaf above referred to, the preparation of black and green teas differs in the manner of firing. Black teas are fired in baskets; but it is found that the bluish-green colour of the leaf, which is preferred in America, is best produced by firing in iron pans, which is the method pursued in China also in firing green teas. Japan teas, however, are not, as a rule, coloured with any pigment.
- In the preparation of China green teas there is a mixture used of gypsum and Prussian blue, or indigo. The gypsum gives them a glaze and a pearly appearance, and the Prussian blue gives the blue colour. The combination gives a glazed slate colour, differing in shade according to the proportions of the ingredients used. This mixture is put into the pans when firing, from a teaspoonful to two teaspoonfuls to every five pounds of tea. (Ibid., pp. 10, 11, in BPP, JAPAN, Vol. 3, pp. 114-15.)
- (22) Both economic factors such as income and non-economic factors such as preference in taste and life of people should be included in the analysis in order to draw a general conclusion. It is not therefore sufficient to explain market conditions only from competition in tea and coffee.  
Tea consumption was sensitive to income changes. (See G. K. Sarkar, The World Tea Economy (Calcutta: Oxford University Press, 1972), pp. 21, 58.)
- (23) CR 1865, Kanagawa, p. 244, in BPP, JAPAN, Vol. 4, p. 200; also IMC, Report on the Trade at the Ports in China open by Treaty to Foreign Trade, for the Year 1865, p. 129.
- (24) Reports on the Production of Tea in Japan, p. 10, in BPP, JAPAN, Vol. 3, p. 114.
- (25) Report by Mr. Malet on the General Features of Chinese Trade for the Year 1872, p. 227, in BPP, CHINA, Vol. 10, p. 537.
- (26) IMC, Reports on Trade at the Treaty Ports in China for the Year 1876, Part I, p. 33. The unprofitable situation in tea trade continued for the following three decades. (See ibid., for the years 1885, 1886 and 1896.)

It is interesting, on the contrary, that a British consular report in Japan for the year 1877 pointed out that the tea trade of 1877 was "on the whole tolerably remunerative to foreign merchants."(CR 1877, Hyogo and Osaka, p. 28, in BPP, JAPAN, Vol. 6, p. 278.)

- (27) Nihon Cha Boeki Gaikan, pp. 83-84.
- (28) Ibid., p. 84.
- (29) CR 1872, Kanagawa, p. 40, in BPP, JAPAN, Vol. 5, p. 148.
- (30) CR 1873, Hyogo and Osaka, p. 20, in BPP, JAPAN, Vol. 5, p. 346.
- (31) CR 1875, Kanagawa, p. 51, in BPP, JAPAN, Vol. 5, p. 633.
- (32) CR 1877, Kanagawa, p. 59, in BPP, JAPAN, Vol. 6, p. 309;  
CR 1876, Summary of Commercial Reports for the Year 1876, p. 6, in ibid., Vol. 6, p. 212.
- (33) Hsiao Liang-lin, China's Foreign Trade Statistics, 1864-1949 (Cambridge, Mass.: East Asian Research Center, Harvard University, 1974), p. 117; Nihon Boeki Tokai, Shiryo Hen Vol. 2 of Yokohama-shi Shi (Yokohama, 1962), p. 139.
- (34) Reports on the Production of Tea in Japan, p. 12, in BPP, JAPAN, Vol. 3, p. 116; Review of the Import Trade of Japan, and of the Tea and Silk Season of 1872-73, Inclosure 2, Extract from The Japan Mail, 31 May 1873, p. 93, in ibid., Vol. 5, p. 203;  
CR 1880, Kanagawa, p. 42, in ibid., Vol. 6, p. 706.
- (35) CR 1868, Kanagawa, p. 4, in BPP, JAPAN, Vol. 4, p. 346.
- (36) Ibid.
- (37) CR 1869, Kanagawa, p. 7, in BPP, JAPAN, Vol. 4, p. 395.  
It was after the new season in 1870 that the new tea became in favour. (Chagyo Kumiai Chuo Kaigi-sho, Nihon Chagyo Shi (Tokyo, 1914), p. 37, and 'Seicha Shudan-kai Nisshi', pp. 368-69.)
- (38) CR 1868, Kanagawa, p. 4, in BPP, JAPAN, Vol. 4, p. 346.
- (39) IMC, Reports on Trade at the Treaty Ports in China, for the Year 1869, p. 13.
- (40) IMC, ibid., for the Year 1876, Part I, p. 32.
- (41) IMC, Returns of Trade at the Treaty Ports, Part I, corresponding years.
- (42) IMC, Reports on Trade at the Treaty Ports in China for the Year 1876, Part I, p. 36.  
Indian tea caused "a formidable competition" (IMC, Returns of Trade at the Treaty Ports, and Trade Reports, for the Year 1883, Part I, p. 165) and rapidly replaced Chinese black tea market

- in England. (See, IMC, Reports on Trade at the Treaty Ports, for the Year 1881, Part II, Foochow, p. 7; IMC, Decennial Report on the Trade, Navigation, Industries, etc., of the Ports open to Foreign Commerce in China, 1892-1901, Vol. 1, p. 479.) India was actually "the destroyer of China's Black Tea trade". (IMC, Returns of Trade and Trade Reports for the Year 1896, Part I, xii.)
- (43) IMC, Reports on Trade at the Treaty Ports in China for the Year 1876, Part I, p. 36.
- (44) IMC, ibid., Part I, p. 59. See also ibid., p. 118; DCRTF, No. 1951, Shanghai for the Year 1896, p. 14, in BPP, CHINA, Vol. 20, p. 356.
- (45) IMC, Reports on Trade at the Treaty Ports, for the Year 1877, Part I, p. 55; IMC, Returns of Trade at the Treaty Ports, and Trade Reports, for the Year 1882, Part I, p. 4; CR 1884, Part I, Report on the Fluctuations of Foreign Trade in China, p. 74, in BPP, CHINA, Vol. 15, p. 86.
- (46) IMC, Returns of Trade at the Treaty Ports, and Trade Reports, for the Year 1882, Part I, p. 4.
- (47) CR 1875, Hyogo and Osaka, p. 18, in BPP, JAPAN, Vol. 5, p. 600.
- (48) CR 1876, Hyogo and Osaka, p. 14, in BPP, JAPAN, Vol. 6, p. 88.
- (49) CR 1876, Kanagawa, p. 42, in BPP, JAPAN, Vol. 6, p. 116.
- (50) CR 1876, Summary of Commercial Reports for the Year 1876, p. 6, in BPP, JAPAN, Vol. 6, p. 212. See also, CR 1880, Kanagawa, p. 42, in ibid., Vol. 6, p. 706; CR 1881, Kanagawa, p. 42, in ibid., Vol. 7, p. 54; CR 1875, Hyogo and Osaka, p. 19, in ibid., Vol. 5, p. 601.
- (51) See footnote (32).
- (52) CR 1876, Hyogo and Osaka, p. 14, in BPP, JAPAN, Vol. 6, p. 88.
- (53) CR 1881, Kanagawa, p. 42, in BPP, JAPAN, Vol. 7, p. 54.
- (54) CR 1882, Kanagawa, p. 14, in BPP, JAPAN, Vol. 7, p. 182.
- (55) IMC, Returns of Trade at the Treaty Ports, and Trade Reports, for the Year 1883, Part I, p. 3.
- (56) Commerce and Navigation of the United States, 1882-83, Part I, p. 44, and 1883-84, Part I, p. 57.
- (57) Shokyo Nenpo (for the Year 1883), Ko Hen, No. 4, in MZSHS, Separate Vol. 19, No. 5, p. 56.
- (58) DCRTF, No. 1083, Hyogo and Osaka for the Year 1891, p. 8, in BPP, JAPAN, Vol. 9, p. 20.

- (59) IMC, Returns of Trade at the Treaty Ports, and Trade Reports, for the Year 1880, Part I, p. 47, and ibid., for the Year 1883, Part II, Shanghai, p. 165.
- (60) IMC, Returns of Trade at the Treaty Ports, and Trade Reports, for the Year 1880, Part I, p. 47.
- (61) IMC, Decennial Report, 1892-1901, Vol. 1, p. 479.
- (62) Ibid., p. 482. Formosan tea "entered into keen and damaging competition with China brands" in consequence of the cession of Formosa to Japan by the Shimonoseki Treaty in 1895. (Ibid., Vol. 1, p. 483.)
- (63) IMC, Returns of Trade at the Treaty Ports, and Trade Reports for the Year 1898, Part I, p. 5. Diplomatic and Consular Report, No. 2277, Foreign Trade of Japan for the Year 1898, pp. 18-19, in BPP, JAPAN, Vol. 10, pp. 570-71.
- (64) DCRTF, No. 1811, Report for First Six Months of the Year 1896 on the Foreign Trade of Japan, p. 7, in BPP, JAPAN, Vol. 10, p. 219.
- (65) CR 1877, Hyogo and Osaka, p. 29, in BPP, JAPAN, Vol. 6, p. 279.
- (66) DCRTF, No. 1779, Yokohama for the Year 1895, p. 7, in BPP, JAPAN, Vol. 10, p. 131. See also, DCRTF, No. 2290, Yokohama for the Year 1898, p. 10, in ibid., Vol. 10, p. 594.
- (67) DCRTF, No. 1779, Yokohama for the Year 1895, p. 7, in BPP, JAPAN, Vol. 10, p. 131.
- (68) DCRTF, No. 2189, Hyogo and Osaka for the Year 1897, p. 13, BPP, JAPAN, Vol. 10, p. 541.
- (69) Nihon Chagyo Shi, p. 36; Nihon Cha Boeki Gaikan, p. 53.
- (70) Yamaguchi Kazuo, 'Cha Boeki no Hattatsu to Seichagyo', in Ohara ed., Nichibei Bunka Kosho Shi, Vol. 2, p. 139.
- (71) Nihon Cha Boeki Gaikan, p. 56; Yokohama-shi Shi, Vol. 2, pp. 645-76; also Saitama-ken Chagyo Kyokai, Sayama Chagyo Shi (Urawa, 1973), p. 77.
- (72) Yamaguchi, 'Cha Boeki no Hattatsu to Seichagyo', p. 141.
- (73) Nihon Cha Boeki Gaikan, p. 66.
- (74) Ibid., p. 74; 'Seicha Shudan-kai Nisshi', p. 371; CR 1868, Kanagawa, p. 5, in BPP, JAPAN, Vol. 4, p. 347.
- (75) Nihon Cha Boeki Gaikan, p. 59; Yamaguchi, Bakumatsu Boeki Shi, pp. 200-201, and 'Cha Boeki no Hattatsu to Seichagyo', p. 149.



'Reports on the Production of Tea in Japan' stated that "The local method consists in first steaming the leaves in iron pots and afterwards rolling them on mats, and then drying them on large paper drums heated by charcoal. The custom in Uji [a main tea producing area in Kyoto] is similar in every respect, except that the tea is rolled between the hands instead of on mats, and that greater attention is paid to the first steaming." (Ibid., p. 7, in BPP, JAPAN, Vol. 3, p. 111.) The Uji method spread quickly and widely after the opening of trade.

Processes of preparing tea are mainly divided into five parts: steaming, firing, sorting, sifting, and packing. For details of tea production, see Henry Gribble, 'The Preparation of Japan Tea', Transactions of the Asiatic Society of Japan, Vol. 12 (1885).

- (76) "Assuming the amount of moisture in a leaf in its original state to be 80 per cent, from 70 to 75 per cent. has to be extracted before export." (Reports on the Production of Tea in Japan, Inclosure in No. 3, Robertson to Watson, Kanagawa, 26 Feb. 1873, p. 19, in BPP, JAPAN, Vol. 3, p. 123.) "China leaf finds its way to the hands of the foreign purchaser fully cured and packed and ready for exportation", but "Japan leaf ... comes to the market in a comparatively raw state, though partially sun-dried, or fired, and is then submitted to a thorough process of firing at the hands of the foreign exporter, either in his own or in another's establishment at a fixed rate of charge." (Ibid., pp. 18-19, in BPP, JAPAN, Vol. 3, pp. 122-23.) See also, Arthur Capel & Co's Tea Circular, 8 Jan. 1862, in JMA, PCMR 34.
- (77) Report by Captain Howard Vyse, British Consul at Kanagawa, on the Trade of that Port during the Half Year ended 31st December 1860, p. 280, in BPP, JAPAN, Vol. 4, p. 28.  
This raises doubts about statements in Japanese works where it is said that, since the quality of Japanese tea was superior and well-dried, refiring was not required before 1862 and the first tea-refiring factory was established in 1862 employing skilled Chinese as supervisors as a consequence of deterioration in quality based on the sudden increase in demand overseas. (See Nihon Chaqyo Shi, p. 36; Nihon Cha Boeki Gaikan, pp. 58-59, 73.)
- (78) Correspondence respecting the Trade with Japan 1860, No. 2, Alcock to Russell, Yedo, 21 Feb. 1860, Inclosure 1, Report on British Trade at Nagasaki for 1859, p. 6, in BPP, JAPAN, Vol. 1, p. 180; Report by Captain H. Vyse on the Trade of Kanagawa during the Half Year ended 31st December 1860, p. 280, in ibid., Vol. 4, p. 28.
- (79) Reports on the Production of Tea in Japan, p. 11, in BPP, JAPAN, Vol. 3, p. 115.
- (80) CR 1868, Nagasaki, p. 32, in BPP, JAPAN, Vol. 4, p. 374; CR 1869, Nagasaki, p. 49, in ibid., Vol. 4, p. 437.  
Export duty for tea was fixed at 5 per cent of the declared price under the commercial treaties in 1858 and revised to 3.5 ichibus per 100 kin later. However the duty for 'bancha' from Nagasaki was 0.75 ichibus and "tea, fired and packed on the spot is charged full 3½ bus per picul on all grades". (CR 1869, Nagasaki, p. 49.)

- (81) CR 1868, Nagasaki, p. 32, in BPP, JAPAN, Vol. 4, p. 374.
- (82) CR 1869, Nagasaki, p. 49, in BPP, JAPAN, Vol. 4, p. 437. See also, CR 1872, Nagasaki, p. 63, in ibid., Vol. 5, p. 171; CR 1879, Nagasaki, p. 46, in ibid., Vol. 6, p. 624; CR 1882, Nagasaki, p. 37, in ibid., Vol. 7, p. 151.
- (83) CR 1870, Nagasaki, p. 52, in BPP, JAPAN, Vol. 4, p. 578. See also, CR 1879, Nagasaki, p. 46, in ibid., Vol. 6, p. 624; CR 1882, Nagasaki, p. 37, in ibid., Vol. 7, p. 151.
- (84) CR 1873, Nagasaki, p. 82, in BPP, JAPAN, Vol. 5, p. 408. See also, CR 1875, Nagasaki, p. 66, in ibid., Vol. 5, p. 648.
- (85) DCRTF, No. 403, Nagasaki for the Year 1887, p. 2, in BPP, JAPAN, Vol. 8, p. 268.
- (86) Tea continued to be a main export article from Kobe until 1888. (CR 1874, Hyogo and Osaka, p. 54, in BPP, JAPAN, Vol. 5, p. 550; DCRTF, No. 594, Hyogo and Osaka for the Year 1888, p. 7, in ibid., Vol. 8, p. 387.)
- (87) Reports on the Production of Tea in Japan, Inclosure 5 in No. 2, Report by Acting Vice-Consul Wilkinson on the Tea Trade of Hiogo and Osaka, p. 10, in BPP, JAPAN, Vol. 3, p. 114.
- (88) 'Seicha Shudan-kai Nisshi', pp. 368, 370.
- (89) Reports on the Production of Tea in Japan, Inclosure 5 in No. 2, p. 9, in BPP, JAPAN, Vol. 3, p. 113; 'Seicha Shudan-kai Nisshi', p. 371.  
There are different statements on the date of the first tea-refining establishment in Kobe. According to Nihon Chaogyo Shi, it was in 1872 (p. 37), and, according to Nihon Cha Boeki Gaikan, it was in mid-1869 (p. 72).
- (90) CR 1874, Hyogo and Osaka, p. 54, in BPP, JAPAN, Vol. 5, p. 550.
- (91) Figures may be underestimated because "the Chamber of Commerce have not, until recently, taken any notice of some minor shipments." Worse, "the Custom-house Returns are, in many cases wrong". (Reports on the Production of Tea in Japan, p. 13, in BPP, JAPAN, Vol. 3, p. 117.)
- (92) Review of the Import Trade of Japan, and of the Tea and Silk Season of 1872-73, Inclosure 2, Extract from The Japan Mail, 31 May 1873, p. 94, in BPP, JAPAN, Vol. 5, p. 204.
- (93) Yamaguchi, Zoho Meiji Zenki Keizai no Bunseki, pp. 18, 19. See also Furushima, Shihonsei Seisan no Hatten to Jinushisei, pp. 74-78, and 'Sho-Sangyo Hatten no Chiikisei', pp. 295-97.
- (94) Nihon Cha Boeki Gaikan, p. 116; Yokohama-shi Shi, Vol. 3, Part I, p. 490, and Vol. 4, Part I, p. 284.  
In Shizuoka the development of tea plantations was encouraged by

- the government to help the former samurai class.(Sanpei Takako, Noka Kanai Sho-Kogyo no Hensen Katei (Tokyo: Ito Shoten, 1934), pp. 114-16.) Tea production in Shizuoka (Suruga and Totomi) exceeded that in Yamashiro in 1877.(Yamaguchi, Bakumatsu Boeki Shi, p. 198.) Small steamers of 100-300 tons began to be used for tea transportation after the mid-1870s. They were the only means for tea transportation before the opening of Tokaido Line in 1889.(Nihon Cha Boeki Gaikan, pp. 109-10; Shizuoka Shiyaku-sho, Shizuoka-shi Shi, Vol. 3 (Shizuoka, 1973), p. 549.) Shizuoka became literally the centre of tea exports with the opening of Shimizu as a special port in 1889.(Nihon Cha Boeki Gaikan, pp. 149-62.)
- (95) Cho Yukio, 'Meiji Zen-Chu-ki no Sho-Eigyō', in Kawashima Takeyoshi and Matsuda Tomoo eds., Kokumin Keizai no Sho-Ruikei (Tokyo: Iwanami Shoten, 1968), p. 630; Meiji Taisho Kokusei Soran (Tokyo: Toyo Keizai Shinpo-sha, 1927), p. 517, Table 534.
- (96) Nihon Chaqyo Shi, pp. 38, 39; Nihon Cha Boeki Gaikan, p. 90.
- (97) Sanpei, op.cit., pp. 140-44.
- (98) Yamaguchi, 'Cha Boeki no Hattatsu to Seichagyo', p. 167; Nihon Cha Boeki Gaikan, p. 91.  
International exhibitions were held at San Francisco in 1870, Philadelphia in 1875, and Sydney in 1879.
- (99) Sanpei, op.cit.; p. 121. See Figure 1.
- (100) Nihon Chaqyo Shi, p. 38.
- (101) "The extention of tea cultivation in Japan ... will depend greatly on the success which the black teas achieve on the English market."(CR 1877, Kanagawa, p. 59, in BPP, JAPAN, Vol. 6, p. 309.)
- (102) Nihon Chaqyo Shi, p. 39.
- (103) Nihon Cha Boeki Gaikan, p. 111.
- (104) Nihon Chaqyo Shi, p. 40.
- (105) CR 1881, Kanagawa, p. 42, in BPP, JAPAN, Vol. 7, p. 54.
- (106) CR 1882, Hyogo and Osaka, p. 14, in BPP, JAPAN, Vol. 7, p. 128.
- (107) Okura Kihachiro pointed out as evils a colouring of tea in the refiring process for long-distance transportation and inadequate packing by Western merchants.('Seicha Shudan-kai Nisshi', pp. 26-27, 50.) As to Japanese producers, it has been noted that when the price of tea rose, a third, fourth, and even fifth crop was picked.(Ibid., pp. 356,362.)
- (108) Nihon Cha Boeki Gaikan, p. 89. For Otani Kahei, see Hirschmeier, op.cit., pp. 275-76.

- (109) CR 1876, Kanagawa, p. 42, in BPP, JAPAN, Vol. 6, p. 116. Direct shipments mentioned here do not mean those by tea producers themselves. They were performed by Japanese trading firms such as Mitsui Bussan and Okura-gumi. (Nihon Cha Boeki Gaikan, p. 92.)
- (110) CR 1877, Kanagawa, p. 59, in BPP, JAPAN, Vol. 6, p. 309.
- (111) Yokohama-shi Shi, Vol. 3, Part I, pp. 725-28; Sayama Chaqyo Shi, pp. 101-18.
- (112) Yokohama-shi Shi, Vol. 3, Part I, pp. 731-39. See also Numata Makoto, 'Seichagyo no Keisei, Tenkai Katei ni okeru Tokushitsu to Jinushisei', in Nakamura Yujiro and Kimura Motoi eds., Sonraku, Hotoku, Jinushisei (Tokyo: Toyo Keizai Shinpo-sha, 1976).
- (113) Yokohama-shi Shi, Vol. 3, Part I, pp. 741-49. See also Mie-ken Shi, p. 288; Wazaki Kozo, 'Sangyo Burujoajii no Seisei to Jinushisei no Tenkai', in Horie Hideichi and Toyama Shigeki eds., Jiyu Minken-ki no Kenkyu, Vol. 4 (Tokyo: Yuhi-kaku, 1959).
- (114) Yokohama-shi Shi, Vol. 3, Part I, p. 722, Figure 13; Sanpei, op.cit., p. 128; Yamaguchi, 'Cha Boeki no Hattatsu to Seichagyo', p. 166; Sayama Chaqyo Shi, p. 110.
- (115) Yokohama-shi Shi, Vol. 3, Part I, p. 723. See above pp. 20-23.
- (116) Nihon Cha Boeki Gaikan, p. 114.
- (117) Ibid., pp. 114-15; Nihon Chaqyo Shi, pp. 42-43.
- (118) 'Seicha Shudan-kai Nisshi', p. 122.
- (119) Ibid., pp. 4-5.
- (120) Nihon Chaqyo Shi, pp. 43-45.
- (121) Ibid., pp. 69-72.
- (122) Ibid., p. 83. The principal objects of the association were "to correct any abuses existing between the producers and the purchasers, to enforce close attention to the preparation and packing of teas, and to ensure the fulfilment of contracts in a creditable manner." (DCRTF, No. 1260, Hyogo and Osaka for the Year 1892, p. 18, in BPP, JAPAN, Vol. 9, p. 184.)
- (123) Nihon Cha Boeki Gaikan, p. 115.
- (124) Nihon Chaqyo Shi, p. 89.
- (125) Ibid., pp. 94, 97; Nihon Cha Boeki Gaikan, p. 135. For the process of discussion on Nihon Seicha Kaisha, see Yokohama-shi Shi, Vol. 4, Part I, pp. 260-65.

- (126) Nihon Chagyo Shi, p. 107; Nihon Cha Boeki Gaikan, pp. 136-37. For Maeda's view on tea exports, see Cho, *op.cit.*, and 'Nationalism to "Sangyo" Undo: Maeda Masana no Shiso to Kodo', in Cho and Sumiya eds., *op.cit.*, pp. 115-23.
- (127) Nihon Cha Boeki Gaikan, p. 137; Nihon Chagyo Shi, p. 118.
- (128) Nihon Chagyo Shi, pp. 125-26.
- (129) Japan, Department of Agriculture and Commerce, Japan in the Beginning of the 20th Century (Tokyo: Tokyo Shoin, 1904), p. 155.
- (130) Nihon Cha Boeki Gaikan, p. 156.
- (131) Yokohama-shi Shi, Vol. 3, Part I, p. 723.
- (132) Nihon Cha Boeki Gaikan, p. 129.
- (133) Ibid., p. 53.
- (134) Ibid., pp. 130-31, 132-33.
- (135) Ibid., pp. 132-34. Butterfield & Swire left the tea business in 1892. (Ibid., p. 134.)
- (136) Ibid., pp. 133-34. See also Yokohama-shi Shi, Vol. 3, Part I, pp. 603-614.
- (137) Yokohama-shi Shi, Vol. 4, Part I, p. 283.
- (138) Reports on the Production of Tea in Japan, p. 11, in BPP, JAPAN, Vol. 3, p. 115. It was said that bags were used for short-distance tea transportation, and wooden boxes and porcelains were used for long-distance transportation. (Nihon Cha Boeki Gaikan, p. 61.)
- (139) The British consular report on Kanagawa for the year 1878 stated that "Fully two-thirds of the tea trade ... is carried on by English firms." (CR 1878, Kanagawa, p. 44, in BPP, JAPAN, Vol. 6, p. 456.)
- (140) DCRTF, No. 219, Kanagawa for the Year 1886, p. 6, in BPP, JAPAN, Vol. 8, p. 204. See also, DCRTF, No. 200, Trade of Japan for the Year 1886, p. 24, in ibid., Vol. 8, p. 152.
- (141) Reports on the Production of Tea in Japan, p. 10, in BPP, JAPAN, Vol. 3, p. 114.
- (142) In New York basket-fired tea continued in favour and was dearer than pan-fired tea. (CR 1884, Kanagawa, p. 58, in BPP, JAPAN, Vol. 7, p. 442.)
- (143) DCRTF, No. 219, Kanagawa for the Year 1886, p. 6, in BPP, JAPAN, Vol. 8, p. 204.

- (144) Nihon Cha Boeki Gaikan, p. 131.  
 In 1896, 27,574,153 lb. of tea was exported from Yokohama and 15,102,435 lb. from Kobe, and in 1900, 25,284,127 lb. was exported from Yokohama and 12,532,854 lb. from Kobe. (Ibid., p. 152.) According to a British consular report for the year 1889, 17,807,020 lb. was shipped from Kobe, of which 7,207,173 lb. (40.5 per cent) was for New York and eastern cities, 4,571,249 lb. (25.7 per cent) for California, 976,062 lb. (5.5 per cent) for Chicago, and 5,052,536 lb. (28.4 per cent) for Canada. (DCRTF, No. 766, Hyogo and Osaka for the Year 1889, p. 10, in BPP, JAPAN, Vol. 8, p. 496.)
- (145) Nihon Cha Boeki Gaikan, p. 132.
- (146) DCRTF, No. 404, Hyogo and Osaka for the Year 1887, p. 4, in BPP, JAPAN, Vol. 8, p. 286.
- (147) CR 1881, Kanagawa, p. 43, in BPP, JAPAN, Vol. 7, p. 55; CR 1882, Kanagawa, p. 16, in ibid., Vol. 7, p. 184; CR 1883, Kanagawa, p. 148, in ibid., Vol. 7, p. 318.
- (148) DCRTF, No. 38, Kanagawa for the Year 1885, p. 10, in BPP, JAPAN, Vol. 8, p. 22; DCRTF, No. 208, Hyogo and Osaka for the Year 1886, p. 3, in ibid., Vol. 8, p. 187.
- (149) Innis, op.cit., p. 193.
- (150) DCRTF, No. 219, Kanagawa for the Year 1886, p. 6, in BPP, JAPAN, Vol. 8, p. 204.
- (151) Musk, op.cit., pp. 1, 2, 28; DCRTF, No. 208, Hyogo and Osaka for the Year 1886, p. 3, in BPP, JAPAN, Vol. 8, p. 183.
- (152) CR 1862, Kanagawa, p. 209, in BPP, JAPAN, Vol. 4, p. 45; CR 1864, Kanagawa, p. 287, in ibid., Vol. 4, p. 105.  
 It was usual that freight rates rapidly dropped after the first crop of the season toward the end of the season. (CR 1875, Shanghai, p. 35, in BPP, CHINA, Vol. 11, p. 711.)  
 The importance of freight rates in the total costs of tea production and transportation was small. (See Yasuba, op.cit., p. 30.)
- (153) CR 1874, Shanghai, p. 140, in BPP, CHINA, Vol. 11, p. 444.
- (154) Ibid.
- (155) CR 1882, Kanagawa, p. 14, in BPP, JAPAN, Vol. 7, p. 182.  
 See also, Shokyo Nenpo (for the Year 1882), No. 2, in MZSHS, Separate Vol. 19, No. 3, p. 27. According to the Yokohama Prices Current and Market Report (No. 333, 23 Nov. 1880), the freight rates to San Francisco, and New York via San Francisco by the Pacific Mail, and Occidental and Oriental steamers were 2 cents and 3 cents per lb. gross respectively. (Despatches of United States Consuls in Kanagawa, 1861-1897, Vol. 11.)

- (156) DCRTF, No. 1084, Yokohama for the Year 1891, p. 12, in BPP, JAPAN, Vol. 9, p. 48; DCRTF, No. 1600, Yokohama for the Year 1894, p. 12, in ibid., Vol. 9, p. 422.

## CHAPTER VI

- (1) See above footnote (1) of Chapter 2.
- (2) G. A. Lensen, The Russian Push toward Japan (Princeton: Princeton University Press, 1959), p. 417. See also Nanabe Shigetada, Nichiro Kankei Shi (Tokyo: Yoshikawa Kobun-kan, 1973).
- (3) Lensen, ibid., p. 301.
- (4) Ibid., pp. 278-79.
- (5) Ibid., p. 426; G. S. Graham, The China Station (Oxford: Clarendon Press, 1978), pp. 288-91.
- (6) Imazu Kenji, 'Kyushu ni okeru Kindai Sangyo no Seiritsu', in Fukuoka UNESCO Kyokai ed., Nihon Kindai-ka to Kyushu (Tokyo: Heibon-sha, 1972), p. 279.
- (7) Lensen, op.cit., pp. 448-49; Ishii, Zotei Meiji Ishin no Kokusai-teki Kankyo, p. 90; Shibahara Takuji, 'Meiji Ishin no Sekaishi-teki Ichi', in Rekishigaku Kenkyu, Special Issue, Sekai Shi to Kindai Nihon (1961), pp. 43-44. See also, Oka Yoshitake, Reimei-ki no Meiji Nihon (Tokyo: Mirai-sha, 1964), Chapter 4; Hino Seizaburo, edited by Osa Masanori, Bakumatsu ni okeru Tsushima to Eiro (Tokyo: Tokyo Daigaku Shuppan-kai, 1968); Yasuoka Akio, 'Bakumatsu Meiji Shoki no Nichiro Ryodo Mondai to Eikoku', in Kokusai Seiji Gakkai ed. Nichiei Kankei no Shiteki Tenkai (Kokusai Seiji, No. 58, 1978).
- (8) CR 1869, Nagasaki, p. 56, in BPP, JAPAN, Vol. 4, p. 44; CR 1870, Nagasaki, p. 55, in ibid., Vol. 4, p. 581; CR 1871, Nagasaki, pp. 26-27, in ibid., Vol. 5, pp. 36-37; CR 1872, Nagasaki, pp. 64-65, in ibid., Vol. 5, pp. 172-73.
- (9) Harry Parkes to Lord Stanley, Yeddo, 11 Sept. 1867, in BPP, JAPAN, Vol. 4, p. 337.
- (10) Imazu, op.cit., p. 276.
- (11) W. J. C. Ridder H. v. Kattendyke, translated by Mizuta Nobutoshi, Nagasaki Kaigun Denshu-jo no Hibi (Tokyo: Heibon-sha, 1964), pp. 68-69.
- (12) A. W. Kirkaldy, British Shipping (London: Kegan Paul, Trench, Trubner, 1914), p. 459.

- (13) C. E. Fayle, A Short History of the World's Shipping Industry (London: G. Allen & Unwin, 1933), p. 231. See also Cable, op.cit., p. 203.
- (14) See Harley, op.cit.; Fayle, op.cit., pp. 246, 247.
- (15) Marriner, op.cit., p. 112.
- (16) Hyde, Blue Funnel, p. 31.
- (17) Rabino, op.cit., p. 531.
- (18) Kirkaldy, op.cit., pp. 317-18. Sailing ships could not navigate in the Red Sea due to unsatisfactory wind. (Harley, op.cit., p. 224.)
- (19) First Report of the Royal Commissioners appointed to inquire into the Defence of British Possessions and Commerce abroad (hereafter First Report of Carnarvon Commission), 3 Sept. 1881, p. 22, and A. Holt's statements 380, 381, in ibid., p. 14, in CAB 7/2.  
The tonnage of vessels engaged in Australian and China trade ranged from 2,500 to 3,000 tons. (Capt. Steel's statement 912, p. 30, in ibid.)
- (20) Ibid., A. Holt's statement 249, p. 10, in CAB 7/2.
- (21) Ibid., A. Holt's statement 248, p. 10, in CAB 7/2.
- (22) Ibid., A. Holt's statement 250, p. 10, and 356, p. 13, in CAB 7/2. See also D.C.M. Platt, Latin America and British Trade 1806-1914 (London: A. & C. Black, 1972), p. 246.
- (23) Ibid., A. Holt's statement 246, p. 9, in CAB 7/2; Third and Final Report of the Royal Commissioners appointed to inquire into the Defence of British Possessions and Commerce abroad (hereafter Final Report of Carnarvon Commission), 22 July 1882, T. H. Ismay's statements, p. 600, in CAB 7/4.
- (24) First Report of Carnarvon Commission, Capt. Steel's statement 911, p. 30, in CAB 7/2.
- (25) Ibid., A. Holt's statement 387, p. 14 in CAB 7/2.
- (26) Ibid., Capt. Steel's statement 999, p. 33, and Adm. Sir A. C. Key's statement 2241, p. 87, both in CAB 7/2.
- (27) Ibid., Capt. Steel's statement 957, p. 31, in CAB 7/2.
- (28) W. S. Lindsay, History of the Merchant Shipping and Ancient Commerce, Vol. 4 (London: Sampson Low, Marston Low, and Searle, 1876), p. 408.
- (29) Cable, op.cit., pp. 135-36.
- (30) Ibid., p. 166. See also G. Blake, The Ben Line (London: Thomas Nelson & Sons, 1956), p. 42.



About 90,000 tons of coal were usually kept in stock at their different coaling stations in the following proportions:

Southampton.....	2,000 tons	Calcutta.....	4,000
Malta.....	5,000	Singapore.....	8,000
Alexandria & Suez...	6,000	Hongkong.....	10,000
Aden.....	20,900	Shanghai.....	6,000
Bombay.....	8,000	Yokohama.....	2,200
Point de Galle.....	12,000	King George's Sound...	4,000
Madras.....	500	Sydney.....	1,200

(Lindsay, op.cit., Vol. 4, p. 409)

- (31) W. Schlote, op.cit., p. 87.
- (32) Kirkaldy, op.cit., p. 464; Hyde, Far Eastern Trade, p. 106. For the trade on the Yangtze and China coast, see Kwang-Ching Liu, Anglo-American Steamship Rivalry in China (Cambridge, Mass.: Harvard University Press, 1962).
- (33) The main Australian-Chinese trade was "the export to Australia of rice and tea and the carriage northwards from Australia of coal ..." (Marriner and Hyde, op.cit., p. 91.)
- (34) H. S. Jevons, The British Coal Trade (London: Kegan Paul, Trench, Trubner, 1915), pp. 302, 684, 687.  
 "Cardiff is the only description that keeps up its old precedence". (Abstract of Mercantile Opinions on the Trade of Shanghai during 1866, in CR 1866, Shanghai, p. 100, in BPP, CHINA, Vol. 7, p. 364.) "Cardiffs are only used by steamers not adapted for burning other kinds". (CR 1869, Shanghai, p. 6, in ibid., Vol. 9, p. 368.)  
 For the coal industry in Britain, see A. J. Taylor, 'The Coal Industry', in Aldcroft ed., op.cit., Chapter 2. Coal production in South Wales was stimulated by the rapid growth in demand for steamers' use. Production increased from 8.6 million tons in 1855 to 12.7 million tons in 1865 and 17.0 million tons in 1876. (J. H. Morris and L. J. Williams, The South Wales Coal Industry 1841-1875 (Cardiff: University of Wales Press, 1958), pp. 76, 91-92.) See also below, Section 5.
- (35) IMC, Reports on the Trade at the Ports in China open by Treaty to Foreign Trade, for the Year 1865, p. 126 (Appendix). See also, CR 1865, p. 85, in BPP, CHINA, Vol. 7, p. 67; Report from the Foreign Commissioners at the various Ports in China for the Year 1865, Appendix (Shanghai), p. 127, in BPP, CHINA, Vol. 7, p. 653.)
- (36) Abstract of Mercantile Opinions on the Trade of Shanghai during 1866, in CR 1866, Shanghai, p. 100, in BPP, CHINA, Vol. 7, p. 364. "Australian coals are considered quite as good as English coal for steam purposes". (CR 1869, Shanghai, p. 6, in ibid., Vol. 9, p. 368.)
- (37) CR 1870, Shanghai, p. 6, in BPP, CHINA, Vol. 10, p. 16.  
 Another British consular report stated that "It is most advisable, however, for the interests of this [coal] trade that

it should be a regular one, and that consumers in China should obtain confidence in a constant supply being available from Japan, and especially have reliance in the uniformly good quality of the coals exported."(CR 1870, Nagasaki, p. 54, in BPP, JAPAN, Vol. 4, p. 580.)

- (38) In 1870, Japanese coal was delivered on a contract basis to French and English gasworks "at a price little exceeding the average freight from Great Britain to this [Shanghai]". (NCH, Commercial Intelligence (hereafter CI), 15 Mar. 1870.)
- (39) CR 1874, Nagasaki, p. 17, in BPP, JAPAN, Vol. 5, p. 513. Harry Parkes, the British Minister to Japan, stated to Terashima Munenori, the Japanese Foreign Minister, in 1875 that "Japan has exported coal since ten years ago, which disturbed coal exports from Austria [Australia]". ('Takashima Tanko Zakken' 194, in Gaimu-sho ed., Nihon Gaiko Monjo, Vol. 11, p. 411.)
- (40) CR 1865, Shanghai, p. 85, in BPP, CHINA, Vol. 7, p. 67. The amount of coal exported from Formosa was as follows:
- |           |            |           |             |
|-----------|------------|-----------|-------------|
| 1865..... | 7,162 tons | 1873..... | 47,447 tons |
| 1866..... | 17,887     | 1874..... | 15,982      |
| 1867..... | 12,860     | 1875..... | 27,665      |
| 1868..... | 26,662     | 1876..... | 31,593      |
| 1869..... | 15,467     | 1877..... | 28,948      |
| 1870..... | 7,935      | 1878..... | 25,788      |
| 1871..... | 19,604     | 1879..... | 28,823      |
| 1872..... | 42,243     | 1880..... | 24,000      |
- (Source: Nihon Kogaku-kai, Meiji Kogyo Shi, Kogyo Hen (Tokyo, 1930), pp. 734-35.)

As to the Formosan coal, see 'Note on the Formosa Coal-fields', NCH, 14 Jan. 1875; 'The Coal Mines at Formosa' (Extract from the London and China Express), NCH, 6 July 1878; 'Report on Kelung Colliery, for the Year 1879', in IMC, Report on Trade at the Treaty Ports, for the Year 1879, Part II, pp. 281-84.

Hankow coal was exclusively used for steamers running on the Yangtze.(CR 1879, Shanghai, p. 148, in BPP, CHINA, Vol. 13, p. 256.) As regards the Chinese coal, see, Report from the Foreign Commissioners at the various Ports in China for the Year 1865, Appendix (Shanghai), p. 127, in ibid., Vol. 7, p. 653; NCH, 26 Apr. 1873, pp. 352-53.

- (41) CR 1874, Shanghai, p. 131, in BPP, CHINA, Vol. 11, p. 435.
- (42) CR 1875, Shanghai, p. 23, in BPP, CHINA, Vol. 11, p. 699. "Much of the Australian coal brought hither [Shanghai] is used for blacksmith purposes by the natives, and the only inquiry for foreign coal is from sea-going steamers and men-of-war." (Ibid.)
- (43) 'The Mines of Japan', The Japan Mail, 27 Jan. 1876, in Despatches from United States Consuls in Kanaqawa, 1861-1897, Vol. 9.

- (44) NCH, 15 Mar. 1870, p. 192. See also, Waseda Daigaku Shakai-kagaku Kenkyu-jo ed., Okuma Monjo, Vol. 4 (Tokyo, 1961), p. 272.
- (45) CR 1878, Shanghai, p. 18, in BPP, CHINA, Vol. 13, p. 28. Australian coal was found to make a useful mixture with Japanese and Formosan coals. (CR 1876, Shanghai, p. 12, in BPP, CHINA, Vol. 12, p. 150.)
- (46) Of 164,140 tons of coal exported from Nagasaki in 1875, 121,499 tons (74 per cent) was Takashima coal and 42,641 tons (26 per cent) was Karatsu coal. (CR 1875, Nagasaki, p. 73, in BPP, JAPAN, Vol. 5, p. 655.)
- (47) See below p. 207. See also, CR 1882, Nagasaki, p. 38, in BPP, JAPAN, Vol. 7, p. 152.
- (48) CR 1876, Nagasaki, p. 55, in BPP, JAPAN, Vol. 6, p. 129. See 'Tea Ships', Hongkong Daily Press, 9 July 1880.
- (49) Henry Gribble & Co's Circular, Nagasaki, 4 Dec. 1873, in JMA, PCMR 76.
- (50) CR 1867, Nagasaki, p. 288, in BPP, JAPAN, Vol. 4, p. 308.
- (51) Report by Mr. Plunkett on Coal Mines at Karatsu, Yedo, 20 Sept. 1875, p. 505, in BPP, JAPAN, Vol. 5, p. 491; Report by Mr. Plunkett on the Mines of Japan, Yedo, 22 Apr. 1875, p. 463, in BPP, JAPAN, Vol. 5, p. 449.
- (52) CR 1870, Nagasaki, p. 54, in BPP, JAPAN, Vol. 4, p. 580; John Thorne & Co's Coal Circular, Shanghai, 4 Jan. 1871, and 21 Sept. 1871, both in JMA, PCMR 74.
- (53) John Thorne & Co's Coal Circular, Shanghai, 9 Oct. 1872, 23 Oct. 1872, and 20 Nov. 1872, in JMA, PCMR 75.
- (54) John Thorne & Co's Coal Circular, Shanghai, 24 Dec. 1866, and 3 Mar. 1868, in JMA, PCMR 46; *ibid.*, 20 Apr. 1872, and 6 Sept. 1872, in JMA, PCMR 75; *ibid.*, 26 Feb. 1873, 30 May 1873, 27 June 1873, 25 July 1873, 5 Nov. 1873, and 3 Dec. 1873, in JMA, PCMR 76; NCH, CI, 7 Sept. 1872.
- (55) John Thorne & Co's Coal Circular, 20 Apr. 1872, in JMA, PCMR 75.
- (56) Thorne, Rice & Co's Coal Circular, Shanghai, 4 Sept. 1874, 11 Feb. 1874, 8 Apr. 1874, and 18 Nov. 1874, in JMA, PCMR 77.
- (57) NCH, CI, 22 Aug. 1874, and 4 Oct. 1877.
- (58) NCH, CI, 6 Dec. 1881.
- (59) For instance, NCH, CI, 20 Dec. 1881, 12 Apr. 1882, 16 June 1882, 28 Feb. 1883, 25 Apr. 1884, 16 May 1884, and 2 Mar. 1888.
- (60) NCH, CI, 29 May 1891.

- (61) Import duty levied on imported foreign coals was fixed by treaty at 5 candarins (0.05 taels) per picul. (Report on Trade by the Foreign Commissioners at the Ports in China open by Treaty to Foreign Trade, for the Year 1866, Shanghai, p. 5, in BPP, CHINA, Vol. 8, p. 27.) Therefore, its influence on the cost of coal was negligible.
- (62) IMC, Reports on the Trade at the Ports in China open by Treaty to Foreign Trade, for the Year 1865, p. 126 (Appendix). See also CR 1865, Shanghai, p. 68, in BPP, CHINA, Vol. 7, p. 86; Reports from the Foreign Commissioners at the various Ports in China for the Year 1865, p. 126, in BPP, CHINA, Vol. 7, p. 652.  
Another British consular report pointed out two main causes; "The successful working of the Ta-ku-sima [Takashima] mines near Nagasaki, the coal from which is every day coming into more extensive use; and, 2nd, to the consumption of native coal to a very large extent by the two lines of steamers now plying on the Yangtze." (CR 1870, Shanghai, p. 5, in BPP, CHINA, Vol. 10, p. 15.)
- (63) Abstract of Mercantile Opinions on the Trade of Shanghai during 1867, in CR 1867, Shanghai, p. 110, in BPP, CHINA, Vol. 8, p. 318.  
In the early 1870s, a British consul wrote an interesting comment that "The cheap coals here [Shanghai], whether Japan or Formosan, are too rapid in combustion, and take up too much room in a steamer to be of much use in steam navigation." (CR 1872, Shanghai, p. 141, in BPP, CHINA, Vol. 10, p. 451.)
- (64) "Broadly speaking, it is the more distant markets that exhibit a stationary or declining demand; but this must be attributed to the competition of foreign coal rather than to the distance away." (D. A. Thomas, 'The Growth and Direction of our Foreign Trade in Coal during the last half Century', Journal of Royal Statistical Society, Vol. LXVI (1903), p. 486.)
- (65) *Ibid.*, p. 489.
- (66) Jevons, *op.cit.*, p. 684; K. H. Burley, 'The Organization of the Overseas Trade in New South Wales Coal, 1860 to 1914', Economic Record, Vol. 37, No. 79 (1961), p. 405.
- (67) CR 1872, Shanghai, p. 141, in BPP, CHINA, Vol. 10, p. 451.
- (68) E. A. V. Angier, Fifty Years' Freights 1869-1919 (London: Fairplay, 1920), pp. 6, 8, 9.
- (69) Calculated from the sterling-tael exchange rates in Hsiao, *op.cit.*, p. 190.
- (70) NCH, CI, 14 Sept. 1872, 21 Sept. 1872, 17 Oct. 1872, and 24 Oct. 1872.
- (71) Calculated from the exchange rates (4s. 6½d. per dollar) in 'Summary of Commercial Reports for the Year 1876', p. 40, in BPP, JAPAN, Vol. 6, p. 246.

- (72) Freight informations in NCH, CI, and, CR 1882, Nagasaki, p. 39, in BPP, JAPAN, Vol. 7, p. 153. For the China freight market, see Hyde, Far Eastern Trade, pp. 24-25.
- (73) It was reported that Mitsubishi and Pacific Mail began to carry coal at 1 dollar per ton in 1874.(CR 1874, Shanghai, p. 140, in BPP, CHINA, Vol. 11, p. 444.)
- (74) NCH, 24 June 1876, p. 613.
- (75) A British consular report stated that "by its cheapness and quantity, the Japanese coals should be established in the eastern markets before supplies are also produced from China."(CR 1871, Nagasaki, p. 26, in BPP, JAPAN, Vol. 5, p. 36.)
- (76) NCH, CI, 15 Mar. 1877, and 12 Oct. 1888.
- (77) NCH, CI, corresponding years.
- (78) For the importance of fluctuations in freight rates, see, NCH, CI, 22 Apr. 1887, 10 Sept. 1887, and 16 Oct. 1891.
- (79) NCH, CI, 28 Mar. 1890, and 19 Sept. 1890.
- (80) NCH, CI, corresponding years.
- (81) NCH, CI, 11 Dec. 1891. By contrast, imports of Australian coal recovered.(NCH, CI, 19 Sept. 1890. See also Table 52.)
- (82) NCH, CI, 22 July 1892. See also, NCH, CI, 15 May 1891.
- (83) NCH, CI, 22 July 1892, and 19 Aug. 1892. The prices of Japanese coal per ton in Shanghai decreased as follows:
- |                       |                                          |
|-----------------------|------------------------------------------|
| Takashima (lump)..... | \$5.75 (June 1891) to \$4.50 (Dec. 1892) |
| do. (small).....      | \$4.65 (June 1890) to \$3.00 (Dec. 1892) |
| Miike (lump).....     | \$5.50 (June 1891) to \$4.25 (Dec. 1892) |
| do. (small).....      | \$4.60 (June 1891) to \$3.25 (Dec. 1892) |
- (Sources: NCH, CI.)
- While Imabuku coal was forced to be sold by public auction, the low price led to the closure of small and medium-sized coal mines in Japan.(NCH, CI, 22 July 1892.)
- (84) NCH, CI, 1 Sept. 1893.
- (85) NCH, CI, 15 Sept. 1893. See sections on the structure of coal market in Hongkong and Singapore.
- (86) NCH, CI, 19 Jan. 1894.
- (87) NCH, CI, 6 July 1894. During the war "Foreign consumers can still obtain Coals for their use, but only under guarantee that the same is not for sale to natives."(NCH, CI, 14 Sept. 1894.)

- (88) NCH, CI, 26 Oct. 1894; Okura-sho, Gaikoku Boeki Gairan (1894), in MZSHS, Separate Vol. 38, No. 1, p. 293.
- (89) NCH, CI, 23 Nov. 1894.
- (90) NCH, CI, 21 June 1895, and 16 Aug. 1895.
- (91) NCH, CI, 25 Sept. 1896.
- (92) NCH, CI, 14 Jan. 1898.
- (93) For the development and management of the Kaiping coal mines, see E. C. Carlson, The Kaiping Mines (1877-1912) (Cambridge, Mass.: East Asian Research Center, Harvard University, 1957), Chapters 1, 2, 3; also 'Coal-mining in the North', NCH, 31 Jan. 1882, pp. 117-118.
- (94) NCH, CI, 24 Sept. 1897.
- (95) NCH, CI, 24 Dec. 1898. The price of other Japanese coal excluding Takashima, Namazuda and Miike coal was Tls. 6.75-7.00. (Ibid.) In December 1899, the price of Japanese coal was Tls. 6.50-7.00, while that of Kaiping coal was Tls. 5.00-8.00. (NCH, CI, 18 Dec. 1899.)
- (96) B. Boxer, Ocean Shipping in the Evolution of Hong Kong (Chicago: Dept. of Geography, University of Chicago, 1961), pp. 9, 14; Final Report of Carnarvon Commission, p. 15, in CAB 7/4.
- (97) In the Hongkong Blue Book for each year, it is stated under the title of "Imports & Exports" that "There being no Custom House, it is impossible to give the information required." (CO 133.)
- (98) Figures on coal arrivals at Hongkong are available after No. 597 (28 Oct. 1875) of the Overland China Mail. The Overland China Mail had been issued bi-monthly from 1848 until 1884, when it became weekly issue, after No. 832 (21 Oct. 1884).
- (99) Bottomley & Hughes' Market Report, Hongkong, No. 43, 9 Mar. 1875, in JMA, PCMR 64.
- (100) Ibid., No. 34, 5 Jan. 1875, in JMA, PCMR 64.
- (101) John A. Sandilands' Market Report, Hongkong, No. 29, 15 Apr. 1873, in JMA, PCMR 64.
- (102) Bottomley & Hughes' Market Report, Hongkong, No. 60, 8 July 1875, in JMA, PCMR 64.
- (103) Overland China Mail, Commercial Summary (hereafter CS), 29 Mar. 1879.
- (104) Overland China Mail, CS, 6 Sept. 1880; China Overland Trade Report, 6 Sept. 1880.

- (105) Miike coal seemed to be first brought to Hongkong in 1880. (Overland China Mail, CS, 31 May 1880; China Overland Trade Report, 31 May 1880.)
- (106) Overland China Mail, CS, 25 Dec. 1883. See also, Overland China Mail, 14 Apr. 1885, and 13 Apr. 1886.
- (107) 'The Hongay Coal Supply', Overland China Mail, 27 Jan. 1898, p. 31. See also, 'The Tongking Coal Mines', NCH, 15 June 1889, pp. 729-30.
- (108) Gaikoku Boeki Gairan (1892), in MZSHS, Separate Vol. 37, No. 3, p. 249.
- (109) Angier, op.cit., pp. 14, 18, 21.
- (110) Bottomley & Hughes' Market Report, No. 34, 5 Jan. 1875, in JMA, PCMR 64.
- (111) Calculated from figures in 'Summary of Commercial Reports for the Year 1876', pp. 40-41, in BPP, JAPAN, Vol. 6, pp. 246-47.
- (112) NCH, CI, 27 Nov. 1873.
- (113) Calculated from figures in 'Summary of Commercial Reports for the Year 1876', pp. 40-41, in BPP, JAPAN, Vol. 6, pp. 246-47.
- (114) Bottomley & Hughes' Market Report, No. 34, 5 Jan. 1875, in JMA, PCMR 64.
- (115) See Thomas, op.cit., p. 495.
- (116) Overland China Mail, CS, 18 June 1885, 5 Jan. 1886, 19 Jan. 1886, 2 Feb. 1886, 16 Feb. 1886, 2 Mar.; 16 Mar.; 30 Mar. 1886.
- (117) Final Report of Carnarvon Commission, Appendix No. 4, p. 271, in CAB 7/4.
- (118) Ibid.
- (119) The average tonnage was 1,050 tons for Singapore in 1900 as opposed to 1,270 tons for Hongkong and 1,193 tons for Shanghai in 1895. (Calculated from Tables 50, 54, and 57.)
- (120) It was partly because of a difficulty caused by the long anchorage of the harbour, which meant that coal had to be located at various different places. (Kasuga Yutaka, 'Mitsui Zaibatsu ni okeru Sekitangyo no Hatten Kozo', Mitsui Bunko Ronso, No. 11 (1977), p. 232.)  
Australian trade passing Singapore is not considered here.
- (121) Strait Settlements, Annual Reports for the Year 1890, p. 128, in CO 275/40.

- (122) DCRTF, No. 1459, Hyogo and Osaka for the Year 1893, p. 26, in BPP, JAPAN, Vol. 9, p. 318. See also Gaikoku Boeki Gairan (1893), in MZSHS, Separate Vol. 37, No. 4, p. 218.
- (123) Straits Settlements, Annual Reports for the Year 1894, p. 259, in CO 275/49.
- (124) "It will be seen that the imports [of coal] from the United Kingdom are steadily decreasing, while the imports of Japanese Coal are as steadily increasing." (Straits Settlements, Annual Reports for the Year 1897, p. 344, in CO 275/55.)
- (125) Thomas, op.cit., p. 494.
- (126) The total production of coal in India was 2,168,521 tons in 1890, of which Bengal produced 1,626,245 tons (75.0 per cent). (Straits Settlements, Annual Reports for the Year 1891, p. 89, in CO 275/42.) See also, Gaikoku Boeki Gairan (1895), in MZSHS, Separate Vol. 38, No. 2, p. 490.
- (127) DCRTF, No. 1638, Hyogo and Osaka for the Year 1894, p. 50, in BPP, JAPAN, Vol. 9, p. 558.
- (128) Straits Settlements, Annual Reports for the Year 1893, pp. 187, 199, in CO 275/47. See also, Gaikoku Boeki Gairan (1894), in MZSHS, Separate Vol. 38, No. 1, p. 299.
- (129) Straits Settlements, Annual Reports for the Year 1898, p. 247 (CO 275/57). See also, Gaikoku Boeki Gairan (1897), in MZSHS, Separate Vol. 39, No. 3, p. 279.
- (130) Facing a sharp rise in working costs due to increases in the price of coal and other expenses in the first decade of the twentieth century, the Blue Funnel line was forced to change from Japanese to the cheaper coal from Australia and India. (Hyde, Blue Funnel, p. 130.)
- (131) K. H. Burley, 'Overseas Trade in New South Wales Coal and the British Shipping Industry', Economic Record, Vol. 36, No. 75 (1960), p. 403, and see also p. 394. Around 1880, coal was sent from Australia entirely by sailing-ships. (First Report of Carnarvon Commission, Capt. Steel's statement 998, p. 33, in CAB 7/2.
- (132) See 'Coaling Stations', NCH, 27 June 1890, p. 793.
- (133) See Table 51.
- (134) 'Memorandum by the Inspector-General of Fortifications, on the Defenceless Condition of the Commercial Harbours at Home, and of Coaling Stations Abroad', p. 1, in PRO 30/6/122.
- (135) 'Position of Cruising Ships for Protection of Trade', by A. Milne, Dec. 1874, in PRO 30/6/131.



- (136) 'Memorandum by the Defence Committee at their Meeting of the 5th of June 1877 with reference to the Defence of Commercial Harbours at Home, and of Coaling Stations Abroad', pp. 1-2, in PRO 30/6/122.
- (137) The London Gazette, 12 Sept. 1879, p. 5451. See also First Report of Carnarvon Commission, p. 1, in CAB 7/2,
- (138) 'Memorandum on the Relative Importance of Coaling Stations', p. 1, in PRO 30/6/123.
- (139) First Report of Carnarvon Commission, Adm. Sir A. Cooper Key's statement 1618, p. 61, in CAB 7/2.
- (140) Final Report of Carnarvon Commission, N. Barnavy's statement, p. 603, in CAB 7/4.
- (141) Vice-Admiral, China Station, to Admiralty, 8 Aug. 1901, pp. 2-3, in ADM 125/56.
- (142) Second Report of the Royal Commissioners appointed to inquire into the Defence of British Possessions and Commerce Abroad, 23 Mar. 1882, p. 4, in CAB 7/3.
- (143) 'List of Coaling Depots and Stations now used by Her Majesty's Ships, and Remarks on Coaling Stations required in time of War', (Paper put in by Sir Alexander Milne), Final Report of Carnarvon Commission, Appendix, No. 1, p. 38, in CAB 7/4.
- (144) Final Report of Carnarvon Commission, p. 28, in CAB 7/4.
- (145) Ibid.
- (146) Vice-Admiral, China Station, to Admiralty, 8 Aug. 1901, p. 3, in ADM 125/56.
- (147) G. O. Willes to Admiralty, on Coal Supply on the China Station, 26 June 1881, in ADM 125/84.  
The China Station was established in 1844 as a separate entity from the East Indies Station with headquarters at Hongkong. (Graham, op.cit., p. 267.)
- (148) Admiralty to G. O. Willes, 7 Oct. 1881, in ADM 125/84.
- (149) Ibid.
- (150) Admiralty to all Commanders-in-Chief, Senior Officers, Captains, Commanders, and Commanding Officers of Her Majesty's Ship and Vessels, 28 Apr. 1882, in ADM 125/84.
- (151) See 'Reports of trial of Takashima and Welsh or Patent fuel', in ADM 125/84.
- (152) Admiralty to G. O. Willes, 12 Oct. 1883, in ADM 125/84.
- (153) Butterfield & Swire to Naval Yard, Hongkong, 22 May 1883, in ADM 125/84.

- (154) W. Hynes to Butterfield & Swire, 22 May 1883, in ADM 125/84. See report of trials of Miike coal, 9 July 1883, and H. Williams' report on Miike coal, 29 June 1883, both in ADM 125/84.
- (155) 'List of Coaling Stations now used by Her Majesty's Ships, and Remarks on Coaling Stations required in time of War', p. 35, in CAB 7/4.
- (156) Ibid., pp. 35-36. 'Memorandum on the Relative Importance of Coaling Stations', by C. H. Nugent, shows a different classification. According to this, primary Admiralty coaling stations were Singapore, Hongkong and Shanghai, secondary Admiralty coaling stations were Amoy, Nagasaki and Hyogo, and mercantile coaling stations were Yokohama, and King George Sound in Australia. (Ibid., 1 Apr. 1877, Plate III, in PRO 30/6/123.)
- (157) 'List of Coaling Stations now used by Her Majesty's Ships, and Remarks on Coaling Stations required in time of War', p. 37, in CAB 7/4.
- (158) See 'Instructions for the Admiralty Agents in South Wales for shipping Coal', Admiralty to Harrison, More & Co., 1 July 1901, in ADM 125/56. The total number of coal shippers in Cardiff was 46 in 1882, 64 in 1886, and 69 in 1889. (M. J. Daunton, Coal Metropolis: Cardiff 1870-1914 (Leicester: Leicester University Press, 1977), p. 56.)
- (159) Admiralty to G. O. Willes, 7 Oct. 1881, in ADM 125/84.
- (160) Admiralty to G. O. Willes, 26 Nov. 1881, in ADM 125/84. A coal depot in Kobe was abolished in Dec. 1881. (Admiralty to G. O. Willes, 13 Dec. 1881, in ADM 125/84.)
- (161) 'Contract for supply of [coal] for 1883-84 to Nagasaki and Yokohama Depots', in ADM 125/84. The price of Takashima large coal at Nagasaki was \$4.50-4.70 per ton in June and December 1883, and \$4.75-5.50 in June 1884. (China Overland Trade Report, 21 June 1883, 8 Jan. 1884, and 3 July 1884.)
- (162) Vice-Admiral, China Station, to Admiralty, 8 Aug. 1901, in ADM 125/56, No. 363. See also 'China Station, Coal Requirements for 1902-1903', Commander-in-Chief, China, to Admiralty, 9 Sept. 1901, in ADM 125/56, No. 365.
- (163) Vice-Admiral, China Station, to Admiralty, 8 Aug. 1901, in ADM 125/56.
- (164) DCRTF, No. 1758, Nagasaki for the Year 1895, p. 3, in BPP, JAPAN, Vol. 10, p. 113.
- (165) Gaikoku Boeki Gairan (1898), in MZSHS, Separate Vol. 40, No. 1, pp. 251-53. See also, Gaikoku Boeki Gairan (1900), in MZSHS, Separate Vol. 40, No. 4, p. 199

- (166) Figures up to around 1876 in this table are different from those based on the British consular reports both in quantity and in value. For those figures from 1859 to 1880, see Sugiyama Shinya, 'Bakumatsu Meiji Shoki ni okeru Sekitan Yushutsu no Doko to Shanghai Sekitan Shijo', Shakai Keizai Shigaku, Vol. 43, No. 6 (1978), p. 34. Imazu Kenji shows different statistics from 1869 to 1881 based on Japanese documents. ('Meiji 2-14-nen Sekitan Yushutsu Tokei Shiryo', Eneruqii Shi Kenkyu Noto, No. 1 (1973).)
- (167) Sugiyama, 'Bakumatsu Meiji Shoki ni okeru Sekitan Yushutsu no Doko to Shanghai Sekitan Shijo', p. 33.
- (168) Coal for ship's use increased after 1869, when it came to be exported without charging duty. (See Dai-Nihon Gaiko Monjo, Vol. 2, Part III, p. 569.)
- (169) CR 1869, Nagasaki, p. 56, in BPP, JAPAN, Vol. 4, p. 444. "The Peninsular and Oriental Company's steamers plying between Hong Kong and Yokohama call here [Nagasaki] mainly to take in their requisite supplies of coal. Of these last year [1883] there entered 50 ships, of 62,881 tons." (CR 1883, Nagasaki, p. 165, in BPP, JAPAN, Vol. 7, p. 349.)
- (170) CR 1869, Nagasaki, p. 56, in BPP, JAPAN, Vol. 4, p. 444.
- (171) CR 1874, Nagasaki, p. 17, in BPP, JAPAN, Vol. 5, p. 513.
- (172) CR, Nagasaki, corresponding years. See Sugiyama, 'Bakumatsu Meiji Shoki ni okeru Sekitan Yushutsu no Doko to Shanghai Sekitan Shijo', p. 35.
- (173) Sugiyama, *ibid.*, p. 33.
- (174) CR 1872, Nagasaki, p. 64, in BPP, JAPAN, Vol. 5, p. 172. "Coal freights from Nagasaki to Yokohama have been steady at 2 dollars per ton." (CR 1875, Hyogo and Osaka, p. 23, in BPP, JAPAN, Vol. 5, p. 605.)
- (175) According to the British consular report for 1871, of 102,700 tons of coal disposed of in Nagasaki, 12,200 tons (11.9 per cent) were taken by Japanese steamers. (CR 1871, Nagasaki, p. 26, in BPP, JAPAN, Vol. 5, p. 36.) A British consular report also stated that "The Japanese, possessing now a large fleet of steamers, require a large supply for their own consumption." (CR 1868, Nagasaki, p. 288, in BPP, JAPAN, Vol. 4, p. 308.)
- (176) Japanese coal was also used for factories (Tokyo Nichinichi Shinbun, 26 Aug. 1874, in Shinbun Shusei Meiji Hennen Shi, Vol. 2, p. 198), but even as late as 1895, 80 per cent of coal exported from Japan was for the use of steamers. (Gaikoku Boeki Gairan (1895), in MZSHS, Separate Vol. 38, No. 2, p. 474.)
- (177) CR 1866, Nagasaki, p. 238, in BPP, JAPAN, Vol. 4, p. 226. See also, CR 1871, Nagasaki, p. 26, in BPP, JAPAN, Vol. 5, p. 36.

- (178) Report by Mr. Plunkett on the Mines of Japan, p. 460, in BPP, JAPAN, Vol. 5, p. 446. See also Sumiya Mikio, Nihon Sekitan Sangyo Bunseki (Tokyo: Iwanami Shoten, 1968), pp. 98,99.
- (179) "... constant complaints are ... being made about the quality of the outturn from the smaller mines".(CR 1884, Nagasaki, p. 81, in BPP, JAPAN, Vol. 7, p. 465.)
- (180) CR 1870, Nagasaki, p. 55, in BPP, JAPAN, Vol. 4, p. 581.  
Coal is divided into the following kinds in rising order of quality, according to the proportion of volatile matter: peat, lignite, sub-bituminous coal, bituminous coal, semi-anthracite, and anthracite.(See A. Raistrick and C. E. Marshall, The Nature and Origin of Coal and Coal Seams (London: English Universities Press, 1939), pp. 223-29.)
- (181) K. R. Mackenzie to J. M. & Co. (Hongkong), Nagasaki, 23 Feb. 1860, in JMA, 810/4/46. See also G. Fox, Britain and Japan, 1858-1883 (Oxford: Clarendon Press, 1969), p. 330.
- (182) J. McMaster writes that "From 1859 onward the firm of Glover and Mackenzie had bought and sold goods, including coal, on commission for Jardine's at Nagasaki", and also that "As an agent, he [T. B. Glover] had been selling Takashima coal since 1860".('The Takashima Mine: British Capital and the Japanese Industrialization', Business History Review, Vol. 37, No. 3 (1963), p. 220.) Mackenzie was neither a member nor partner of Glover & Co. at this stage. Glover & Co. was an independent firm, setting joint accounts on several articles with Jardine, Matheson & Co. on a commission basis. Glover & Co. had not worked as an agent for Jardine, Matheson & Co. until May 1861, when Mackenzie left Nagasaki for Hankow.(T.B.Glover to K.R. Mackenzie, Nagasaki, 27 May 1861; K.R. Mackenzie to J.Whittall, Shanghai, 18 June 1861, both in JMA, 810/4/88.) Mackenzie came back to Nagasaki and joined Glover & Co. in 1867 "after all the troubles and losses of the past two years in China." (K.R.Mackenzie to J.Whittall, Nagasaki, 27 Apr. 1867, in JMA, 810/4/477.) As regards activities of Glover & Co., see Sugiyama Shinya, 'Glover & Co.: Bakumatsu Ishin-ki no Igirisu Shonin', Kindai Nihon Shi Kenkyu, No. 3, forthcoming (1981).
- (183) CR 1867, Nagasaki, p. 238, in BPP, JAPAN, Vol. 4, p. 226. See also, CR 1869, Nagasaki, p. 57, in BPP, JAPAN, Vol. 4, p. 445; CR 1870, Nagasaki, p. 55, in BPP, JAPAN, Vol. 4, p. 581.
- (184) IMC, Report on the Trade at Ports in China open by Treaty to Foreign Trade, for the Year 1865, p. 126 (Appendix). See also, CR 1865, Shanghai, p. 85, in BPP, CHINA, Vol. 7, p. 67; Reports from the Foreign Commissioners at the various Ports in China for the Year 1865, Appendix (Shanghai), p. 127, in BPP, CHINA, Vol. 7, p. 653.
- (185) CR 1883, Nagasaki, p. 165, in BPP, JAPAN, Vol. 7, p. 349.

- (186) CR 1870, Nagasaki, p. 59, in BPP, JAPAN, Vol. 4, p. 585; CR 1872, Nagasaki, p. 64, in ibid., Vol. 5, p. 172; CR 1875, Nagasaki, p. 67, in ibid., Vol. 5, p. 649; CR 1876, Nagasaki, p. 55, in ibid., Vol. 6, p. 129; CR 1877, Nagasaki, p. 70, in ibid., Vol. 6, p. 320; 'Messrs. Glover & Co's Coal Mines', NCH, 15 Feb. 1870, p. 107.
- (187) CR 1869, Nagasaki, p. 56, in BPP, JAPAN, Vol. 4, p. 444.
- (188) Report by Mr. Plunkett on the Mines of Japan, p. 461, in BPP, JAPAN, Vol. 5, p. 447.
- (189) There are many materials and studies on the Takashima coal mine. For details, see, McMaster, op.cit.; 'Takashima Sekitan Koki', in Hidemura Senzo et al., Meiji Zenki Hizen Sekitan Kogyo Shiryo Shu (Tokyo: Bunken Shuppan, 1977); 'Kobu-sho Enkaku Hokoku', in Meiji Zenki Zaisei Keizai Shiryo Shusei, Vol. 17, (Tokyo: Kaizo-sha, 1931), pp. 118-20; Dai Nihon Gaiko Monjo, Vol. 3 (1870), (18) 299-305; ibid., Vol. 5 (1872), (22) 320, 321; ibid., Vol. 6 (1873), (14) 225-237; ibid., Vol. 7 (1874), (9) 294-313; ibid., Vol. 11 (1878), (19) 194-198; ibid., Vol. 12 (1879), (19) 227-229; Egashira Koji, 'Takashima Tanko ni okeru Nichiei Kyodo Kigyo', in Nihon Keizai-shi Kenkyu-jo ed., Bakumatsu Keizai Shi Kenkyu (Tokyo: Yuhi-kaku, 1935); Mizunuma Tomoichi, 'Meiji Zenki Takashima Tanko ni okeru Gaishi to Sono Haijo Katei no Tokushitsu', Rekishigaku Kenkyu, No. 273 (1963); Hattori Kazuma, 'Takashima Tanko to Jardine Matheson Shokai', in Kindai-ka to Kogyo-ka (Tokyo: Ichijo Shoten, 1968); Takeno Yoko, 'Takashima Tanko to Saga Han', in Hidemura Senzo et al., Kindai Keizai no Rekishi-teki Kiban (Kyoto: Mineruba Shobo, 1977).
- (190) Report by Mr. Plunkett on the Mines of Japan, p. 461, in BPP, JAPAN, Vol. 5, p. 447.
- (191) 'Kobu-sho Enkaku Hokoku', p. 117. See also Omachi Keigetsu, Hakushaku Goto Shojiro (Tokyo: Fuzan-bo, 1914), pp. 468-77, 502-17.
- (192) CR 1875, Nagasaki, p. 67, in BPP, JAPAN, Vol. 5, p. 649; CR 1877, Nagasaki, p. 70, in BPP, JAPAN, Vol. 6, p. 320.  
An extract from the Nagasaki Rising Sun stated that
- It is well known that one of the principal items in the cost of coals at Nagasaki is the amount of freight that has to be paid to bring them in junks from the places of production to the place of export. ... this charge upon the coals increases the cost of those coming from Karatz[u] and Takoo [Taku] by 75 cents to one dollar per ton, whilst even those from Takasima incur a considerable extra charge for freight to Nagasaki. (NCH, 6 July 1878, p. 19.)
- (193) Endo Masao, 'Meiji Shoki ni okeru Rodosha no Jotai', in Meiji Shiryo Kenkyu Renraku-kai ed., Meiji Zenki no Rodo Mondai (Tokyo: Ochanomizu Shobo, 1960), p. 74.

- (194) CR 1877, Nagasaki, p. 70, in BPP, JAPAN, Vol. 5, p. 320.
- (195) Murakushi Nisaburo, Nihon Tanko Chin Rodo Shi Ron (Tokyo: Jicho-sha, 1976), pp. 32,61.  
Convicts started to be employed to supplement labour shortages caused by an immature labour market.(Watanabe Toru, 'Meiji Zenki no Rodo Shijo Keisei o megutte', in Meiji Shiryo Kenkyu Renraku-kai ed., Meiji Zenki no Rodo Mondai, p. 115; Murakushi, ibid.,p. 63.)  
Naya-Seido was abolished in 1897 against the background of the establishment of labour market for coal miners.(Murakushi, ibid., pp. 107 ff., 111-12, 135, 139, 143.) It is a controversial point how or in what sense the role of this system should be understood, positively or negatively, in the development of the coal industry. For discussions, see Sumiya, Nihon Chin Rodo Shi Ron, pp. 253-61, and 'Naya Seido no Seiritsu to Hokai', Shiso, No. 434 (1960); Murakushi, ibid.; Kobayashi, op.cit., p. 366; R. Mathias, 'The Recruitment and the Organization of Labour in the Coal Mining Industry of Northern Kyushu during the Meiji Period', in I. Nish and C. Dunn eds., European Studies on Japan (Tenterden: Paul Norbury, 1979).
- (196) Report by Mr. Plunkett on the Mines of Japan, p. 461, in BPP, JAPAN, Vol. 5, p. 447; CR 1875, Nagasaki, p. 67, in ibid., Vol. 5, p. 649; CR 1880, Nagasaki, p. 62, in ibid., Vol. 6, p. 726.
- (197) A. C. Jones to Assistant Secretary of State, No. 31, 26 Feb. 1881, in Despatches from United States Consuls in Nagasaki, 1860-1906, Vol. 3.
- (198) Murakushi, op.cit., p. 74.
- (199) Ibid., p. 76.
- (200) DCRTF, No. 751, Nagasaki for the Year 1889, p. 5, in BPP, JAPAN, Vol. 8, p. 431.
- (201) DCRTF, No. 589, Nagasaki for the Year 1888, p. 5, in BPP, JAPAN, Vol. 8, p. 373.
- (202) DCRTF, No. 934, Nagasaki for the Year 1890, p. 3, in BPP, JAPAN, Vol. 8, p. 553.
- (203) Sumiya, Nihon Sekitan Sangyo Bunseki, p. 135.
- (204) Murakushi, op.cit., p. 81.
- (205) Articles on working conditions at Takashima such as 'Takashima Tanko no Sanjo' by Matsuoka Koichi, 'Takashima Tanko Kofu no Sanjo o nobete Yo no Shishi Jinnin ni Tsugu' by Yoshimoto Jo, and 'Takashima Tanko no Jikkyo ' by Inukai Tsuyoshi were compiled in Meiji Bunka Zenshu, Vol. 21, Shakai Hen (Tokyo: Nihon Hyoronsha, 1929) and Meiji Bunka Zenshu (New ed.), Vol. 15, Shakai Hen (Zoku) (Tokyo: Nihon Hyoron Shinsha, 1957). See also 'Takashima Tanko Jimu-cho Nisshi Batsuyo', in Rodo Undo Shiryo Iin-kai ed.,

Nihon Rodo Undo Shiryo, Vol. 1 (Tokyo: Chuo Koron Jigyo Shuppan, 1962); J. Stoddart, 'Report on the Condition of the Coal Miners working in the Island of Takashima', and C. A. Arnold, 'Report on the Sanitary, Hygienic, and Physical Condition of the Miners at Takasima and Nakanosima', both in The Rising Sun and Nagasaki Express, 4 July 1888, in Hidemura et al., Hizen Sekitan Kogyo Shiryo Shu.

- (206) The Miike coal mines are "situated in the south-east corner of province of Chikugo, on the east of the Shimabara Gulf. This coal-field forms a strip of about four miles wide, from east to west, and runs a few miles from north to south. ... There are two seams of excellent bituminous coal, the upper one exceeding 6 feet in thickness, and separated from the lower seam, which averages 5 feet, by a parting of stone 6 feet thick." (CR 1876, Nagasaki, p. 56, in BPP, JAPAN, Vol. 6, p. 130.)  
For a brief history of the Miike coal mines until 1885, see 'Kobu-sho Enkaku Hokoku', pp. 106-116.
- (207) Kasuga Yutaka, 'Kanei Miike Tanko to Mitsui Bussan', Mitsui Bunko Ronso, No. 10 (1976), p. 189.
- (208) Ibid., pp. 206-207.
- (209) Tanaka Yasuo, 'Mitsui Bussan Kaisha Shanghai Shiten "Naijo"', Mitsui Bunko Ronso, No. 7 (1973), p. 203.  
For the development of coal exports by Mitsui Bussan, see Sasaki Seiji, Nihon Kaiungyo no Kindai-ka (Kobe: Kaibun-do, 1961), pp. 273-88.
- (210) For the expansion of branches of Mitsui Bussan, see Matsumoto Hiroshi, 'Nihon Shihonshugi Kakuritsu-ki ni okeru Mitsui Bussan Kaisha no Hatten', Mitsui Bunko Ronso, No. 7 (1973), pp. 119-22. See also Matsui ed., op.cit., Vol. 2, p. 191.
- (211) Kasuga, 'Kanei Miike Tanko to Mitsui Bussan', pp. 211, 231, 233, 236. For the importance of coal exports in the activities of Mitsui Bussan, see Shibagaki Kazuo, Nihon Kinyu Shihon Bunseki (Tokyo: Tokyo Daigaku Shuppan-kai, 1965), pp. 54-55; Yamashita Naoto, 'Nihon Shihonshugi Kakuritsu-ki ni okeru Higashi Ajia Sekitan Shijo to Mitsui Bussan', in Dai 46-kai Shakai Keizai Shigaku Taikai Hokoku Shiryo (Fukuoka, 1977).
- (212) 'Kobu-sho Enkaku Hokoku', p. 109.
- (213) CR 1879, Nagasaki, p. 49, in BPP, JAPAN, Vol. 6, p. 627.
- (214) See Tanaka Osamu, 'Kobu-sho Shokan Jigyo no Haraisage to Miike Tanko no Haraisage', in Otsuka Hisao et al. eds., Shihonshugi no Keisei to Hatten (Tokyo: Tokyo Daigaku Shuppan-kai, 1968), p. 81, Table 10.
- (215) Hashimoto Tetsuya, 'Miike Kozan to Shujin Rodo', Shakai Keizai Shigaku, Vol. 32, No. 4 (1966), p. 53, and '1900-1910-nendai no Miike Tanko', Mitsui Bunko Ronso, No. 5 (1971), p. 15.

Masuda Takashi, a main figure in Mitsui Bussan, insisted in his petition to the government in 1878 that it was important for the increase in coal exports from Japan to sell coal at a low price at which Chinese coal was unable to compete with Japanese coal.(Kasuga, 'Kanei Miike Tanko to Mitsui Bussan', pp. 211-12.)

(216) Kasuga, *ibid.*, pp. 239-40. The first winch was set up in the Oura colliery, one of the Miike coal mines, in 1878, drainage pumps were introduced in 1882, and fans for ventilation were set in 1884.(Kasuga, *ibid.*, pp. 259-60, 264-65.)

(217) Tanaka, 'Mitsui Bussan Kaisha Shanghai Shiten "Naijo"', p. 204.

(218) Kasuga, 'Kanei Miike Tanko to Mitsui Bussan', p. 263; Shibagaki, *op.cit.*, p. 139.

The number of ships possessed by Mitsui Bussan increased as follows:

1880.....	3 vessels	( 2,221 tons)
1885.....	2	( 1,771 )
1890.....	6	( 4,050 )
1895.....	6	(13,562 )
1900.....	7	(19,635 )

(Source: Mitsui Senpaku Kabushiki Kaisha, Soqyo Hachiju-nen Shi, pp. 520-21, 536-37, quoted by Saito Naohisa, 'Mitsui Bussan Kaisha ni okeru Kaiungyo', in Yasuoka Shigeaki ed., Zaibatsu Shi Kenkyu (Tokyo: Nihon Keizai Shinbun-sha, 1979), pp. 123, 126.)

(219) Kasuga, 'Kanei Miike Tanko to Mitsui Bussan', pp. 261, 266.

(220) Hashimoto, 'Miike Kozan to Shujin Rodo', p. 47; Kasuga, *ibid.*, pp. 196, 198, 270, 273.

(221) Kasuga, *ibid.*, p. 278.

(222) *Ibid.*, pp. 277, 288-89, 296. The average daily wage in the Miike colliery (14-16 sen) was lower than that at Takashima (15-30 sen in around 1885) and that at Chikuho (22-26 sen in around 1887), as a result of employing convicts.(See Endo, *op.cit.*, p. 91.)

(223) Kasuga, 'Kanei Miike Tanko to Mitsui Bussan', pp. 290, 298-301.

(224) *Ibid.*, pp. 304-305.

(225) *Ibid.*, p. 307 (Table 55).

(226) *Ibid.*, p. 307.

(227) For the transfer process, see Kobayashi, *op.cit.*, Chapter 11.

(228) Masuda Takashi to Ueda Yasusaburo, No. 16, Jan. 1886, in Tanaka, 'Mitsui Bussan Kaisha Shanghai Shiten "Naijo"', pp. 222-223.



- (229) Ueda to Masuda, No. 78, Aug. 1888, in *ibid.*, p. 275.
- (230) Ueda to Masuda, No. 82, Sept. 1888, in *ibid.*, p. 279. See also Gaikoku Boeki Gairan (1890), in MZSHS, Separate Vol. 37, No. 1, pp. 120-21.
- (231) DCRTF, No. 1638, Hyogo and Osaka for the Year 1894, p. 56, in BPP, JAPAN, Vol. 9, p. 564.
- (232) *Ibid.*; Hashimoto, '1900-1910-nendai no Miike Tanko', p. 16.
- (233) Sumiya, Nihon Sekitan Sangyo Bunseki, p. 243.
- (234) *Ibid.*, pp. 221-22. See also Murakushi Nisaburo, 'Technology and Labour in Japanese Coal Mining' (United Nations University, Project on Technology Transfer, Transformation, and Development: The Japanese Experience, Working paper, 1980), pp. 50-57.
- (235) Sumiya, *ibid.*, pp. 226-27, 245-46.
- (236) *Ibid.*, p. 252.
- (237) DCRTF, No. 1638, Hyogo and Osaka for the Year 1894, p. 55, in BPP, JAPAN, Vol. 9, p. 563.
- (238) DCRTF, No. 1098, Nagasaki for the Year 1891, pp. 5-6, in BPP, JAPAN, Vol. 9, pp. 61-62.
- (239) DCRTF, No. 1253, Nagasaki for the Year 1892, p. 6, in BPP, JAPAN, Vol. 9, p. 136.
- (240) DCRTF, No. 1584, Nagasaki for the Year 1894, p. 5, in BPP, JAPAN, Vol. 9, p. 385; DCRTF, No. 1638, Hyogo and Osaka for the Year 1894, p. 50, in BPP, JAPAN, Vol. 9, p. 558. See also Matsumoto, *op.cit.*, pp. 136-43; Kato Kozaburo, 'Kyushu Tanko-bu Seiritsu no Sho-Zentei', Mitsui Bunko Ronso, No. 2 (1968), pp. 249-50.
- (241) Sumiya, Nihon Sekitan Sangyo Bunseki, p. 239.
- (242) Kasuga, 'Mitsui Zaibatsu ni okeru Sekitangyo no Hatten Kozo', pp. 173-74, 178-83.
- (243) *Ibid.*, p. 183.
- (244) DCRTF, No. 1937, Foreign Trade of Japan for the Year 1896, p. 13, in BPP, JAPAN, Vol. 10, p. 261. For the domestic coal distribution system, see Koike Shigeyoshi, 'Sekitan Ryutsu Kiko no Kakuritsu', in Furushima and Ando eds., Ryutsu Shi, pp. 157-68.
- (245) For the economic policy of the Meiji government and industrial development in the post Sino-Japanese War period, see Takahashi Makoto, 'Nisshin Sengo no Zaisei Kinyu Mondai', in Kajinishi ed. Nihon Keizai-shi Taikei, Vol. 6, p. 125 ff.; Ishii Kanji, 'Nisshin Sengo Keiei', in Iwanami Koza, Nihon Rekishi, Vol. 16 (Tokyo: Iwanami Shoten, 1976).

- (246) Sumiya, Nihon Sekitan Sanqyo Bunseki, p. 347.
- (247) Ibid., pp. 350-51.
- (248) Ibid., pp. 349-50, 364, 369.
- (249) DCRTF, No. 2004, Nagasaki for the Year 1896, p. 6, in BPP, JAPAN, Vol. 10, p. 336.
- (250) DCRTF, No. 403, Nagasaki for the Year 1887, p. 4, in BPP, JAPAN, Vol. 8, p. 270.

#### CONCLUSION

- (1) See, Nakamura, Senzen-ki Nihon Keizai Seicho no Bunseki, p. 35; Lockwood, Economic Development of Japan, p. 319; Emi Koichi and Shionoya Yuichi eds., Nihon Keizai Ron (Tokyo: Yuhi-kaku, 1973), p. 203; Kajinishi ed. Seni, pp. 286-87.
- (2) M. Miyamoto, Y. Sakudo and Y. Yasuba, 'Economic Development in Pre-Industrial Japan, 1859-1894', Journal of Economic History, Vol. 25, No. 4 (1965), p. 551; Ishizuka Hiromichi, 'Shokusan Kogyo Seisaku no Tenkai', in Kajinishi ed., Nihon Keizai-shi Taikei, Vol. 5, pp. 102-103.
- (3) This leaves unanswered why inferior Chinese silk, not the relatively superior Japanese silk, became linked with the high-quality silk fabrics produced by France. According to Shina Sanshiqyo Kenkyu, the French silk industry produced various kinds of silk fabrics from high to low quality on a small scale by the hand loom, using various types and qualities of raw silk (pp. 395, 414). See also Twelfth Census, pp. 217-18, and Remer, op.cit., pp. 139-40.

The number of power and hand looms in France was as follows:

Year	Power	Hand
1870	-	138,000
1889	20,000	65,000-70,000
1894	25,000	62,000
1900	30,638	60,000

(Source: Bulletin des Soies et des Soieries, corresponding years, quoted by Amerika Kengyo Kyokai, translated by Mitamura Hachiro, Sekai Kengyo no Koyo (Yokohama, 1905), p. 45.)

However, this does not seem an entirely satisfactory explanation of why China became linked to France and Japan to the United States. Further studies will be required, particularly of the distribution and transportation systems employed by Western firms in China.

- (4) See Ishii, Nihon Sanshigyo Shi Bunseki, pp. 57-92; Takizawa, op.cit., Pt. 1, Chapters 2, 3; Yokohama-shi Shi, Vol. 5, Part I, pp. 254-79.
- (5) See Mizunuma Tomoichi, 'Showa Kyoko (1): Kyoko-ki ni okeru Taibei Boeki Kankei to Yosan-Seishigyo no Doko', in Sumiya Mikio ed., Showa Kyoko (Tokyo: Yuhi-kaku, 1974).
- (6) See, Gaikoku Boeki Gairan (1897), in MZSHS, Separate Vol. 39, No. 3, p. 280; Kasuga, 'Mitsui Zaibatsu ni okeru Sekitangyo no Hatten Kozo', pp. 236-37; Ogino Yoshihiro, 'Nihon Sekitan Sangyo ni okeru Dokusen no Keisei Katei', Seinan Chiiki-shi Kenkyu, No. 1 (1977), p. 200; also Hyde, Far Eastern Trade, p. 178.
- (7) Hatade, op.cit., pp. 45-51, 86-93, 115-30; Shibagaki, op.cit., pp. 83-84, 131, 135; Matsumoto, op.cit., pp. 127-51; also J. Hirschmeier and T. Yui, The Development of Japanese Business (London: G. Allen & Unwin, 1975), p. 137.
- (8) See C. E. Black et al., The Modernization of Japan and Russia (New York: Free Press, 1975), p. 191; K. Ohkawa and H. Rosovsky, Japanese Economic Growth (Stanford: Stanford University Press, 1973), p. 174; Shinohara, op.cit., pp. 298, 302-303; Emi and Shionoya eds., op.cit., p. 203.
- (9) According to Ohkawa and Rosovsky, the "initial" modern-economic growth in Japan began in the middle of the 1880s, ending with the turn of the century. (Ohkawa and Rosovsky, ibid., p. 9.)

BIBLIOGRAPHY

## (1) Manuscripts and Official Publications

## (i) in English

British Parliamentary Papers

Embassy and Consular Reports relating to China, 1854-1899 (compiled in Irish University Area Studies Series, British Parliamentary Papers, CHINA (Shannon: Irish University Press, 1971), Vols. 6-21).

Documents respecting the Treaty of Tientsin, 1857-1883 (compiled in British Parliamentary Papers, CHINA, Vols. 33-35).

General Affairs, 1856-1899, and Embassy and Consular Reports relating to Japan, 1859-1899 (compiled in Irish University Area Studies Series, British Parliamentary Papers, JAPAN (Shannon: Irish University Press, 1971), 10 vols.).

Annual Statement of the Trade and Navigation of the United Kingdom with Foreign Countries and British Possessions, 1858-1895.

1860, XLII,

348. A Return of the Quantity of Coal purchased by the Government for the Use of Her Majesty's Navy in the Years 1857, 1858, and 1859, distinguishing Welsh from Hartley Coal.

363. An Account for Five Years ending the 31st day of December 1859 of the Quantity of STEAM COAL, Annually Purchased for the Use of HER MAJESTY'S NAVY, and Supplied to the Several DEPÔTS Abroad.

1871, XVIII (Coal Supply Commission),

c.435. Report of the Commissioners appointed to inquire into the several matters relating to Coal in the United Kingdom, 3 vols.

China, Imperial Maritime Customs,

Returns of Trade at the Treaty Ports, 1864, 1865, 1867-1881.

Report on Trade at the Ports in China open by Treaty to Foreign Trade, 1864-1881.

Returns of Trade at the Treaty Ports, and Trade Reports, 1882-1886.

Returns of Trade and Trade Reports, 1887-1899.

Decennial Report on the Trade, Navigation, Industries, etc., of the Ports open to Foreign Commerce in China, 1882-1891, 1892-1901.

Silk (Special Series, No. 3), Shanghai, 1881.

Jardine Matheson Archive, University Library, Cambridge

I. Section of Accounts, etc.

- A1/79-95: General Ledgers, Shanghai Branch, 1850-1886.
- A1/96-98: General Ledgers, Yokohama Branch, Pre-1874-1883,
- A7/292-301: Summary Accounts, Imports and Exports, 1867/68-1884/85.
- A7/390: Adventure to and from Japan, 1859/60-1864/65.

II. Correspondence Section

- B4/1-5: Private Letters (unbound), Japan, 1857-1887.
- B10/1-9: Correspondence (unbound), Japan, 1859-1892.
- C49/1, 2: Letter Books, Shanghai to Japan, 1859-1869.

III. Prices Current and Market Reports.

- 1, 2: New York, 1843-1878.
- 3: San Francisco, 1870-1873, 1877-1878.
- 34-39: Europe (Great Britain), Tea Circulars, 1861-1880.
- 40-43: Europe, Silk Circulars, 1860-1884.
- 46, 74-76: China and Japan, Circulars, 1869, 1871-1873.
- 62-68: Hongkong and other ports, 1862-1900.
- 71: Hongkong Fortnightly Prices Current and M. R., 1879-1892.
- 72: Jardine, Matheson & Co., Hongkong and Shanghai, 1865-1873.
- 73, 77-79: Shanghai and other ports, 1849-1892.
- 80-82: Japan, 1871-1891.

Papers in the Public Record Office, London

- ADM 125, China Station Records.
  - 56: General Subjects and Coal, 1900-1903.
  - 84: Stores, Coal, Ship's Compliments and Docks, 1880-83.
- CAB 7/2-4, The Royal Commissioners appointed to inquire into the Defence of British Possessions and Commerce Abroad (Carnarvon Commission), First Report (3 Sept. 1881), Second Report (23 Mar. 1882), and Final Report (22 July 1882).
- CO 133, Hongkong, (Annual) Blue Book (of Statistics), 1860-1900.
- CO 275, Straits Settlements, Annual Reports, 1886-1910.
- CO 277, Straits Settlements, Blue Books of Statistics, 1880-1910.
- PRO 30/6/122-126, 131, Carnarvon Papers.

United States of America,

- Consulate, Nagasaki, Despatches from United States Consuls in Nagasaki, 1860-1906 (The National Archives, Washington, 1948, No. 131, 7 reels).
- Consulate, Kanagawa, Despatches from United States Consuls in Kanagawa, 1861-1897 (The National Archive, No. 135, 22 reels).

Dept. of Commerce, Bureau of the Census,

Statistical Abstract of the United States, 1878-

Thirteenth Census of the United States taken in the Year 1910, Vol. X, Manufactures, Washington, 1909.

Historical Statistics of the United States: Colonial Times to 1970, 2 vols, Washington 1975.

Dept. of the Interior, Census Office,

The Statistics of the Wealth and Industry of the United States (Ninth Census), Vol. 3, Washington 1872.

Report on the Manufactures of the United States at the Tenth Census (1880), Washington, 1883.

Report on Manufacturing Industries in the United States at the Eleventh Census: 1890, Part III (Selected Industries), Washington, 1895.

Twelfth Census of the United States, taken in the Year 1900, Manufactures, Part III, Special Reports on Selected Industries (Census Reports, Vol. 9), Washington, 1902.

Treasury Dept.,

Chief of the Bureau of Statistics on the Commerce and Navigation of the United States, 1865-

(ii) in Japanese

Gaimu-sho ed., Nihon Gaiko Monjo (Official Documents of Japanese Foreign Policy), Vol. 1 (1868)- Vol. 32 (1899).

Gaimu-sho, Joyaku-kyoku, Kyu Joyaku Isan (A Collection of Earlier Treaties), Vol. 1, Pt. I, Tokyo, 1930.

Ken-shi Orimono To-Shikki Kyoshin-kai, 'Sanshi Shudan-kai Kiji' (Aug. 1885), 'Seishi Shijun-kai Kiji' (Aug. 1885) (Conference reports on sericulture and silk reeling), in MZSHS, Vol. 8, No.4.

Naikaku Tokei-kyoku, Nihon Teikoku Tokei Nenkan (Statistical Yearbook of the Japanese Empire), 1882-

Noshomu-sho, 'Meiji Jusan-nen Men To Kyoshin-kai Hokoku' (Report on the 1880 Competitive Exhibition for Cotton and Sugar), No. 2, in MZSHS, Vol. 9, No. 1.

—, Noshoko Koho (Report on Agriculture, Commerce and Industry), No. 1 (1885) - No. 44 (1888), in MZSHS, Separate Vol. 10, Nos. 1-4.

—, 'Beikoku-muki Honpo Kiito ni kanshi Togyosha ni Chui o Atauru Zai Bankuba Ryoji Hokoku' (A Warning about Japanese Silk Exports to the United States addressed to Japanese Silk Reelers from the Japanese Consul to Vancouver), 1892, The National Diet Library.

—, Yushutsu Juyohin Yoran, Nosan no Bu, Sanshi (An Outline of Major Export Articles: Silk), 1896, 1901, 1906, 1909.

- , Nomu-kyoku, Obei Sanshiqyo Shisatsu Fukumei Taiyo (A General Report of the Silk Reeling Industry in Europe and the United States), 1897.
- , Nomu-kyoku, Ifutsu no Sanshiqyo (The Silk Industry in Italy and France), 1916.
- , Shoko-kyoku, Shokko Jijo (Factory Working Conditions), 1903.
- , Kozan-kyoku, Kozan Hattatsu Shi (A History of the Development of the Japanese Mining Industry), 1900, in MZSHS, Separate Vol. 68, Nos. 2, 3.
- Okura-sho, Dai-Nihon Gaikoku Boeki Nenpyo (Annual Returns of Foreign Trade for the Japanese Empire), 1882-1897, in MZSHS, Separate Vol. 27, Nos. 1-5; Vol. 28, Nos. 1-5; Vol. 29, Nos. 1-5.
- , Gaikoku Boeki Gairan (An Outline of Japanese Foreign Trade), 1890-1902, in MZSHS, Separate Vol. 37, Nos. 1-4; Vol. 38, Nos. 1-4; Vol. 39, Nos. 1-4; Vol. 40, Nos. 1-4; Vol. 41, Nos. 1-4.
- , Shomu-kyoku, Shokyo Nenpo (The Annual Commercial and Market Report), 1878-1883, in MZSHS, Separate Vol. 18, Nos. 3, 4; Vol. 19, Nos. 1-4.
- , Zeikan-bu, Nihon Kanzei Zeikan Shi Shiryo (Materials on the History of the Japanese Customs and Tariff Rates), Tokyo, 1958.

## (2) Journals and Newspapers

### (i) in English

China Overland Trade Report, Hongkong, 1878-1888.

Economist, The, London, 1859-1900.

Hongkong Daily Press, Hongkong, 1880.

Journal of the Silk Supply Association, London: The Silk Supply Association, Nos 1-13 (15 Jan. 1870-15 Jan. 1872), (The Silk Supply Journal, after No. 2).

London Gazette, The, 12 Sept. 1879.

North China Herald and Supreme Court & Consular Gazette, The, Shanghai, 1870-1899.

Overland China Mail, Hongkong, 1870-1899.

### (ii) in Japanese

Bakumatsu Meiji Shinbun Zenshu (Collections of Early Japanese Newspapers, 1863-1872), 6 vols., Tokyo: Sekai Bunko, 1961-66.

Dai-Nihon Sanshi Kaiho (Report of the Imperial Japanese Silk Association), Dai-Nihon Sanshi-kai, Nos. 1-57 (1892-1897).

Shinbun Shusei Meiji Hennen Shi (A Compilation of Meiji Newspapers), Vols. 1-10, Tokyo, 1934-36.

Tokyo Keizai Zasshi (The Tokyo Economic Journal), 1879-1885.

### (3) Books and Monographs

#### (i) in English

Alcock, Rutherford, The Capital of the Tycoon, 2 vols, London: Longman, Green, Longman, Roberts, and Green, 1863.

Aldcroft, Derek H., ed., The Development of British Industry and Foreign Competition 1875-1914, London: G. Allen & Unwin, 1968.

—, 'The Mercantile Marine', in Aldcroft ed., The Development of British Industry and Foreign Competition 1875-1914, pp. 326-363.

— and Richardson, H. W., The British Economy 1870-1939, London: Macmillan, 1969.

Allen, Franklin, American Silk Industry, Chronologically Arranged, 1793-1876, New York: Silk Association of America, 1876.

Allen, G. C., A Short Economic History of Modern Japan, 3rd revised ed., London: G. Allen & Unwin, 1972.

— and Donnithorne, A. G., Western Enterprise in Far Eastern Economic Development, China and Japan, London: G. Allen & Unwin, 1954.

Andrew, A. P., 'The End of the Mexican Dollar', Quarterly Journal of Economics, Vol. 18, 1904, pp. 321-356.

Angier, E. A. V., Fifty Years' Freights 1869-1919, London: Fairplay, 1920.

Ashworth, William, An Economic History of England 1870-1939, London: Methuen, 1960.

—, A Short History of the International Economy since 1850, 3rd ed., London: Longman, 1975.

—, 'The Late Victorian Economy', Economica, New Series, Vol. 33, No. 129, 1966, pp. 17-33.

Baba, Masao, and Tatemoto, Masahiro, 'Foreign Trade and Economic Growth in Japan: 1858-1937', in Klein, L., and Ohkawa, K., eds., Economic Growth: The Japanese Experience since the Meiji Era, Homewood: R. D. Irwin, 1968, pp. 162-196.

Bagwell, P. S., and Mingay, G. E., Britain and America 1850-1939, London: Routledge and Kegan Paul, 1970.

Baster, A. S. J., 'The Origins of the British Exchange Banks in China', Economic History, A Supplement to the Economic Journal, Vol. 3, No. 9, 1934, pp. 140-151.



- Beales, H. L., 'The "Great Depression" in Industry and Trade', Economic History Review, Vol. 5, No. 1, 1934, pp. 65-75.
- Beasley, William G., Great Britain and the Opening of Japan, 1834-1858, London: Luzac, 1951.
- , Select Documents on Japanese Foreign Policy 1853-1868, London: Oxford University Press, 1955.
- , The Modern History of Japan, 2nd ed., London: Weidenfeld and Nicolson, 1973.
- , The Meiji Restoration, Stanford: Stanford University Press, 1973.
- Black, C. E., et al., The Modernization of Japan and Russia, New York: Free Press, 1975.
- Blake, George, The Ben Line: The History of Wm. Thomson & Co. of Leith and Edinburgh, and of the Ships owned and managed by them, 1825-1955, London: Thomas Nelson & Sons, 1956.
- Bolles, Albert S., Industrial History of the United States from the Earliest Settlements to the Present Time, Norwich, Conn., 1879.
- Boxer, Baruch, Ocean Shipping in the Evolution of Hong Kong, Chicago: Dept. of Geography, University of Chicago, 1961.
- Boyle, P., Dodge, E. S., and Nish, I. H., China and the Red Barbarians: American and British Relations with China in the 19th Century, National Maritime Museum, London, Maritime Monographs and Reports, No. 8, 1973.
- Broadbridge, Seymour, Industrial Dualism in Japan, London: Frank Cass, 1966.
- , 'Shipbuilding and the State in Japan since the 1850s', Modern Asian Studies, Vol. 2, Pt. 4, 1977, pp. 601-613.
- Brown, A. J., 'Britain in the World Economy 1870-1914', Yorkshire Bulletin of Economic and Social Research, Vol. 17, No. 1, 1965, pp. 46-60.
- Burley, K. H., 'The Overseas Trade in New South Wales Coal and the British Shipping Industry, 1860-1914', Economic Record, Vol. 36, No. 75, 1960, pp. 393-413.
- , 'The Organization of the Overseas Trade in New South Wales Coal, 1860 to 1914', Economic Record, Vol. 37, No. 79, 1961, pp. 371-381.
- Cable, Boyd, A Hundred Year History of the P. & O., 1837-1937, London: Nicholson and Watson, 1937.
- Carlson, Ellsworth C., The Kaiping Mines (1877-1912), Cambridge, Mass.: East Asian Research Center, Harvard University, 1957.
- Chambers, J. D., The Workshop of the World: British Economic History from 1820 to 1880, 2nd ed., Oxford: Oxford University Press, 1968.
- Chambliss, William J., Chiaraijima Village: Land Tenure, Taxation, and Local Trade 1818-1884, Tucson: The University of Arizona Press, 1965.

- Cheng, Yu-Kwei, Foreign Trade and Industrial Development of China, Washington: The University Press of Washington, D.C., 1956.
- Cheong, W. E., Mandarins and Merchants: Jardine, Matheson & Co., a China Agency of the Early Nineteenth Century, London: Curzon Press, 1979.
- Chittick, James, Silk Manufacturing and Its Problems, New York, 1913.
- Church, R. A., The Great Victorian Boom, 1850-1873, London: Macmillan, 1975.
- Clark, Victor S., History of Manufactures in the United States, 3 vols., New York: McGraw-Hill, 1929.
- Collis, Maurice S., Wayfoong: The Hongkong and Shanghai Banking Corporation, London: Faber & Faber, 1965.
- Coppock, D. J., 'British Industrial Growth during the "Great Depression" (1873-1896): a Pessimist's View', Economic History Review, 2nd Series, Vol. 17, No. 2, 1964, pp. 389-396.
- Costin, W. C., Great Britain and China 1833-1860, Oxford: Oxford University Press, 1937.
- Cottrell, P. L., British Overseas Investment in the Nineteenth Century, London: Macmillan, 1975.
- Court, W. H. B., A Concise Economic History of Britain, From 1750 to Recent Times, Cambridge: Cambridge University Press, 1954.
- Crawcour, E. S., and Yamamura, Kozo, 'The Tokugawa Monetary System: 1787-1868', Economic Development and Cultural Change, Vol. 18, No. 4, Pt. I, 1970, pp. 489-518.
- Daunton, M. J., Coal Metropolis: Cardiff 1870-1914, Leicester: Leicester University Press, 1977.
- Deakin, B. M., (and T. Seward), Shipping Conferences: A Study of Their Origins, Development and Economic Practices, Cambridge: Cambridge University Press, 1973.
- Dean, Britten, China and Great Britain: The Diplomacy of Commercial Relations 1860-1864, Cambridge, Mass.: East Asian Research Center, Harvard University, 1974.
- Deane, Phyllis, and Cole, W. A., British Economic Growth 1688-1959, 2nd ed., Cambridge: Cambridge University Press, 1969.
- Dennett, Tyler, Americans in Eastern Asia: A Critical Study of the United States' Policy in the Far East in the Nineteenth Century, New York: Barnes & Noble, 1941.
- Dietrich, Ethel B., Far Eastern Trade of the United States, New York: Institute of Pacific Relations, 1940.
- Drage, Charles, Taikoo, London: Constable, 1970.
- Dunham, Arthur L., The Anglo-French Treaty of Commerce of 1860 and the Progress of the Industrial Revolution in France, Ann Arbor: University of Michigan Press, 1930.

- Emery, Robert F., 'The Relation of Exports and Economic Growth', Kyklos, Vol. 20, No. 1, 1967, pp. 470-486.
- Emi, Koichi, Government Fiscal Activity and Economic Growth in Japan 1868-1960, Tokyo: Kinokuni-ya, 1963.
- E-tu Zen Sun, 'Sericulture and Silk Textile Production in Ch'ing China', in Willmott, W. E., ed., Economic Organization in Chinese Society, Stanford: Stanford University Press, 1972, pp. 79-108.
- Fairbank, John K., Trade and Diplomacy on the China Coast: The Opening of the Treaty Ports 1842-1854, Cambridge, Mass.: Harvard University Press, 1953.
- , Reischauer, E. O., and Craig, A. M., East Asia: Tradition and Transformation, Boston: Houghton Mifflin, 1973.
- , Eckstein, A., and Yang, L. S., 'Economic Change in Early Modern China: An Analytic Framework', Economic Development and Cultural Change, Vol. 9, No. 1, 1960, pp. 1-26.
- Faulkner, Harold U., American Economic History, 8th ed., New York: Harper & Row, 1960.
- Fayle, C. E., A Short History of the World's Shipping Industry, London: G. Allen & Unwin, 1933.
- Fieldhouse, D. K., Economics and Empire 1830-1914, London: Weidenfeld and Nicolson, 1973.
- Fox, Grace, Britain and Japan 1858-1883, Oxford: Clarendon Press, 1969.
- Frost, Peter, The Bakumatsu Currency Crisis, Cambridge, Mass.: East Asian Research Center, Harvard University, 1970.
- Gallagher, John, and Robinson, Ronald, 'The Imperialism of Free Trade', Economic History Review, 2nd Series, Vol. 6, No. 1, 1953, pp. 1-15.
- Gerschenkron, Alexander, Economic Backwardness in Historical Perspective, Cambridge, Mass.: The Belknap Press of Harvard University Press, 1962.
- Goldstein, Jonathan, Philadelphia and the China Trade 1682-1846, University Park and London: The Pennsylvania University Press, 1978.
- Graham, Gerald S., The China Station: War and Diplomacy 1830-1860, Oxford: Clarendon Press, 1978.
- Gras, N. S. B., and Larson, H. M., Casebook in American Business History, New York, 1939.
- Greenberg, Michael, British Trade and the Opening of China 1800-42, Cambridge: Cambridge University Press, 1951.
- Gribble, Henry, 'The Preparation of Japan Tea', Transactions of the Asiatic Society of Japan, Vol. 12, 1885, pp. 1-32.
- Griffin, A. R., The British Coalmining Industry, Buxton: Moorland, 1977.

- Habakkuk, H. J., and Postan, M., eds., The Cambridge Economic History of Europe, Vol. VI, The Industrial Revolutions and After (I), Cambridge: Cambridge University Press, 1966.
- Hall, A. H., ed., The Export of Capital from Britain 1870-1914, London: Methuen, 1968.
- Harley, Charles K., 'The Shift from Sailing Ships to Steamships, 1850-1890: A Study in Technological Change and its Diffusion', in McCloskey, D. N., ed., Essays on a Mature Economy: Britain after 1840, London: Methuen, 1971, pp. 215-234.
- Hattori, Yukimasa, The Foreign Commerce of Japan since the Restoration 1869-1900, Baltimore: John Hopkins University Press, 1904.
- Hauser, William B., Economic Institutional Change in Tokugawa Japan: Osaka and the Kinai Cotton Trade, London: Cambridge University Press, 1974.
- Hemmi, Kenzo, 'Primary Product Exports and Economic Development: The Case of Silk', in Ohkawa, K., Johnson, B. F., and Kaneda, H., eds., Agriculture and Economic Growth: Japan's Experience, Tokyo: University of Tokyo Press, 1969, pp. 303-323.
- Hinsley, F. H. ed., The New Cambridge Modern History, XI, Material Progress and World-wide Problems, 1870-98, Cambridge: Cambridge University Press, 1962.
- Hirschmann, Albert O., 'The Commodity Structure of World Trade', The Quarterly Journal of Economics, Vol. 57, No. 4, 1943, pp. 565-595.
- Hirschmeier, Johannes, The Origins of Entrepreneurship in Meiji Japan, Cambridge, Mass.: Harvard University Press, 1964.
- and Yui, Tsunehiko, The Development of Japanese Business, 1600-1973, London: G. Allen & Unwin, 1975.
- Hoare, James E., 'The Japanese Treaty Ports, 1868-1899: A Study of the Foreign Settlement', Unpublished Ph.D. Thesis, University of London, 1971.
- Hobsbawm, E. J., Industry and Empire: An Economic History of Britain since 1750, London: Weidenfeld and Nicolson, 1968.
- Hoffmann, Walther G., translated by W. O. Henderson and W. H. Chaloner, British Industry, 1700-1950, Oxford: Basil Blackwell, 1955.
- Holmes, Henry, My Adventures in Japan, London: R. E. King, 1870(?).
- Honda, Iwajiro, The Silk Industry of Japan, Yokohama: The Japanese Imperial Silk Conditioning House, 1901.
- Hook, Elizabeth, A Guide to the Papers of John Swire and Sons Ltd., London: School of Oriental and African Studies Library, 1977.
- Howitt, F. O., 'Silk - An Historical Survey with special reference to the Past Century', Journal of the Textile Institute, Vol. 42, No. 8, 1951, pp. 339-360.

- Hsiao Liang-lin, China's Foreign Trade Statistics, 1864-1949, Cambridge, Mass.: East Asian Research Center, Harvard University, 1974.
- Hubbard, G. E., Eastern Industrialization and its Effect on the West, Oxford, 1935.
- Huber, J. R., 'Effect on Prices of Japan's Entry into World Commerce after 1858', Journal of Political Economy, Vol. 79, No. 3, 1971, pp. 614-628.
- Hyde, Francis, Blue Funnel: A History of Alfred Holt and Company of Liverpool from 1865 to 1914, Liverpool: Liverpool University Press, 1956.
- , Far Eastern Trade 1860-1914, London: A. & C. Black, 1973.
- Iketani, M., The Japan Silk Year Book, Yokohama: The Japan Silk Year Book Publishing Office, 1936.
- Imlah, Albert H., Economic Elements in the Pax Britannica, Cambridge, Mass.: Harvard University Press, 1958.
- Imperial Japanese Navy, Hydrographic Dept., The Distance Tables, Tokyo, 1937.
- Innis, Harold A., A History of the Canadian Pacific Railway, Toronto: University of Toronto Press, 1923.
- Jackson, Stanley, The Sassoons, London: Heinemann, 1968.
- Japan, Bureau of Commerce and Industry of the Imperial Dept. of State for Agriculture and Commerce, General View of Commerce and Industry in the Empire of Japan, Paris: M. de Brunoff, 1900.
- Japan, Dept. of Agriculture and Commerce, Japan in the Beginning of the 20th Century, Tokyo: Tokyo Shoin, 1904.
- Japan Gazette, The Currency of Japan, Yokohama, 1882.
- Jardine, Matheson & Co. (Japan), Jardines' Centenary in Japan 1859-1959, Tokyo, 1959.
- Jeremy, David J., 'British and American Yarn Count Systems: An Historical Analysis', Business History Review, Vol. XLV, No. 3, 1971, pp. 336-368.
- Jevons, H. S., The British Coal Trade, London: Kegan Paul, Trench, Trubner, 1915.
- Johnson, E. R., et al., History of Domestic and Foreign Commerce of the United States, 2 vols., Carnegie Institute of Washington, 1915.
- Jones, Francis C., Extraterritoriality in Japan and the Diplomatic Relations Resulting in its Abolition, 1853-1899, New Haven: Yale University Press, 1931.
- Keeble, T. W., Commercial Relations between British Overseas Territories and South America 1806-1914, London: Athlone Press, University of London, 1970.

- Kelly, Allen C., and Williamson, J. G., Lessons from Japanese Development: An Analytical Economic History, Chicago and London: The University of Chicago Press, 1974.
- Kemp, Tom, Economic Forces in French History, London: Dennis Dobson, 1971.
- Kenwood, A. G., and Lougheed, A. L., The Growth of the International Economy 1820-1960, London: G. Allen & Unwin, 1971.
- Kindleberger, C. P., 'Foreign Trade and Economic Growth: Lessons from Britain and France, 1850 to 1913', Economic History Review, 2nd Series, Vol. 14, No. 2, 1961, pp. 289-305.
- King, Frank H. H., Money and Monetary Policy in China, 1845-1895, Cambridge, Mass.: Harvard University Press, 1965.
- , and Clarke, Prescott, A Research Guide to China-Coast Newspapers, 1822-1911, Cambridge, Mass.: East Asian Research Center, Harvard University, 1965.
- Kirkaldy, Adam W., British Shipping: Its History, Organization and Importance, London: Kegan Paul, Trench, Trubner, 1914.
- Klein, Lawrence, and Ohkawa, Kazushi, eds., Economic Growth: The Japanese Experience since the Meiji Era, Homewood: R. D. Irwin, 1968.
- Kojima, Kiyoshi, Japan and a Pacific Free Trade Area, Berkeley and Los Angeles: University of California Press, 1971.
- Kuznets, Simon, Modern Economic Growth, New Haven and London: Yale University Press, 1966.
- , 'Quantitative Aspects of the Economic Growth of Nations: X. Level and Structure of Foreign Trade: Long-Term Trends', Economic Development and Cultural Change, Vol. 15, No. 2, Pt. II, 1967, pp. 1-140.
- Latham, A. J. H., The International Economy and the Undeveloped World 1865-1914, London: Croom Helm, 1978.
- League of Nations, Industrialization and Foreign Trade, Geneva: League of Nations, 1945.
- Lefevour, Edward, Western Enterprise in Late Ch'ing China: A Selective Survey of Jardine, Matheson and Company's Operations 1842-1895, Cambridge, Mass.: East Asian Research Center, Harvard University, 1968.
- Lehmann, Jean-Pierre, 'France and Japan, 1850-1885: An Assessment of French Influence and Diplomacy', Unpublished Ph.D. Thesis, University of Oxford, 1975.
- Lensen, George A., The Russian Push toward Japan: Russo-Japanese Relations, 1697-1875, Princeton: Princeton University Press, 1959.
- Lewis, W. A., 'World Production, Prices and Trade, 1870-1960', Manchester School, Vol. 20, No. 2, 1952, pp. 105-138.
- , and O'Leary, P. J., 'Secular Swings in Production and Trade', Manchester School, Vol. 23, No. 2, 1955, pp. 113-152.

- Lieu, D. K., The Silk Industry of China, Shanghai: Kelly and Walsh, 1941.
- Lindsay, William S., History of the Merchant Shipping and Ancient Commerce, Vol. 4, London: Sampson Low, Marston Low, and Searle, 1876.
- Lippincott, Isaac, Economic Development of the United States, 2nd ed., New York, 1927.
- Liu, Kwang-Ching, Anglo-American Steamship Rivalry in China, 1862-1874, Cambridge, Mass.: Harvard University Press, 1962.
- Lockwood, Stephen C., Augustine Heard and Company, 1858-1862: American Merchants in China, Cambridge, Mass.: East Asian Research Center, Harvard University, 1971.
- Lockwood, William W., The Economic Development of Japan: Growth and Structural Change, Expanded ed., Princeton: Princeton University Press, 1968.
- , ed., The State and Economic Enterprise in Japan, Princeton: Princeton University Press, 1965.
- MacDonagh, Oliver, 'The Anti-Imperialism of Free Trade', Economic History Review, 2nd Series, Vol. XIV, No. 3, 1962, reprinted in Shaw ed., Great Britain and the Colonies, pp. 164-183
- MacGregor, David R., The Tea Clippers: An Account of the China Tea Trade and of Some of the British Sailing Ships engaged in it from 1849 to 1869, Conway Maritime Press, 1972.
- Mackenzie, Compton, Realms of Silver: One Hundred Years of Banking in the East, London: Routledge & Kegan Paul, 1954.
- McMaster, John, Jardines in Japan 1859-1867, Gronigen: Druk V.R.B., 1966.
- , 'The Japanese Gold Rush of 1859', Journal of Asian Studies, Vol. 19, No. 3, 1960, pp. 273-287.
- , 'The Takashima Mine: British Capital and Japanese Industrialization', Business History Review, Vol. 37, No. 3, 1963, pp. 217-239.
- Maddison, Angus, Economic Growth in Japan and the USSR, London: G. Allen & Unwin, 1969.
- Maizels, Alfred, Industrial Growth and World Trade, Cambridge: Cambridge University Press, 1963.
- Manchester, H. H., The Story of Silk & Cheney Silks, Cheney Brothers Silk Manufactures, 1916.
- Marriner, Sheila, Rathbones of Liverpool 1845-73, Liverpool: Liverpool University Press, 1961.
- , and Hyde, F. E., The Senior John Samuel Swire 1825-98: Management in Far Eastern Shipping Trades, Liverpool: Liverpool University Press, 1967.
- Marshall, Byron K., Capitalism and Nationalism in Prewar Japan: The Ideology of the Business Elite, 1868-1941, Stanford: Stanford University Press, 1967.

- Marx, Karl, A Contribution to the Critique of Political Economy, Moscow: Progress Publishers, 1970.
- Mason, Frank R., The American Silk Industry and the Tariff, Cambridge, Mass., 1910 (American Economic Association Quarterly, 3rd Series, Vol. XI, No. 4).
- Mathias, Peter, The First Industrial Nation: An Economic History of Britain, 1700-1914, London: Methuen, 1969.
- and Pearsall, A. W. H., eds., Shipping: A Survey of Historical Records, Newton Abbot: David & Charles, 1971.
- and Postan, M. M., eds., The Cambridge Economic History of Europe, Vol. VII, The Industrial Economies, Pt. II, Cambridge: Cambridge University Press, 1978.
- Mathias, Regine, 'The Recruitment and the Organization of Labour in the Coal Mining Industry of Northern Kyushu during the Meiji Period', in I. Nish and C. Dunn, European Studies on Japan, Tenterden: Paul Norbury, 1979, pp. 24-29.
- Matthews, N., and Pearson, J. D., eds., A Guide to Manuscripts and Documents in the British Isles relating to the Far East, Oxford: Oxford University Press, 1975.
- Mauldon, F. R. E., The Economics of Australian Coal, Melbourne: University Press, 1929.
- Medzini, Meron, French Policy in Japan during the Closing Years of the Tokugawa Regime, Cambridge, Mass.: East Asian Research Center, Harvard University, 1971.
- Meier, G. M., 'Long Period Determinants of Britain's Terms of Trade, 1880-1913', The Review of Economic Studies, Vol. 20, (2), No. 52, 1952-53, pp. 115-130.
- Minami, Ryoshin, The Turning Point in Economic Development: Japan's Experience, Tokyo: Kinokuni-ya, 1973.
- Mitchell, B. R., and Deane, P., Abstract of British Historical Statistics, Cambridge: Cambridge University Press, 1962.
- Mitsubishi Economic Research Bureau, Japanese Trade and Industry, London: Macmillan, 1936.
- Miyamoto, M., Sakudo, Y., and Yasuba, Y., 'Economic Development in Pre-industrial Japan, 1859-1894', Journal of Economic History, Vol. XXV, No. 4, 1965, pp. 541-564.
- Morris, J. H., and Williams, L. J., The South Wales Coal Industry 1841-1875, Cardiff: University of Wales Press, 1958.
- Morse, H. B., The Trade and Administration of the Chinese Empire, London: Longmans, Green, 1908.
- Moulder, Frances V., Japan, China, and the Modern World Economy: Toward a Reinterpretation of East Asian Development, ca. 1600 to ca. 1918, Cambridge: Cambridge University Press, 1977.
- Murakushi, Nisaburo, 'Technology and Labour in Japanese Coal Mining', United Nations University, Project on Technology Transfer, Transformation, and Development: The Japanese Experience, Working Paper, 1980.



- Musk, George, Canadian Pacific 1883-1968, London: Canadian Pacific, 1968.
- Musson, A. E., 'British Industrial Growth, 1873-96: a Balanced View', Economic History Review, 2nd Series, Vol. 17, No. 2, 1964, pp. 397-403.
- Myint, H., The Economics of the Developing Countries, 4th revised ed., London: Hutchison, 1973.
- Norman, E. Herbert, Japan's Emergence as a Modern State, New York: Institute of Pacific Relations, 1940.
- North, Douglass C., The Economic Growth of the United States 1790-1860, Englewood Cliffs: Prentice-Hall, 1961.
- , Growth and Welfare in the American Past: A New Economic History, 2nd ed., Englewood Cliffs: Prentice-Hall, 1966.
- Nurkse, Ragnar, 'Patterns of Trade and Development', Wicksell Lecture in 1959 in Stockholm, in J. D. Theberge ed., Economics of Trade and Development, New York etc.: John Wiley & Sons, 1968, pp. 85-102.
- Nussbaum, Arthur, A History of the Dollar, Columbia University Press, 1957.
- Ohkawa, Kazushi, and Rosovsky, Henry, Japanese Economic Growth: Trend Acceleration in the Twentieth Century, Stanford: Stanford University Press, 1973.
- and Shinohara, Miyohai, eds., Patterns of Japanese Economic Development, New Haven: Yale University Press, 1979.
- Okuma, Shigenobu, ed., Fifty Years of New Japan, 2 vols, London: Smith, Elder, 1909.
- Paske-Smith, M., Western Barbarians in Japan and Formosa in Tokugawa Days, 1603-1868, Kobe: J. L. Thompson, 1930.
- Patrick, H. T., 'Japan 1868-1914', in Rondo Cameron ed., Banking in the Early Stages of Industrialization, New York: Oxford University Press, 1967.
- Pelcovits, Nathan A., Old China Hands and the Foreign Office, Reprint, New York: Octagon Books, 1969 (1st ed., 1948).
- Platt, D. C. M., Finance, Trade, and Politics in British Foreign Policy 1815-1914, Oxford: Clarendon Press, 1968.
- , Latin America and British Trade 1806-1914, London: A. & C. Black, 1972.
- Rabino, Joseph, 'The Statistical Story of the Suez Canal', Journal of the Royal Statistical Society, Vol. 50, Part III, 1887, pp. 495-541.
- Raistrick, A., and Marshall, C. E., The Nature and Origin of Coal and Coal Seams, London: English Universities Press, 1939.
- Remer, C. F., The Foreign Trade of China, Shanghai: Commercial Press, 1926.
- Reubens, Edwin P., 'Foreign Capital and Domestic Development in Japan', in S. Kuznets, W. E. Moore and J. J. Spengler eds., Economic Growth: Brazil, India, Japan, Durham: Duke University Press, 1955, pp. 179-228.

- Richardson, H. W., 'Retardation in Britain's Industrial Growth, 1870-1913', Scottish Journal of Political Economy, Vol. 12, No. 2, 1965, pp. 125-149.
- Roberts, John G., Mitsui: Three Centuries of Japanese Business, New York: Weatherhill, 1973.
- Robinson, E. A. G., 'The Changing Structure of the British Economy', The Economic Journal, Vol. 64, No. 255, 1954, pp. 443-461.
- Robinson, Howard, Carrying British Mails Overseas, London: G. Allen & Unwin, 1964.
- Rodger, N. A. M., The Admiralty, Lavenham: Terence Dalton, 1979.
- Rosovsky, Henry, Capital Formation in Japan, 1868-1940, Glencoe: Free Press, 1961.
- Rostow, W. W., British Economy of the Nineteenth Century, Oxford: Clarendon Press, 1948.
- , The Stages of Economic Growth, 2nd ed., Cambridge: Cambridge University Press, 1971.
- , The World Economy: History and Prospect, London: Macmillan, 1978.
- Rowe, J. W. F., Primary Commodities in International Trade, Cambridge: Cambridge University Press, 1965.
- Russell, Oland D., The House of Mitsui, Boston: Little, Brown, 1939.
- Sarkar, Goutam K., The World Tea Economy, Calcutta: Oxford University Press, 1972.
- Satow, Ernest M., A Diplomat in Japan, London: Seeley, Service, 1921.
- Saul, S. B., Studies in British Overseas Trade 1870-1914, Liverpool University Press, 1960.
- , The Myth of the Great Depression, 1873-1896, London: Macmillan, 1969.
- , 'The Export Economy 1870-1914', Yorkshire Bulletin of Economic and Social Research, Vol. 17, No. 1, 1965, pp. 5-18.
- Saunders, C. T., 'Consumption of Raw Materials in the United Kingdom, 1851-1950', Journal of the Royal Statistical Society, Vol. 115, Pt. III, 1952, pp. 313-346.
- Schlote, Werner, translated by W. O. Henderson and W. H. Chaloner, British Overseas Trade, from 1700 to the 1930's, Oxford: Basil Blackwell, 1952.
- Schober, Joseph, translated by R. Cuthill, Silk and Silk Industry, London, 1930.
- Shaw, A. G. L., ed., Great Britain and the Colonies 1815-1865, London: Methuen, 1970.
- Sheldon, Charles D., The Rise of the Merchant Class in Tokugawa Japan, 1600-1868, New York: J. J. Augustin, 1958.

- Shih, Min-hsiung, translated by E-tu Zen Sun, The Silk Industry in Ch'ing China, Ann Arbor: Center for Chinese Studies, University of Michigan, 1976.
- Silk Association of America, The, The 27th Annual Report of the Silk Association of America, New York, 1899.
- Sims, Richard L., 'French Policy towards Japan, 1854-1894', Unpublished Ph.D. Thesis, University of London, 1968.
- Smith, Thomas C., Political Change and Industrial Development in Japan: Government Enterprise, 1868-1880, Stanford: Stanford University Press, 1955.
- , The Agrarian Origins of Modern Japan, Stanford: Stanford University Press, 1959.
- Steeds, David, and Nish, Ian, China, Japan and 19th Century Britain, Dublin: Irish University Press, 1977.
- Takahashi, Masao, Modern Japanese Economy since the Meiji Restoration, Tokyo: Kokusai Bunka Shinko-kai, 1967.
- Takekoshi, Yosaburo, The Economic Aspects of the History of the Civilization of Japan, 3 vols., London: G. Allen & Unwin, 1930.
- Taussig, F. W., The Tariff History of the United States, 8th ed., New York and London, 1931.
- , Some Aspects of the Tariff Question: An Examination of the Development of American Industries under Protection, Cambridge, Mass.: Harvard University Press, 1931.
- Taylor, A. J., 'The Coal Industry', in Aldcroft ed., The Development of British Industry and Foreign Competition 1875-1914, pp. 37-70.
- Temin, Peter, Causal Factors in American Economic Growth in the Nineteenth Century, London: Macmillan, 1975.
- Teng, Ssu-yu, and Fairbank, J. K., China's Response to the West: A Documentary Survey, 1839-1923, Cambridge, Mass.: Harvard University Press, 1954.
- Theberge, J. D., ed., Economics of Trade and Development, New York: John Wiley & Sons, 1968.
- Thomas, D. A., 'The Growth and Direction of our Foreign Trade in Coal during the Last Half Century', Journal of Royal Statistical Society, Vol. LXVI, 1903, pp. 439-522.
- Tiedemann, Arthur E., 'Japan's Economic Foreign Policies, 1868-1893', in J. W. Morley ed., Japan's Foreign Policy 1868-1941: A Research Guide, New York and London: Columbia University Press, 1974, pp. 118-152.
- Tyszynski, H., 'World Trade in Manufactured Commodities, 1899-1950', Manchester School, Vol. 19, No. 3, 1951, pp. 272-304.
- Wells, Louis R., Industrial History of the United States, Revised ed., New York, 1926.

- Williamson, A. R., Eastern Traders: Some Men and Ships of Jardine, Matheson & Company and their Contemporaries in the East India Company's Maritime Service, Jardine, Matheson & Co., 1975.
- Woodruff, William, America's Impact on the World: A Study of the Role of the United States in the World Economy, 1750-1970, London: Macmillan, 1975.
- , 'The Emergence of an International Economy 1700-1914', in The Fontana Economic History of Europe, Vol. IV, London, 1973, pp. 656-716.
- Wright, G., 'An Econometric Study of Cotton Production and Trade, 1830-1860', in P. Temin ed., New Economic History, Penguin, 1973, pp. 63-80.
- Wright, Stanley F., China's Struggle for Tariff Autonomy: 1843-1938, Shanghai: Kelly & Walsh, 1938.
- Uyehara, S., The Industry and Trade of Japan, London: P. S. King & Son, 1926.
- Yamamura, Kozo, A Study of Samurai Income and Entrepreneurship, Cambridge, Mass.: Harvard University Press, 1974.
- , 'Japan 1868-1930: A Revised View', in Rondo Cameron ed., Banking and Economic Development, New York: Oxford University Press, 1972, pp. 168-198.
- Yamazawa, Ippei, and Yamamoto, Yuzo, 'Trade and Balance of Payments', in K. Ohkawa and M. Shinohara eds., Patterns of Japanese Economic Development, pp. 134-156.
- Yasuba, Yasukichi, 'Freight Rates and Productivity in Ocean Transportation for Japan, 1868-1943', Explorations in Economic History, Vol. 15, No. 1, 1878, pp. 11-39.

(ii) in Japanese

- Ando Yoshio ed., Nihon Keizai Seisaku Shi Ron (Historical Studies of Japanese Economic Policy), Pt. I, Tokyo: Tokyo Daigaku Shuppan-kai, 1973.
- Arai Eiji, Kinsei Kaiseibutsu Boeki Shi no Kenkyu (Studies on the History of Marine Products during the Tokugawa Period), Tokyo: Yoshikawa Kobun-kan, 1975.
- Araki Mikio, 'Meiji Zenhanki ni okeru Sanshigyo no Hattatsu: Kyoto-fu no Baai' (The Development of the Silk Industry in the Kyoto District in the First Half of the Meiji Period), Shakai Keizai Shigaku, Vol. 25, No.4, 1959, pp. 69-103.
- Arisawa Hiromi ed., Gendai Nihon Sangyo Koza (Articles on Modern Japanese Industry), Vol. 3, Enerugii Sangyo, Tokyo: Iwanami Shoten, 1960.
- (compiled by), Nihon Sangyo Hyaku-nen Shi (A Hundred Year History of Japanese Industry), Tokyo: Nihon Keizai Shinbun-sha, 1966.

- Beikoku Kengyo Kyokai, translated by Mitamura Hachiro, Sekai Kengyo no Koyo (The Silk Industry of the World at the Opening of the 20th Century), Translation of the 32nd Annual Report of the Silk Association of America (1904), Yokohama, 1905.
- Briesen, R. V., 'Beikoku Shijo ni okeru Nihon-shi ni kansuru Hiken' (A Personal View of Japanese Silk in the United States Market), 1896.
- Chagyo Kumiai Chuo Kaigi-sho, Nihon Chagyo Shi (A History of the Japanese Tea Industry), Tokyo: Chagyo Kumiai Chuo Kaigi-sho, 1914.
- , Nihon Cha Boeki Gaikan (A General Survey of the Japanese Tea Trade), Tokyo: Chagyo Kumiai Chuo Kaigi-sho, 1935.
- , Nihon Chagyo Shi, Zoku Hen (A History of the Japanese Tea Industry, Vol. 2), Tokyo: Chagyo Kumiai Chuo Kaigi-sho, 1936.
- Chiho-shi Kenkyu Kyogi-kai ed., Nihon Sangyo Shi Taikai (An Outline of Japanese Industrial History), 8 vols., Tokyo: Tokyo Daigaku Shuppan-kai, 1959-1961.
- Cho Yukio, 'Meiji Zen-Chu-ki no Sho-Eigyo: Maeda Masana no "Sangyo"shi no Shucho o megutte' (Small Enterprises during the Early and Middle Meiji Periods), in Kawashima Takeyoshi and Matsuda Tomoo eds., Kokumin Keizai no Sho-Ruikai (Various Models of the National Economy), Tokyo: Iwanami Shoten, 1968, pp. 619-646.
- , 'Nationalism to "Sangyo" Undo: Maeda Masana no Shiso to Katsudo' (Nationalism and "Industry" Movements), in Cho and Sumiya eds., Kindai Nihon Keizai Shiso Shi, Vol. 1, pp. 85-133.
- and Sumiya Kazuhiko eds., Kindai Nihon Keizai Shiso Shi (A History of Economic Thought in Modern Japan), Tokyo: Yuhi-kaku, 1969.
- Doshin Kaisha, 'Kiito Nenpo' (Annual Silk Report), 1882, 1886, 1888, in MZSHS, Separate Vol. 52, No. 3.
- Ebato Akira, Sanshiqyo Chiiki no Keizai Chirigaku-teki Kenkyu (Studies in the Economic Geography of the Silk Producing Districts of Japan), Tokyo: Kokin Shoin, 1969.
- Egashira Koji, 'Takashima Tanko ni okeru Nichiei Kyodo Kigyo' (Joint Anglo-Japanese Enterprise at the Takashima Coal Mine), in Nihon Keizai Shi Kenkyu-jo ed., Bakumatsu Keizai Shi Kenkyu (Studies in Bakumatsu Economic History), Tokyo: Yuhi-kaku, 1935, pp. 23-58.
- Eguchi Zenji and Hidaka Yasoshichi eds., Shinano Sanshiqyo Shi (A History of the Shinano Silk Industry), 3 vols., Nagano: Dai-Nihon Sanshi-kai Shinano Shikai, 1937.
- Emi Koichi and Shionoya Yuichi eds., Nihon Keizai Ron: Keizai Seicho Hyaku-nen no Bunseki (Studies in Japanese Economic Development), Tokyo: Yuhi-kaku, 1973.

- Endo Masao, 'Meiji Shoki ni okeru Rodosha no Jotai' (The Situation of Workers in the Early Meiji Period), in Meiji Shiryo Kenkyu Renraku-kai ed., Meiji Zenki no Rodo Mondai, pp. 43-95.
- Eto Shinkichi, Kindai Chugoku Seiji Shi Kenkyu (Studies in Modern Chinese Political History), Tokyo: Tokyo Daigaku Shuppan-kai, 1968.
- Fujii Mitsuo, 'Nihon Shihonshugi no Keisei to Seni Sangyo' (The Textile Industry and the Formation of Japanese Capitalism), Keizai Shushi, Vol. 35, No. 6, pp. 22-52.
- , Fujii Harue and Ikeda Masataka, 'Bakumatsu Kaiko Zengo ni okeru Hokumo Sanshigyo no Tenkai' (The Development of the Silk Industry in the Northern Area of Gunma Prefecture around the Time of the Opening of Japan), (1), (2), Shakai Keizai Shigaku, Vol. 27, No. 4, 1962, pp. 38-65, and Vol. 27, No. 5, 1962, pp. 29-47.
- Fujimoto Jitsuya, Kaiko to Kiito Boeki (The Opening of Japan and the Silk Trade), 3 vols., Tokyo: Toko Shoin, 1939.
- Fujino Shozaburo, Nihon no Keiki Junkan (Japan's Economic Cycles), Tokyo: Keiso Shobo, 1965.
- Fujita Goro, Nihon Kindai Sangyo no Seisei (The Formation of Modern Japanese Industry), Tokyo: Ochanomizu Shobo, 1970.
- Fujita Takeo, Nihon Shihonshugi to Zaisei (Japanese Capitalism and its Finance), 2 vols., Tokyo: Jitsugyo no Nihon-sha, 1949.
- Furushima Toshio, Shihonseiseisan no Hatten to Jinushisei (The Development of Capitalistic Production and the Landlord System), Tokyo: Ochanomizu Shobo, 1963.
- , Sangyo Shi (A History of Industry), III, Tokyo: Yamakawa Shuppan-sha, 1966.
- , 'Sangyo Shihon no Kakuritsu' (The Establishment of Industrial Capital), in Iwanami Koza, Nihon Rekishi, Vol. 17, Tokyo: Iwanami Shoten, 1962, pp. 167-224.
- and Ando Yoshio eds., Ryutsu Shi (A History of Distribution), II, Tokyo: Yamakawa Shuppan-sha, 1975.
- Gunma-ken Naimu-bu ed., Gunma-ken Sanshigyo Enkaku Chosa-sho (A Survey of the Development of the Gunma Silk Industry), Kiito no Bu (I),(II), in MZSHS, Separate Vol.50, Nos.2, 3.
- Hamashita Takeshi, 'Jukyu-Seiki Kohan, Chugoku ni okeru Gaikoku Ginko no Kinyu Shijo Shihai no Rekishi-teki Tokushitsu', (Historical Characteristics of Foreign Banks' Domination over the Chinese Financial Market during the Second Half of the Nineteenth Century), Shakai Keizai Shigaku, Vol. 40, No. 3, 1974, pp. 26-43.
- , 'Shihonshugi=Shokuminchi Taisei no Keisei to Ajia' (Asia and the Formation of Capitalistic Colonial Systems), in Nozawa Yutaka and Tanaka Masatoshi eds., Koza Chugoku Kin-Gendai Shi (Articles on Modern Chinese History), Tokyo: Tokyo Daigaku Shuppan-kai, 1978, pp. 13-44.

- Hani Goro, Meiji Ishin Shi Kenkyu (Studies in Meiji Restoration History), Tokyo: Iwanami Shoten, 1956.
- Hara Gomei Kaisha, Obei Sangyo Ippan (Outline of the Silk Reeling Industry in Europe and the United States), Yokohama, 1900.
- Harada Mikio, Nihon no Kindai-ka to Keizai Seisaku (Japan's Modernization and the Economic Policies of the Meiji Government), Tokyo: Toyo Keizai Shinpo-sha, 1972.
- Hashimoto Jubei, Kiito Boeki no Hensen (A History of the Silk Trade), Tokyo: Maruyama-sha Honten, 1902.
- Hashimoto Tetsuya, 'Miike Kozan to Shujin Rodo' (The Miike Coal Mines and Convict Labour), Shakai Keizai Shigaku, Vol. 32, No. 4, 1966, pp. 44-64.
- , '1900-1910-nendai no Miike Tanko' (The Miike Coal Mines, 1900-1920), Mitsui Bunko Ronso, No. 5, 1971, pp. 1-80.
- Hatade Isao, Nihon no Zaibatsu to Mitsubishi (Mitsubishi and Japanese Zaibatsu), Tokyo: Rakuyu Shobo, 1978.
- Hatano Yoshihiro, Chugoku Kindai Kogyo Shi no Kenkyu (Studies on Modern Chinese Industrialization), Kyoto: Kyoto Daigaku Toyo-shi Kenkyu-kai, 1961.
- Hattori Haruhiko, 'Jukyu-Seiki Fransu Kinukogyo no Hattatsu to Sekai Shijo' (The World Market and the Development of the French Silk Industry), Shirin, Vol. 54, No. 3, 1971, pp. 1-48.
- Hattori Kazuma, 'Nihon Yusen Kaisha no Seiritsu' (The Establishment of NYK), Keizai to Boeki, No. 85, 1964, pp. 1-13.
- , 'Bakumatsu Meiji Shoki no Gaikoku Shihon no Katsudo to Taio Keitai' (Patterns of Activity and Response in Foreign Capital in the Bakumatsu and Early Meiji Periods), (1), Keizai to Boeki, No. 87, 1965, pp. 32-42.
- , 'Takashima Tanko to Jardine, Matheson & Co.' (The Takashima Coal Mine and Jardine, Matheson & Co.), in Komatsu Yoshitaka Kyoju Kanreki Kinen Ronbun-shu, Kindai-ka to Kogyo-ka, Tokyo: Ichijo Shoten, 1968, pp. 83-110.
- Hayakawa Naose, Kiito to Sono Boeki (Raw Silk and the Raw Silk Trade), Revised ed., Tokyo: Dobun-kan, 1928.
- Hayashi Takehisa, Nihon ni okeru Sozei Kokka no Seiritsu (The Establishment of a Tax State in Japan), Tokyo: Tokyo Daigaku Shuppan-kai, 1965.
- Hidemura Senzo, et al. eds., Kindai Keizai no Rekishi-teki Kiban (The Historical Basis of Modern Economies), Kyoto: Mineruba Shobo, 1977.
- , et al. eds., Meiji Zenki Hizen Sekitan Kogyo Shiryo Shu (Historical Documents of the Coal Industry in the Hizen District during the First Half of the Meiji Period), Tokyo: Bunken Shuppan, 1977.
- Hino Seizaburo, edited by Osa Masanori, Bakumatsu ni okeru Tsushima to Eiro (Anglo-Russian Relations and the Island of Tsushima during the Bakumatsu Period), Tokyo: Tokyo Daigaku Shuppan-kai, 1968.

- Hirasawa Kiyoto, 'Meiji Ju-Niju-nendai Nagano-ken Kikai Seishi Kogyo Kakuritsu-ki no Ichi-Kosatsu' (A Study of the Formative Period of the Filature Industry in Nagano Prefecture, 1877-1896), Meiji Shiryo Kenkyu Renraku-kai ed., Kindai Sangyo no Seisei, pp. 66-99.
- , 'Shimo-Ina Chiho no Yosan' (Sericulture in the Southern Ina District of Nagano Prefecture), in Chiho-shi Kenkyu Kyogi-kai ed., Nihon Sangyo Shi Taikei, Vol. 5, pp. 170-184.
- Honda Iwajiro, Shinkoku Sanshiqyo Chosa Fukumei-sho (A Report of the Survey into the Silk Industry in Ch'ing China), in MZSHS, Separate Vol. 66, No. 2.
- Hora Tomio, Bakumatsu Ishin-ki no Gaiatsu to Teiko (Western Pressure and the Reaction against It during the Bakumatsu and Early Meiji Periods), Tokyo: Azekura Shobo, 1977.
- Horie Hideichi and Toyama Shigeki eds., Jiyu Minken-ki no Kenkyu (Studies on the Period of the Civil Rights Movement in Japan), 4 vols., Tokyo: Yuhi-kaku, 1959.
- Horie Yasuzo, Meiji Ishin to Keizai Kindai-ka (The Meiji Restoration and Japan's Economic Modernization), Tokyo: Shibun-do, 1963.
- Imamura Shozo, Sekai Seni-kai to Sanshi (Silk and the World Silk Industry), Tokyo: Meibun-do, 1935.
- Imanishi Naojiro, Obei Sanshiqyo Shisatsu Fukumei-sho (A Report on the Sericulture and Silk Reeling Industries in Europe and the United States), Yokohama: Kiito Kensa-jo, 1902.
- Imazu Kenji, 'Kyushu ni okeru Kindai Sangyo no Seiritsu' (The Formation of Modern Industry in Kyushu), in Fukuoka UNESCO Kyokai ed., Nihon Kindai-ka to Kyushu (Kyushu and the Modernization of Japan), Tokyo: Heibon-sha, 1972, pp. 249-323.
- , 'Meiji 2-14-nen Sekitan Yushutsu Tokei Shiryo' (Statistics of Japanese Coal Exports: 1869-1881), in Eneruqii Shi Kenkyu Noto, No. 1, 1973, pp. 27-35.
- Imuta Toshimitsu, 'Meiji Zenki ni okeru Boeki Kinyu Seisaku' (Trade and Financial Policies in the Early Meiji Period), in Ando ed., Nihon Keizai Seisaku Shi Ron, pp. 55-109.
- Inoue Kiyoshi, Joyaku Kaisei (The Revision of the Unequal Treaties in the Meiji Period), Tokyo: Iwanami Shoten, 1955.
- Inoue Yoichiro, 'Meiji Koki no Kaiji Seisaku' (Marine Policy in the Later Meiji Period), in Ando ed., Nihon Keizai Seisaku Shi Ron, pp. 159, 205.
- Ishii Kanji, Nihon Sanshiqyo Shi Bunseki (An Historical Analysis of the Japanese Silk Industry), Tokyo: Tokyo Daigaku Shuppan-kai, 1972.
- , 'Zaguri Seishigyo no Hatten Katei' (The Development of the Sedentary Silk Reeling Industry), Shakai Keizai Shigaku, Vol. 28, No. 6, 1963, pp. 25-59.



- , 'Kikai Seishigyo no Hatten Katei' (The Development of Filatures), Rekishigaku Kenkyu, No. 282, 1963, pp. 1-14.
- , 'Sangyo Shihon Kakuritsu Katei ni okeru Nihon Ginko Shinyo no Igi' (The Significance of Credit from the Bank of Japan in the Accumulation of Industrial Capital in Japan), Supplement of Yamaguchi Kazuo, Nihon Keizai Shi, 1968.
- , 'Nihon Shihonshugi no Kakuritsu' (The Establishment of Japanese Capitalism), in Rekishigaku Kenkyu-kai and Nihonshi Kenkyu-kai eds., Koza Nihon Shi (Articles on Japanese History), Vol. 6., Tokyo: Tokyo Daigaku Shuppan-kai, 1970, pp. 171-210.
- , 'Nihon Ginko no Sangyo Kinyu' (Industrial Financing by the Bank of Japan), Shakai Keizai Shigaku, Vol. 38, No. 2, 1972, pp. 45-69.
- , 'Mayu Kiito no Ryutsu' (The Distribution of Cocoons and Raw Silk in Meiji Japan), in Furushima and Ando eds., Ryutsu Shi, II, pp. 83-115.
- , 'Nisshin Sengo Keiei' (Economic Policies after the Sino-Japanese War), in Iwanami Koza, Nihon Rekishi, Vol. 16, 1976, pp. 47-94.
- , 'Igirisu Shokuminchi Ginko-gun no Saihen' (The Reorganization of British Colonial Banks in East Asia in the 1870s and 1880s), Keizai-gaku Ronshu, Vol. 45, No. 1, 1979, pp. 19-60, and Vol. 45, No. 3, 1979, pp. 17-46.
- Ishii Takashi, Bakumatsu Boeki Shi no Kenkyu (Studies in Bakumatsu Trade History), Tokyo: Nihon Hyoron-sha, 1944.
- , Gakusetsu Hihan Meiji Ishin Ron (Critical Studies on the Meiji Restoration), Tokyo: Yoshikawa Kobun-kan, 1961.
- , Nihon Kaikoku Shi (A History of the Opening of Japan), Tokyo: Yoshikawa Kobun-kan, 1972.
- , Zotei Meiji Ishin no Kokusai-teki Kankyo (The International Environment at the Time of the Meiji Restoration, Expanded ed.), 3 vols., Tokyo: Yoshikawa Kobun-kan, 1973.
- , Meiji Shoki no Kokusai Kankei (Japan's International Relations in the Early Meiji Period), Tokyo: Yoshikawa Kobun-kan, 1977.
- ed., Bakumatsu Ishin-ki no Kenkyu (Studies in the Bakumatsu and Early Meiji Periods), Tokyo: Yoshikawa Kobun-kan, 1978.
- , Unno Fukuju, Shibahara Takuji, Tanaka Masatoshi, Yagi Haruo, and Yoshioka Akihiko, Sekai Shihonshugi to Kaiko (World Capitalism and the Opening of Japan), Symposium Nihon Rekishi, Vol. 14, Tokyo: Gakusei-sha, 1972.
- Ishimura Zensuke, Kogyo-ken no Kenkyu (Studies of Mining Rights in Japan), Tokyo: Keiso Shobo, 1960.
- Ishizuka Hiromichi, Nihon Shihonshugi Seiritsu Shi Kenkyu (Studies in the Formative History of Japanese Capitalism), Tokyo: Yoshikawa Kobun-kan, 1973.

- , 'Shokusan Kogyo Seisaku no Tenkai' (The Development of Policies for Encouraging Industry), in Kajinishi Mitsu-haya ed., Nihon Keizai-shi Taikei, Vol. 5, pp. 35-103.
- Kaiko Sanju-nen Kinen-kai, Kobe Kaiko Sanju-nen Shi (A History of the Thirty Years following the Opening of Kobe), 2 vols., Kobe: Kaiko Sanju-nen Kinen-kai, 1898.
- Kaji Teruyoshi, 'Nidai Teikisen Kaisha no Soritsu' (The Formation of Nippon Yusen Kaisha and Osaka Shosen Kaisha, Japan's Two Large Regular-Line Companies), Kaiji Kotsu Kenkyu, No. 16, 1979, pp. 71-130.
- Kajinishi Mitsu-haya ed., Gendai Nihon Sangyo Hattatsu Shi, XI, Seni (A History of the Development of Modern Japanese Industry: The Textile Industry), Pt. I, Tokyo: Kojun-sha, 1964.
- , Nihon Sangyo Shihon Seiritsu Shi Ron (Historical Studies in the Establishment of Industrial Capital in Japan), Tokyo: Gchanomizu Shobo, 1965.
- ed., Nihon Keizai-shi Taikei (An Outline of Japanese Economic History), Vols. 5, 6, Tokyo: Tokyo Daigaku Shuppan-kai, 1965.
- , 'Shihonshugi no Ikusei' (The Development of Japanese Capitalism), in Iwanami Koza, Nihon Rekishi, Vol. 16, Tokyo: Iwanami Shoten, 1962, pp. 1-51.
- , Oshima Kiyoshi, Kato Toshihiko, and Ouchi Tsutomu, Nihon ni okeru Shihonshugi no Hattatsu (The Development of Capitalism in Japan), 13 vols., Tokyo: Tokyo Daigaku Shuppan-kai, 1954-1969.
- , Tatewaki Sadayo, Furushima Toshio, and Oguchi Kenzo, Seishi Rodosha no Rekishi (A History of Workers in the Silk Reeling Industry), Tokyo: Iwanami Shoten, 1955.
- Kandatsu Karuki, Meiji-ki Noson Orimonogyo no Tenkai (The Development of the Rural Weaving Industry during the Meiji Period), Tokyo: Tokyo Daigaku Shuppan-kai, 1974.
- Kaneko Eiichi ed., Gendai Nihon Sangyo Hattatsu Shi, IX, Zosen (A History of the Development of Modern Japanese Industry: The Ship-building Industry), Tokyo: Kojun-sha, 1964.
- Kanno Wataro, Bakumatsu Ishin Keizai Shi Kenkyu (Studies in the Economic History of Japan during the Bakumatsu and Early Meiji Periods), Kyoto: Mineruba Shobo, 1961.
- Kasuga Yutaka, 'Kanei Miike Tanko to Mitsui Bussan' (The Miike Coal Mines and Mitsui Bussan Kaisha), Mitsui Bunko Ronso, No. 10, 1976, pp. 187-313.
- , 'Mitsui Zaibatsu ni okeru Sekitangyo no Hatten Kozo' (The Developmental Structure of the Mitsui Coal Industry), Mitsui Bunko Ronso, No. 11, 1977, pp. 109-249.
- Kato Kozaburo, 'Kyushu Tanko-bu Seiritsu no Sho-Zentei: Mitsui Zaibatsu Keisei Katei ni yosete' (The Pre-conditions for the Establishment of the Kyushu Coal-Mining Department), Mitsui Bunko Ronso, No. 2, 1968, pp. 233-288.

- , 'Kyushu Tanko-bu no Seikaku to Kino: Mitsui Zaibatsu Keisei Katei ni yoseta' (The Character and Function of the Kyushu Coal-Mining Department), Mitsui Bunko Ronso, No. 3, 1969, pp. 149-187.
- , 'Mitsui Zaibatsu no Keisei to Nihon Teikokushugi' (Japanese Imperialism and the Formation of Mitsui Zaibatsu), in Takahashi Kohachiro ed. Nihon Kindai-ka no Kenkyu (Studies in the Modernization of Japan), Pt. II, Tokyo: Tokyo Daigaku Shuppan-kai, 1972, pp. 219-287.
- Kato Yasuo, 'Tomioka Seishi-jo' (The Tomioka Silk Filature), in Chiho-shi Kenkyu Kyogi-kai ed., Nihon Sangyo Shi Taikei, Vol. 4, pp. 396-408.
- Kattendyke, W. J. C. Ridder H. v., translated by Mizuta Nobutoshi, Nagasaki Kaigun Denshu-jo no Hibi (The Early Days of the Naval Training School), Tokyo: Heibon-sha, 1964.
- Kawai Ichiro, et al. eds., Koza Nihon Shihonshugi Hattatsu Shi Ron (Historical Studies of the Development of Japanese Capitalism), Vols., 1, 2, 3, Tokyo: Nihon Hyoron-sha, 1968.
- Kawakami Tadao, Sekai Shijo to Kyoko (Economic Crises and the World Market), Pt. I, Tokyo: Hosei Daigaku Shuppan-kyoku, 1971.
- Kawano Kenji and Iinuma Jiro eds., Sekai Shihonshugi no Keisei (The Formation of World Capitalism), Tokyo: Iwanami Shoten, 1967.
- and Iinuma Jiro eds., Sekai Shihonshugi no Rekishi Koza (The Historical Structure of World Capitalism), Tokyo: Iwanami Shoten, 1970.
- Kinoshita Etsuji, Nihon no Sekitan Sangyo (The Japanese Coal Industry), Tokyo: Nihon Hyoron Shinsha, 1957.
- , 'Shihonshugi no Seiritsu to Gaikoku Boeki' (Foreign Trade and the Formation of Japanese Capitalism), in Kawai et al., eds. Koza Nihon Shihonshugi Hattatsu Shi Ron, Vol. 1, pp. 219-258.
- Kiryu Orimono Shi Hensan Iin-kai, Kiryu Orimono Shi (A History of the Kiryu Textile Industry), 3 vols., Kiryu: Kiryu Orimono Dogyo Kumiai, 1935-1940.
- Kitajima Masamoto ed., Seishigyo no Tenkai to Koza (The Development and Structure of the Silk Reeling Industry: Reports on Suwa during the Bakumatsu and Early Meiji Periods), Tokyo: Hanawa Shobo, 1970.
- Kiyokawa Yukihiro, 'Gijutsu Kakusa to Donyu Gijutsu no Teichaku Katei' (Technological Gap and the Fixing Process of Introduced Technology in Japan), in Okawa and Minami eds., Kindai Nihon no Keizai Hatten, pp. 249-282.
- Kobayashi Masaaki, Nihon no Kogyo-ka to Kangyo Haraisage (Japan's Industrialization and the Transfer of Government Enterprises), Tokyo: Toyo Keizai Shinpo-sha, 1977.

- Kohoku Jinmin Daigaku Seiji Keizai-gaku Kyoken-shitsu ed., translated by Ikeda Makoto et al., Chugoku Kindai Kokumin Keizai Shi Kogi (Lectures on Chinese Modern Economic History), Tokyo: Koto Kyoiku Shuppan-sha, 1958.
- Koike Shigeyoshi, 'Sekitan Ryutsu Kiko no Kakuritsu' (The Establishment of the Japanese Coal Distribution System), in Furushima and Ando eds, Ryutsu Shi, II, pp. 149-170.
- Kondo Tetsuo, 'Shokusan Kogyo to Zairai Sangyo' (The Encouragement of Industry and the Traditional Sector), in Iwanami Koza, Nihon Rekishi, Vol. 14, Tokyo: Iwanami Shoten, 1975, pp. 209-254.
- Kyoto-fu Sogo Shiryo-kan ed., Kyoto-fu Hyaku-nen no Shiryo (Kyoto Prefecture Centennial Documents), Vol. 3, Kyoto-fu, 1972.
- Mamiya Kunio, 'Shoho-shi no Soshiki to Kino' (The Organization and Functioning of Shoho-shi), Shakai Keizai Shigaku, Vol. 29, No. 2, 1963, pp. 30-50.
- Manabe Shigetada, Nichiro Kankei Shi 1697-1875 (A History of Russo-Japanese Relations), Tokyo: Yoshikawa Kobun-kan, 1978.
- Matsuda Tomoo, Igirisu Shihon to Toyo (Asia and British Capital), Tokyo: Nihon Hyoron-sha, 1950.
- Matsui Kiyoshi ed., Kindai Nihon Boeki Shi (A History of Modern Japanese Trade), 3 vols., Tokyo: Yuhi-kaku, 1959-1963.
- ed., Nihon Boeki Tokuhon (A Reader in Japanese Trade), Tokyo: Toyo Keizai Shinpo-sha, 1973.
- Matsumoto Hiroshi, 'Nihon Shihonshugi Kakuritsu-ki ni okeru Mitsui Bussan Kaisha no Hatten' (The Development of Mitsui Bussan Kaisha during the Formative Period of Japanese Capitalism), Mitsui Bunko Ronso, No. 7, 1973, pp. 107-199.
- Meiji Bunka Kenkyu-kai ed., Meiji Bunka Zenshu (Readings in the Culture of Meiji Japan), Revised ed., Vol. 15, Tokyo: Nihon Hyoron-sha, 1957.
- Meiji Shiryo Kenkyu Renraku-kai ed., Meiji Seiken no Kakuritsu Katei (The Formative Process of the Meiji Regime), Tokyo: Ochanomizu Shobo, 1954.
- ed., Jiyu Minken Undo (The Civil Rights Movement in Japan), Tokyo: Ochanomizu Shobo, 1956,
- ed., Kindai Sangyo no Seisei (The Formation of Modern Industry in Japan), Tokyo: Ochanomizu Shobo, 1958.
- ed., Meiji Zenki no Rodo Mondai (Labour Problems in the First Half of the Meiji Period), Tokyo: Ochanomizu Shobo, 1960.
- Meiji Zenki Sangyo Hattatsu Shi Shiryo (Materials on the Development of Industry in the First Half of the Meiji Period), Tokyo: Meiji Bunken Shiryo Kanko-kai, 1966-1976.

- Mie-ken, Mie-ken Shi (The History of Mie Prefecture), Tsu, 1964.
- Mikami Ryuzo, Yen no Tanjo (The Birth of the Yen), Tokyo: Toyo Keizai Shinpo-sha, 1975.
- Miwa Ryoichi, 'Kaijo Kotsu' (Marine Transportation), in Furushima and Ando eds., Ryutsu Shi, II, pp. 319-357.
- Miyamoto Mataji, Togai Yoshio, and Mishima Yasuo eds., Sogo-Shosha no Keiei Shi (A Business History of Sogo-Shosha), Tokyo: Toyo Keizai Shinpo-sha, 1976.
- Mizunuma Tomoichi, 'Meiji Zenki Yokohama Shokin Ginko no Gaikoku Kawase Kinyu' (The Foreign Exchange Finance of the Yokohama Specie Bank during the First Half of the Meiji Period), Tochi Seido Shioaku, No. 15, 1962, pp. 17-36.
- , 'Meiji Zenki Takashima Tanko ni okeru Gaishi to Sono Haijo Katei no Tokushitsu' (Foreign Capital in the Takashima Coal Mine during the Early Meiji Period and the Nature of the Process by which it was expelled), Rekishigaku Kenkyu, No. 273, 1963, pp. 28-37.
- , 'Meiji Koki ni okeru Kiito Yushutsu no Doko' (Silk Exports during the Later Meiji Period), Shakai Keizai Shioaku, Vol. 28, No. 5, 1963, pp. 1-21.
- , 'Gaikoku Boeki no Hatten to Shihon no Yushutsu' (The Development of Foreign Trade and the Export of Capital from Japan), in Kajinishi ed., Nihon Keizai-shi Taikei, Vol. 6, pp. 237-294.
- , 'Showa Kyoko (1): Kyoko-ki ni okeru Taibei Boeki Kankei to Yosan-Seishigyo no Doko' (The Showa Depression: The American-Japanese Trade Relationship, and the Japanese Sericulture and Silk Reeling Industries during the Depression), in Sumiya Mikio ed., Showa Kyoko (The Showa Depression), Tokyo: Yuhi-kaku, 1973, pp. 79-196.
- Mogi Shoten, Sanshi Boeki Yoran (A Survey of Japan's Silk Trade), Nos. 4-7, 9-12 (1892-95, 1897-1900), Yokohama, in Yokohama-shi Shi, Shiryo Hen, Vol. 12.
- Mori Taikichiro, 'Taibei Kiito Boeki to Waga Kuni no Sanshigyo' (Silk Exports to the United States and the Japanese Silk Industry), in Ohara ed., Nichibei Bunka Kosho Shi, Vol. 2, pp. 199-292.
- Morinaga Taneo, annotated by, Nagasaki Bakumatsu Shiryo Taisei (A Collection of Historical Documents on Nagasaki during the Bakumatsu Period), Nagasaki Bunken-sha, 1969-1971.
- Murakushi Nisaburo, Nihon Tanko Chin Rodo Shi Ron (Studies on the History of Wage-Labour in Japanese Coal Mines), Tokyo: Jicho-sha, 1976.
- Nagahara Keiji, Nakamura Masanori, Nishida Yoshiaki, and Matsumoto Hiroshi, Nihon Jinushisei no Kosei to Dankai (Structures and Stages in the Landlord System in Japan), Tokyo: Tokyo Daigaku Shuppan-kai, 1972.

- Nagai Hideo, 'Shokusan Kogyo Seisaku Ron' (A Study of the Policy for Encouraging Industry), Hokkaido Daigaku Bungaku-bu Kiyo, No. 10, 1961, pp. 131-158.
- Nagano Susumu, 'Bakumatsu-ki Meiji 30-nen ni okeru Sekitan Boeki' (The Japanese Coal Trade from the Bakumatsu Period until 1897), in Hidemura et al., ed., Kindai Keizai no Rekishi-teki Kiban, pp. 532-548.
- Nagaoka Shinkichi, Meiji Kyoko Shi Josetsu (An Introductory History of Meiji Economic Crises), Tokyo: Tokyo Daigaku Shuppan-kai, 1971.
- Nagasaki-ken Henshu Iin-kai ed., Nagasaki-ken Shi, Kindai Hen (The History of Nagasaki Prefecture: The Modern Period), Tokyo: Yoshikawa Kobun-kan, 1976.
- Nakagawa Keiichiro, 'P. & O. Kisen Kaisha no Seiritsu' (The Formation of the P. & O. Steam Navigation Co.), in Shihonshugi no Seiritsu to Hatten (The Formation and Development of Capitalism), Special Issue of Keizai-gaku Ronshu, Vol. 26, Nos. 1, 2, Tokyo: Yuhikaku, 1959, pp. 276-301.
- , 'Hikaku Keizai Shigaku to Kokusai Kankei' (International Relations and Comparative Economic History), Shakai Keizai Shigaku, Vol. 29, No. 1, 1963, pp. 76-87.
- Nakai Akio, Shoki Nihon-Suisu Kankei Shi (A History of Japanese Swiss Relations during the Bakumatsu Period), Tokyo: Kazama Shobo, 1971.
- Nakamura Masanori, Kindai Nihon Jinushisei Shi Kenkyu (Historical Studies of the Landlord System in Modern Japan), Tokyo: Tokyo Daigaku Shuppan-kai, 1979.
- , 'Kikai Seishi no Hatten to Shokusan Kogyo Seisaku' (The Development of Filatures and the Policy for Encouraging Industry), Rekishigaku Kenkyu, No. 290, 1964, pp. 13-26.
- , 'Seishigyo no Tenkai to Jinushisei' (The Development of the Silk Reeling Industry and the Landlord System), Shakai Keizai Shigaku, Vol. 32, Nos. 5, 6 combined issue, 1967, pp. 46-71.
- Nakamura Naomi, Okuma Zaisei no Kenkyu (Studies in Okuma's Financial Policy), Tokyo: Azekura Shobo, 1968.
- Nakamura Satoru, Meiji Ishin no Kiso Koza (The Basic Structure of the Meiji Restoration), Tokyo: Mirai-sha, 1968.
- , 'Kaiko' (The Opening of the Ports), Rekishigaku Kenkyu-kai and Nihonshi Kenkyu-kai eds., Koza Nihon Shi, Vol. 5, Tokyo: Tokyo Daigaku Shuppan-kai, 1970, pp. 53-86.
- , 'Kaikoku-go no Boeki to Sekai Shijo' (The World Market and Foreign Trade following the Opening of Japan), in Iwanami Koza, Nihon Rekishi, Vol. 13, Tokyo: Iwanami Shoten, 1977, pp. 87-124.
- Nakamura Takafusa, Senzen-ki Nihon Keizai Seicho no Bunseki (An Analysis of Japanese Economic Growth in Prewar Japan), Tokyo: Iwanami Shoten, 1971.

- Nakanishi Ichiro, "'Kin Yushutsu Sai-Kinshi" Igo no Boeki, Kawase Mondai' (Trade and Exchange Problems in the Period after the Second Banning of Gold Exports), in Kawai et al., eds., Koza Nihon Shihonshugi Hattatsu Shi Ron, Vol. 3, pp. 227-269.
- Nawa Toichi, Nihon Bosekigyo to Genmen Mondai Kenkyu (Studies in the Japanese Cotton Spinning Industry and Problem of Raw Cotton), Tokyo: Daido Shoin, 1937.
- , Nihon Shihonshugi to Boeki Mondai (Trade Problems and Japanese Capitalism), Tokyo: Kodo-sha, 1948.
- Nihon Ginko, Takei-kyoku, Meiji-Iko Honpo Shuyo Keizai Tokei (Hundred-Year Statistics of the Japanese Economy), Tokyo, 1966.
- Nihon Kogaku-kai, Meiji Kogyo Shi, Kogyo Hen (History of Industry in the Meiji Period: Mining), Tokyo: Nihon Kogaku-kai, 1930.
- Nihon Tokei Kenkyu-jo ed., Nihon Keizai Tokei Shu (Collected Statistics of the Japanese Economy), Tokyo: Nihon Hyoron Shinsha, 1958.
- Nippon Yusen Kaisha, Nanaju-nen Shi (Seventy-Year History of NYK), Tokyo, 1956.
- Nishimura Takao, Kindai Iqirisu Toyo Boeki Shi no Kenkyu (Studies in Modern British East Asian Trade), Tokyo: Kazama Shobo, 1972.
- Niwa Kunio, Meiji Ishin no Tochi Henkaku (Land Reform in the Meiji Restoration), Tokyo: Ochanomizu Shobo, 1962.
- Numata Makoto, 'Seichagyo no Keisei, Tenkai Katei ni okeru Tokushitsu to Jinushisei' (Characteristics of the Tea Industry during Its Formative and Developing Stages and the Effect of the Landlord System), in Nakamura Yujiro and Kimura Motoi eds., Sonraku, Hotoku, Jinushisei (Villages, the Repaying Virtue Movement and the Landlord System), Tokyo: Toyo Keizai Shinpo-sha, 1976, pp. 215-270.
- Oe Shinobu, Nihon no Sangyo Kakumei (The Japanese Industrial Revolution), Tokyo: Iwanami Shoten, 1968.
- , 'Chuo Shuken Kokka no Seiritsu' (The Establishment of a Centralized State in Japan), in Iwanami Koza, Nihon Rekishi, Vol. 15, Tokyo: Iwanami Shoten, 1962, pp. 53-96.
- , 'Okubo Seiken-ka no Shokusan Kogyo Seisaku Seiritsu no Seiji Katei' (The Political Process of the Formation of Policies for the Encouragement of Industry under the Okubo Regime), in Inada Shoji ed., Meiji Kokka Keisei Katei no Kenkyu (Studies in the Formation of the Meiji State), Tokyo: Ochanomizu Shobo, 1966, pp. 375-427.
- Ogino Yoshihiro, 'Nihon Sekitangyo ni okeru Dokusen no Keisei Katei' (The Process of the Formation of a Monopoly in the Japanese Coal Industry), Seinan Chiiki-shi Kenkyu, No. 1, 1977, pp. 174-205.

- Ohara Keishi ed., Nichibei Bunka Kosho Shi, Vol. 2, Tsusho Sangyo Hen (A History of Japanese-American Cultural Exchange: Commerce and Industry), Tokyo: Yoyo-sha, 1954.
- Ohkawa Kazushi, Nihon Keizai Bunseki (An Analysis of the Japanese Economy), Tokyo: Shunju-sha, 1962.
- , Shinohara Miyoei and Umemura Mataji eds., Choki Keizai Tokei (Estimates of Long-Term Economic Statistics of Japan), Tokyo: Toyo Keizai Shipo-sha.
1. Kokumin Shotoku (National Income), 1974.
  4. Shihon Keisei (Capital Formation), 1971.
  8. Bukka (Prices), 1967.
  9. Noringyo (Agriculture and Forestry), 1966.
  10. Ko-kogyo (Mining and Manufacturing), 1972.
  14. Boeki to Kokusai Shushi (Foreign Trade & Balance of Payments).
- and Minami Ryoshin eds., Kindai Nihon no Keizai Hatten (The Economic Development of Modern Japan), Tokyo: Toyo Keizai Shinpo-sha, 1975.
- Oishi Kaichiro, Nihon Chiho Zai-Gyosei Shi Josetsu (An Introduction to the History of Local Finance and Administration in Modern Japan), Tokyo: Ochanomizu Shobo, 1961.
- ed., Nihon Sangyo Kakumei no Kenkyu (Studies in the Japanese Industrial Revolution), 2 vols., Tokyo: Tokyo Daigaku Shuppan-kai, 1975.
- , 'Nihon Shihonshugi Kakuritsu-ki ni kansuru Jakkan no Riron-teki Mondai' (Some Theoretical Problems regarding the Period of the Establishment of Japanese Capitalism), Rekishigaku Kenkyu, No. 295, 1964, pp. 1-10.
- , 'Nihon Seishigyo Chin Rodo no Kozo-teki Tokushitsu' (Structural Characteristics of Wage Labour in the Japanese Silk Reeling Industry), in Kawashima and Matsuda eds., Kokumin Keizai no Sho-Ruikai, pp. 707-734.
- , '"Shokusan Kogyo" to "Jiyu Minkei" no Keizai Shiso' (Economic Thought on Civil Rights and the Encouragement of Industry), in Cho and Sumiya eds., Kindai Nihon Keizai Shiso Shi, Vol. 1, pp. 31-84.
- , Ishii Kanji, Shibagaki Kazuo et al., Nihon no Sangyo Kakumei (The Industrial Revolution in Japan), Symposium Nihon Rekishi, Vol. 18, Tokyo: Gakusei-sha, 1972.
- Oka Yoshitake, Reimei-ki no Meiji Nihon (Meiji Japan at the Dawn of the New Era), Tokyo: Mirai-sha, 1964.
- Okada Shunpei, Bakumatsu Ishin no Kahei Seisaku (Monetary Policy in the Bakumatsu and Early Meiji Periods), Tokyo: Moriyama Shoten, 1955.
- Okoku Hakuran-kai Jimu-kyoku, 'Nihon Kiito no Hyoron', 'Nihon Kiito Orimono Kantai-sho', and 'Nihon Kiito Setsu' (Reports on Japanese Silk), Tokyo, 1873, National Diet Library of Japan.
- Okubo Toshikane, 'Meiji Juyo-nen no Seihen' (The Japanese Political Crisis of 1881), Meiji Shiryo Kenkyu Renraku-kai ed., Meiji Seiken no Kakuritsu Katei, pp. 37-165.



- Okubo Toshimichi Monjo (Documents on Okubo Toshimichi), 10 vols., Nihon Shisei Kyokai Sosho, Tokyo, 1927-29.
- Okuda Hachiji, 'Kyushu Tankogyo ni okeru Rodo Kankei no Kindai-ka' (The Modernization of Labour Relations in the Kyushu Coal Industry), in Fukuoka UNESCO Kyokai ed., Nihon Kindai-ka to Kyushu, pp. 325-402.
- Okura Takehiko and Shinbo Shiroshi, 'Bakumatsu no Kahei Seisaku' (The Bakumatsu Monetary Policy), in Shinbo and Yasuba eds., Kindai Iko-ki no Nihon Keizai, pp. 275-293.
- Omachi Keigetsu, Hakushaku Goto Shojiro (A Bibliography of Goto Shojiro), Tokyo: Fuzan-bo, 1914.
- Ono Kazuichiro, 'Nihon ni okeru Mekishiko Doru no Ryunyu to Sono Kozai' (1)-(4), Keizai Ronso, 1958, Vol. 81, No. 3, pp. 1-17; No. 4, pp. 38-52; No. 5, pp. 24-37; No. 6, pp. 37-55.
- , 'Toa ni okeru Mekishiko Doru o meguru Kakuchiku to Sono Honshitsu' (The Essence of the Struggle concerning the Mexican Dollar in East Asia), Keizai Ronso, Vol. 83, No. 1, 1960, pp. 18-44.
- , 'Dai-Ichiji Taisen Zengo no Gaikoku Boeki' (Japanese Foreign Trade before and after World War I), in Kawai et al. eds., Koza Nihon Shihonshugi Hattatsu Shi Ron, Vol. 2, pp. 233-286.
- Osaka Shiyakusho ed., Meiji Taisho Osaka-shi Shi (A History of the City of Osaka in the Meiji and Taisho Periods), Vols. 3, 4, Osakā, 1933.
- Ouchi Hyoe and Tsuchiya Takao eds., Meiji Zenki Zaisei Keizai Shiryo Shusei (Collections of Materials on the Financial and Economic History of the Early Meiji Period), Vols. 9, 11, 12, 13, 14, 17, 18-20, Tokyo: Kaizo-sha, 1931-1936.
- Ouchi Tsutomu, Nihon Keizai Ron (A Study of the Japanese Economy), Pt. I, Tokyo: Tokyo Daigaku Shuppan-kai, 1962.
- Oyama Azusa, Kyu Joyaku-ka ni okeru Kaishi Kaiko no Kenkyu (Studies of the Open Ports and Cities under the Unequal Treaties), Tokyo: Otori Shobo, 1967.
- Reischauer, E. O., Nihon Kindai no Atarashii Mikata (A New Interpretation of Modern Japan), Tokyo: Kodan-sha, 1965.
- Rekishigaku Kenkyu-kai ed., Meiji Ishin Shi Kenkyu Koza (Studies in Meiji Restoration History), 6 vols., Tokyo: Heibon-sha, 1958-1959.
- Rodo Undo Shiryo Iin-kai, Nihon Rodo Undo Shiryo (Materials on the Japanese Labour Movement), Vol. 1, Tokyo: Chuo Koron Jigyo Shuppan, 1962.
- Ryumon-sha ed. Shibusawa Eiichi Denki Shiryo (Materials for the Biography of Shibusawa Eiichi), Vol. 14, Tokyo: Shibusawa Eiichi Denki Shiryo Kanko-kai, 1957.
- Saiga Hiroyoshi, De Tenya Denki (The Biography of De Tenya), Tokyo, 1926.

- Saigusa Hiroto, Nozaki Shigeru and Sasaki Shun, Kindai Nihon Sangyo Gijutsu no Seio-ka (The Westernization of Industrial Technology in Modern Japan), Tokyo: Toyo Keizai Shinpo-sha, 1960.
- Saito Yoshihisa, 'Mitsui Bussan Kaisha ni okeru Kaiungyo' (The Shipping Business of Mitsui Bussan Kaisha), in Yasuoka Shigeaki ed., Zaibatsu Shi Kenkyu (Studies in the History of the Zaibatsu), Tokyo: Nihon Keizai Shinbun-sha, 1979, pp. 105-145.
- Sakata Yoshio and Yoshida Mitsukuni eds., Sekai-shi no naka no Meiji Ishin (The Meiji Restoration in a World Historical Perspective), Kyoto: Kyoto Daigaku Jinbun Kagaku Kenkyu-jo, 1973.
- Sanpei Takako, Noka Kanai Sho-Kogyo no Hensen Katei (The Process of Change in Domestic Rural Industries), Tokyo: Ito Shoten, 1934.
- Sangyo Shinko Domei-kai, Zen Sekai Kiito Taisei (General Trends in the World Silk Industry), 1892.
- Sano Ei, Dai Nihon San Shi (The History of the Silk Industry in the Japanese Empire), Tokyo, 1898, in MZSHS, Separate Vol. 67, Nos. 1-4.
- Sasaki Seiji, Nihon Kaiungyo no Kindai-ka (The Modernization of Japanese Shipping), Kobe: Kaibun-do, 1961.
- Sato Shoichiro, 'Kigyo Bokko-ki ni okeru Gunkaku Zaisei no Tenkai' (The Development of a Financial Policy of Military Expansion during the Period of the Sudden Rise of Private Enterprise in Japan), Rekishigaku Kenkyu, No. 295, 1964, pp. 11-30.
- Sawada Akira, Edo Jidai ni okeru Kabu Nakama Kumiai Seido, Tokuni Nishijin Oriya Nakama no Kenkyu (Studies of the Guilds of Nishijin Textile Manufacturers in the Edo Period), Kyoto: Daigaku-do Shoten, 1967 (Reprint). (1st ed., 1932.)
- Sekiyama Naotaro, 'Kyu Shohan no Gaikoku Fusai Shobun' (The Disposal of Foreign Loans by the Old Han), Shakai Keizai Shigaku, Vol. 1, No. 2, 1931, pp. 85-110.
- Shibagaki Kazuo, Nihon Kinyu Shihon Bunseki (An Analysis of Japanese Financial Capital), Tokyo: Tokyo Daigaku Shuppan-kai, 1965.
- Shibahara Takuji, Sekai-shi no naka no Meiji Ishin (The Meiji Restoration in a World Historical Perspective), Tokyo: Iwanami Shoten, 1977.
- , 'Meiji Ishin no Sekaishi-teki Ichi' (The Place of the Meiji Restoration in World History), in Rekishigaku Kenkyu, Special Issue, Sekai Shi to Kindai Nihon (Modern Japan and World History), 1961, pp. 39-55.
- , 'Meiji Ishin' (The Meiji Restoration), in Iwanami Koza, Sekai Rekishi, Vol. 21, Tokyo: Iwanami Shoten, 1971, pp. 427-486.

- Shibata Michio and Shibata Asako, 'Bakumatsu ni okeru Furansu no Tainichi Seisaku: "Furansu Yushutsunyu Kaisha" no Setsuritsu Keikaku o megutte' (On the Plan to establish a Franco-Japanese Export and Import Company: French Policy towards Japan in the Bakumatsu Period), Shigaku Zasshi, Vol. 76, No. 8, 1967, pp. 46-71.
- Shibusawa Keizo ed., Meiji Bunka Shi (A Cultural History of Meiji Japan), Vol. 11, Tokyo: Yoyo-sha, 1955.
- Shibuya Ryuichi ed., Meiji-ki Nihon Tokushu Kinyu Rippo Shi (A History of Japanese Special Finance Legislation in the Meiji Period), Tokyo: Waseda Daigaku Shuppan-bu, 1977.
- Shigefuji Takeo, Nagasaki Kyoryuchi to Gaikoku Shonin (Foreign Merchants and the Nagasaki Foreign Settlement), Tokyo: Kazama Shobo, 1967.
- Shigetomi Miozo, Obei no Kengyo yori mitaru Nihon no Sanshiqyo to Sono Shorai (Japan's Silk Industry and Its Prospects seen from the viewpoint of the Silk Manufacturing Industry in Europe and the United States), Tokyo: Sanso Shorei-kai, 1926.
- Shinbo Hiroshi, 'Ishin-ki no Shogyo Kinyu Seisaku' (Commercial and Monetary Policies in the Early Meiji Period), Shakai Keizai Shigaku, Vol. 27, No. 5, 1962, pp. 1-28.
- , 'Bakumatsu Meiji-ki no Kakaku Kozo' (Cost Structure during the Bakumatsu and Meiji Periods), Shakai Keizai Shigaku, 1967, pp. 1-25.
- , 'Bakumatsu-ki no Bukka Hendo, 1830-67' (Price Fluctuations during the Bakumatsu Period, 1830-67), Keizai Kenkyu, Vol. 26, No. 4, 1975, pp. 289-301.
- and Yasuba Yasukichi eds., Kindai Iko-ki no Nihon Keizai (The Japanese Economy in the Period of Transition to the Modern Era), Tokyo: Nihon Keizai Shinbun-sha, 1979.
- Shinohara Miyoei, Nihon Keizai no Seicho to Junkan (Growth and Cycles in the Japanese Economy), Tokyo: Sobun-sha, 1961.
- Shionoya Yuichi, 'Nihon no Kogyo-ka to Gaikoku Boeki' (Foreign Trade and the Industrialization of Japan), Hitotsubashi Ronso, Vol. 56, No. 5, 1966, pp. 72-93.
- Shiosawa Kimio, Niwa Kunio et al. eds, Nihon Shihonshugi Sai-Seisan Kozo Tokei (Statistics for the Re-productive Structure of Japanese Capitalism), Tokyo: Iwanami Shoten, 1973.
- Shizuoka Shiyakusho ed., Shizuoka-shi Shi (The History of the City of Shizuoka), Vols. 2, 3, (Reprint) Tokyo: Meicho Shuppan, 1973.
- Shoda Kenichiro, Nihon Shihonshugi to Kindai-ka (The Modernization of Japan and Japanese Capitalism), Tokyo: Nihon Hyoron-sha, 1971.
- , 'Meiji Zenki no Chiho Sangyo o meguru Seifu to Minkan' (The Government and the Private Sector as regards Local Industries in the First Half of the Meiji Period), in Takahashi Kohachiro ed., Nihon Kindai-ka no Kenkyu, Pt. I, Tokyo: Tokyo Daigaku Shuppan-kai, 1972, pp. 153-187.

- , 'Senzenki Nihon no Gaikoku Boeki o meguru Jakkan no Kosatsu' (Some Considerations on Japan's Prewar Foreign Trade), Waseda Seiji-Keizai-gaku Zasshi, Nos. 244, 245 combined issue, 1976, pp. 203-226.
- and Sakudo Yotaro eds., Gaisetsu Nihon Keizai Shi (An Outline of Japanese Economic History), Tokyo: Yuhikaku, 1978.
- Shoji Kichinosuke, Meiji Ishin no Keizai Kozo (The Economic Structure of the Meiji Restoration), Tokyo: Ochanomizu Shobo, 1954.
- Suehiro Kazuo, Kondo Renpei Den narabi ni Iko (The Posthumous Works of Kondo Renpei and His Biography), Tokyo: Shinbisha, 1926.
- Sugiyama Shinya, 'Kiito Yushutsu to Nihon Shihonshugi: Meiji Zenchu-ki ni okeru Kiito Yushutsu no Doko to Amerika Kinuorimongyo' (Silk Exports and Japanese Capitalism: Japan's Silk Exports and the Silk Industry in the United States, 1869-1900), Unpublished M.A. Thesis, Waseda University, 1975.
- , 'Bakumatsu Meiji Shoki ni okeru Sekitan Yushutsu no Doko to Shanghai Sekitan Shijo' (Japan's Coal Exports and the Shanghai Coal Market, 1859-1880), Shakai Keizai Shigaku, Vol. 43, No. 6, 1978, pp. 19-41.
- , 'Bakumatsu Meiji Shoki ni okeru Kiito Yushutsu no Suryo-teki Sai-kento' (A Quantitative Review of Japan's Raw Silk Exports from 1859 to the Mid-1870s), Shakai Keizai Shigaku, Vol. 45, No. 3, 1979, pp. 30-57.
- , 'Glover & Co.: Bakumatsu Ishin-ki no Igirisu Shonin' (Glover & Co.: A British Merchant during the Bakumatsu and Early Meiji Periods), Kindai Nihon Shi Kenkyu, No. 3, forthcoming (1981).
- Sumiya Mikio, Nihon Chin Rodo Shi Ron (A Historical Study of Wage Labour in Japan), Tokyo: Tokyo Daigaku Shuppan-kai, 1955.
- , Nihon Sekitan Sanqyo Bunseki (An Analysis of the Japanese Coal Industry), Tokyo: Iwanami Shoten, 1968.
- , 'Naya-Seido no Seiritsu to Hokai' (The Formation and Collapse of the Naya-Seido), Shiso, No. 434, 1960, pp. 102-112.
- , 'Meiji Zenki Sekitan Shijo no Kozo' (The Structure of the Coal Market in the Early Meiji Period), Keizai-gaku Ronshu, Vol. 31, No. 1, 1965, pp. 9-22.
- Suzuki Ryo, 'Meiji Junen-dai ni okeru Gaikoku Boeki to Burujojii' (The Japanese Bourgeoisie and Foreign Trade in 1881), Nihon Shi Kenkyu, No. 35, 1958, pp. 19-39.
- Suzuki Takeo ed., Zaisei Shi (A History of Japanese Finance), Tokyo: Toyo Keizai Shinpo-sha, 1962.
- Takadera Sadao, Meiji Genka Shokyaku Shi no Kenkyu (A Historical Study of Financial Depreciation in the Meiji Period), Tokyo: Mirai-sha, 1974.

- Takahashi Kamekichi, Tokugawa Hoken Keizai no Kenkyu (Studies of the Feudal Economy of the Tokugawa Period), 2nd ed., Tokyo: Toyo Shokan, 1941.
- Takahashi Keizai Kenkyu-jo, Nihon Sanshiqyo Hattatsu Shi (A History of the Development of the Japanese Silk Industry), 2 vols., Tokyo: Seikatsu-sha, 1941.
- Takahashi Makoto, 'Nisshin Sengo no Zaisei, Kinyu Mondai' (Financial and Monetary Problems after the Sino-Japanese War), in Kajinishi ed., Nihon Keizai-shi Taikei, Vol. 6, pp. 105-143.
- Takamura Naosuke, Nihon Bosekiqyo Shi Josetsu (An Introductory History of the Japanese Cotton Industry), 2 vols., Tokyo: Hanawa Shobo, 1971.
- , 'Sangyo Boeki Kozo' (The Structure of Japanese Trade and Industry), in Oishi ed., Nihon Sangyo Kakumei no Kenkyu, Pt. I, pp. 43-78.
- Takano Mototaro, Chikuho Tanko Shi (Writings on Coal Mining in the Chikuho Region), 1898, in MZSHS, Separate Vol. 70, Nos. 1-3.
- , Nihon Tanko Shi (Writings on Japanese Coal Mining), 1908, in MZSHS, Separate Vol. 69, Nos. 3, 4.
- Takebe Yoshito, Meiji Zenki Sangyo Ron (A Study of Early Meiji Industry), Kyoto: Mineruba Shobo, 1973.
- Takeo Yoko, 'Takashima Tanko to Saga Han' (The Takashima Coal Mine and the Saga Clan), in Hidemura et al. eds., Kindai Keizai no Rekishi-teki Kiban, pp. 565-579.
- Takeuchi Kenji, 'Kaikoku-go no Nihon (1859-92 nen) ni okeru Yunyu Kyoso-zai Sangyo' (The Competitive Import Industry in Japan, 1859-1892), Shoaku Ronkyu, 1966, pp. 111-130.
- Takeuchi Tsuna Jijo-den (The Autobiography of Takeuchi Tsuna), in Meiji Bunka Zenshu, Vol. 22, pp. 427-484.
- Takimoto Seiichi and Mukai Shikamatsu eds., Nihon Sangyo Shiryo Taikei (Outline Materials on Japanese Industry), Vol. 3, Tokyo: Chugai Shogyo Shinpo-sha, 1926.
- Takizawa Hideki, Nihon Shihonshugi to Sanshiqyo (The Silk Industry and Japanese Capitalism), Tokyo: Mirai-sha, 1978.
- Tamaki Hajime, Gendai Nihon Sangyo Hattatsu Shi, XXIX, Soron Pt. I (A History of the Development of Modern Japanese Industry: A General Outline), Tokyo: Kojun-sha, 1967.
- Tanaka Masatoshi, Chugoku Kindai Keizai Shi Kenkyu Josetsu (An Introduction to the Study of Modern Chinese Economic History), Tokyo: Tokyo Daigaku Shuppan-kai, 1973.
- Tanaka Osamu, 'Kobu-sho Shokan Jigyo no Haraisage to Miike Tanko no Haraisage' (The Sale of the Miike Coal Mines and the Sale of the Kobu-sho owned Enterprises), in Otsuka Hisao et al. eds., Shihonshugi no Keisei to Hatten (The Formation and Development of Capitalism), Tokyo: Tokyo Daigaku Shuppan-kai, 1968, pp. 61-94.

- Tanaka Sogoro, Iwasaki Yataro Den (The Biography of Iwasaki Yataro), Tokyo: Toyo Shokan, 1955.
- Tanaka Tokihiko, Meiji Ishin no Seikyoku to Tetsudo Kensetsu (Railway Construction and the Political Situation at the Time of the Meiji Restoration), Tokyo: Yoshikawa Kobun-kan, 1963.
- Tanaka Yasuo, 'Mitsui Bussan Kaisha Shanghai Shiten "Naijo"' (Confidential Letters of the Shanghai Branch of Mitsui Bussan Kaisha), Mitsui Bunko Ronso, No. 7, 1973, pp. 201-300.
- Tatemoto Masahiro, 'Meiji Shoki ni okeru Keizai Seicho to Shigen Haibun' (Economic Growth and the Distribution of Raw Materials in the Early Meiji Period), in Kaji Motoo ed., Keizai Seicho to Shigen Haibun (Economic Growth and the Distribution of Raw Materials), Tokyo: Iwanami Shoten, 1967, pp. 83-100.
- Toa Dobun-kai, Shina Keizai Zensho (A Complete Survey of the Chinese Economy), Vol. 12, Tokyo: Toa Dobun-kai, 1908.
- Togai Yoshio, Mitsui Bussan Kaisha no Keieishi-teki Kenkyu (Studies in the Business History of Mitsui Bussan Kaisha), Tokyo: Toyo Keizai Shinpo-sha, 1974.
- Tohata Seiichi, Nihon Shihonshugi no Keiseisha (The Founders of Japanese Capitalism), Tokyo: Iwanami Shoten, 1964.
- Tokyo Kozan Kantoku-sho, Nihon Kogyo Shi (A History of the Japanese Mining Industry), Tokyo, 1911, in MZSHS, Separate Vol. 68, No. 4, Vol. 69, Nos. 1, 2.
- Tomioka Seishi-jo Shi Hensan Iin-kai ed., Tomioka Seishi-jo Shi (Writings on the Tomioka Silk Filature), 2 vols., Tomioka: Tomioka-shi Kyoiku Iin-kai, 1977.
- Toyama Shigeki, Meiji Ishin (The Meiji Restoration), Tokyo: Iwanami Shoten, 1951.
- , Nihon Kindai Shi (A History of Modern Japan), I, Tokyo: Iwanami Shoten, 1975.
- Toyo Keizai Shinpo-sha ed., Meiji Taisho Kokusei Soran (A General Survey of the Situation in Japan during Meiji and Taisho Periods), Tokyo: Toyo Keizai Shinpo-sha, 1927.
- ed., Nihon Boshi Seiran (Foreign Trade of Japan: A Statistical Survey), Tokyo: Toyo Keizai Shinpo-sha, 1935.
- Tsuchiya Takao, Zoku Nihon Keizai Shi Gaiyo (A Outline of Japanese Economic History, Vol. 2), Tokyo: Iwanami Shoten, 1939.
- , Meiji Zenki Keizai Shi Kenkyu (Studies on the Economic History of the Early Meiji Period), Tokyo: Nihon Hyoron-sha, 1944.
- , Nihon Shihonshugi no Keieishi-teki Kenkyu (Studies on the Business History of Japanese Capitalism), Tokyo: Misuzu Shobo, 1954.

- Ubukata Naokichi, Toyama Shigeki and Tanaka Masatoshi eds., Rekishi-zo Sai-Kosei no Kadai (Themes on the Reconstruction of History), Tokyo: Ochanomizu Shobo, 1966.
- Uchida Naosaku, 'Zaishi Eikoku Shosha Iwa Yoko no Hattanshi-teki Bunseki' (An Historical Analysis of the Development of the British Trading Firm of Jardine, Matheson & Co. in China), Shina Kenkyu, 1939, No. 51, pp. 213-240; No. 52, pp. 151-192.
- Umezu Kazuo, Nihon no Boeki Shiso (Japanese Trade Policies), Kyoto: Mineruba Shobo, 1963.
- Unno Fukuju, Meiji no Boeki (Foreign Trade in the Meiji Period), Tokyo: Hanawa Shobo, 1967.
- , 'Boekishi-jo ni okeru 1880 Nendai' (The History of Japanese Trade in the 1880s), Rekishigaku Kenkyu, No. 252, 1961, pp. 21-30.
- , 'Kaiko-go no Zairai Sangyo no Doko' (Traditional Industry after the Opening of the Ports), in Iwanami Koza, Nihon Rekishi, Vol. 15, Tokyo: Iwanami Shoten, 1962, pp. 99-108.
- , 'Meiji Shonen no Boeki Mondai' (Trade Problems in the Early Meiji Period), in Iwanami Koza, Nihon Rekishi, Vol. 15, Tokyo: Iwanami Shoten, 1962, pp. 124-140.
- , 'Meiji Boeki Shi Kenkyu to Doko' (Trends in Studies of Meiji Trade History), Shakai Keizai Shigaku, Vol. 31, Nos. 1-5 combined issue, 1966, pp. 149-160.
- , 'Boeki' (Foreign Trade), in Furushima and Ando eds., Ryutsu Shi, II, pp. 171-279.
- Wada Ei, Tomioka Nikki (A Tomioka Diary), Maebashi: Jomo Shinbunsha, 1973.
- Waseda Daigaku Shakai Kagaku Kenkyu-jo ed., Okuma Monjo (Documents concerning Okuma Shigenobu), 5 vols., Tokyo: Waseda Daigaku Shuppan-bu, 1958-1962.
- Watanabe Toru, 'Meiji Zenki no Rodo Shijo Keisei o megutte' (On the Formation of the Labour Market in the Early Meiji Period), in Meiji Shiryo Kenkyu Renraku-kai ed., Meiji Zenki no Rodo Mondai, pp. 96-136.
- Wazaki Kozo, 'Sangyo Burujoajii no Seisei to Jinushisei no Tenkai' (The Formation of the Industrial Bourgeoisie and the Development of the Landlord System in the Ise District), in Horie and Toyama eds., Jiyu Minken-ki no Kenkyu, Vol. 4, pp. 89-145.
- Yagi Haruo, Nihon Kindai Seishigyo no Seiritsu (The Formation of the Modern Silk Reeling Industry in Japan), Tokyo: Ochanomizu Shobo, 1960.
- , 'Noson Kogyo no Hatten to Manyufakucha' (The Development of Rural Industry and Manufacturing in Japan), in Iwanami Koza, Nihon Rekishi, Vol. 13, Tokyo: Iwanami Shoten, 1964, pp. 1-40.

- Yamada Akira, 'Showa Shoki, Taisei-teki Kiki no Ichi Sokumen' (An Aspect of the Early Showa Political Crisis), Shogaku Ronshu, Vol. 33, No. 4, 1965, pp. 1-61.
- , 'Meiji Kenryoku ni yoru Kengyo no Soshiki-ka Katei' (The Process of Organization in the Silk Industry by the Meiji Authorities), in Kawashima and Matsuda eds., Kokumin Keizai no Sho-Ruikai, pp. 677-706.
- , 'Senzenki Nihon Shihonshugi no Boeki Kosei no Henka ni tsuite' (On the Changing Trade Patterns of Prewar Japanese Capitalism), Shokei Ronshu, Vol. 40, Nos. 3, 4 combined issue, 1972, pp. 242-321.
- Yamada Moritaro, Nihon Shihonshugi Bunseki (An Analysis of Japanese Capitalism), Tokyo: Iwanami Shoten, 1934.
- Yamaguchi Kazuo, Bakumatsu Boeki Shi (A History of Trade during the Bakumatsu Period), Tokyo: Chuo Koron-sha, 1943.
- , Zoho Meiji Zenki Keizai no Bunseki (An Analysis of the Economy of the Early Meiji Period: Expanded Edition), Tokyo: Tokyo Daigaku Shuppan-kai, 1963.
- ed., Nihon Sangyo Kinyu Shi Kenkyu, Seishi Kinyu Hen (Studies on the Monetary History of Japanese Industry: The Silk Reeling Industry), Tokyo: Tokyo Daigaku Shuppan-kai, 1966.
- , Nihon Keizai Shi (An Economic History of Japan), Tokyo: Chikuma Shobo, 1968.
- ed., Nihon Sangyo Kinyu Shi Kenkyu, Boseki Kinyu Hen (Studies on the Monetary History of Japanese Industry: Cotton Spinning Industry), Tokyo: Tokyo Daigaku Shuppan-kai, 1970.
- , 'Cha Boeki no Hattatsu to Seichagyo' (The Japanese Tea Industry and the Development of the Tea Trade), in Ohara ed., Nichibei Bunka Kosho Shi, Vol. 2, pp. 137-197.
- , 'Meiji Shoki no Gaikoku Kaiun to Mitsubishi Kaisha' (Foreign Shipping and Mitsubishi Kaisha in the Early Meiji Period), in Nakamura Tsunejiro et al. eds., Sekai Keizai Bunseki (An Analysis of World Economy), Tokyo: Iwanami Shoten, 1962, pp. 120-157.
- and Ouchi Tsutomu eds., Meiji Shonen no Boeki Tokei (Trade Statistics of the Early Meiji Period), Tokyo: Tokyo Daigaku Shuppan-kai, 1968.
- Yamamoto Hirobumi, 'Shoki Shokusan Kogyo Seisaku to Sono Shusei' (Early Policies for the Encouragement of Industry and Subsequent Revisions), in Ando ed., Nihon Keizai Sesaku Shi Ron, pp. 3-54.
- Yamamoto Saburo, Seishigyo Kindai-ka no Kenkyu (Studies of Modernization in the Gunma Silk Reeling Industry), Maebashi: Gunma-ken Bunka Jigyo Shinko-kai, 1975.
- Yamamoto Shiro, 'Meiji Shoki no Kozan Rodo oyobi Rodo Undo' (Mining Labour and the Labour Movement in the Early Meiji Period), in Meiji Shiryo Kenkyu Renraku-kai ed., Meiji Zenki no Rodo Mondai, pp. 177-230.



- Yamamoto Yuzo, 'Bakumatsu Meiji-ki no Yokohama Yugin Soba' (The Beginning and End of the Mexican Dollar Market during the Bakumatsu and Meiji Periods), in Shinbo and Yasuba eds., Kindai Iko-ki no Nihon Keizai, pp. 295-314.
- Yamashita Naoto, 'Nihon Shihonshugi Kakuritsu-ki ni okeru Higashi Ajia Sekitan Shijo to Mitsui Bussan' (The East Asian Coal Market and Mitsui Bussan during the Formation of Japanese Capitalism), in Dai 46-kai Shakai Keizai Shigakkai Taikai Hokoku Shiryo, Fukuoka, 1977, pp. 103-111.
- Yamazaki Ryuzo, 'Bakumatsu Ishin-ki no Keizai Hendo' (Economic Fluctuations during the Bakumatsu and Early Meiji Periods), in Iwanami Koza, Nihon Rekishi, Vol. 13, Tokyo: Iwanami Shoten, 1977, pp. 125-171.
- Yamazawa Ippei, 'Kiito Yushutsu to Nihon no Keizai Hatten' (Raw Silk Exports and Japan's Economic Development), Keizai-gaku Kenkyu, No. 19, 1975, pp. 57-75.
- and Yamamoto Yuzo, Boeki to Kokusai Shushi (LTES 14) (Foreign Trade and Balance of Payments), Tokyo: Toyo Keizai Shinpo-sha, 1979.
- Yasuba Yasukichi, 'Kaijo Yuso to Kogyo-ka' (Ocean Transportation and Industrialization), in Hidemura et al. eds., Kindai Keizai no Rekishi-teki Kiban, pp. 262-276.
- , 'Gaiko Kaiun to Keizai Hatten' (Ocean Transportation and Economic Development), in Dai 46-kai Shakai Keizai Shigakkai Taikai Hokoku Shiryo, Fukuoka, 1977, pp. 63-73.
- Yasuoka Akio, 'Bakumatsu Meiji Shoki no Nichiro Ryodo Mondai to Eikoku' (British Attitudes towards the Sakhalin Question between Japan and Russia, 1854-1875), in Nihon Kokusai Seiji Gakkai ed., Nichiei Kankei no Shiteki Tenkai (Studies on the Diplomatic History of Anglo-Japanese Relations), Special Issue of Kokusai Seiji, No. 58, 1978, pp. 1-14.
- Yokohama-shi ed., Yokohama-shi Shi (The History of the City of Yokohama), Vols. 2, 3 (Pts. I, II), 4 (Pts. I, II), 5 (Pt. I); Shiryo Hen (Volumes on Documents), Vols. 1, 2 (Nihon Boeki Tokei), 4, 7-15, Yokohama: Yurin-do, 1959-1975.
- Yokohama Shiyakusho, Yokohama-shi Shi Ko (Draft History of the City of Yokohama), Sangyo Hen (Volume on Industry), Yokohama, 1932.
- Yokohama Shogyo Kaigi-sho ed., Yokohama Kaiko Goju-nen Shi (A History of the Fifty Years since the Opening of Yokohama), 2 vols., Yokohama, 1909.
- Yoshino Sakuzo ed., Meiji Bunka Zenshu (Readings in the Culture of Meiji Japan), Vols. 9, 21, 22, Tokyo: Nihon Hyoron-sha, 1929.
- Yukizawa Kenzo and Maeda Shozo, Nihon Boeki no Choki Tokei (Long-Term Statistics of Japan's Foreign Trade), Kyoto: Doho-sha, 1978.