

# INDUSTRIAL GROWTH AND TRADE POLICY IN PREWAR JAPAN

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## I. INTRODUCTION

JAPAN'S GROSS domestic product grew at an average 3.9 per cent per annum during half century prior to World War II, and it was the rapid expansion of manufacturing output (5.9 per cent per annum) that led aggregate economic growth. Industrialization was the proper choice for development of Japan which was endowed with few natural resources and a large labor force. A natural consequence of factor endowments is that Japan's industrialization was closely related to development of foreign trade. For the first two decades after beginning foreign trade in 1859, Japan traded raw silk and other specialty articles for manufactured consumer goods such as cotton and woolen textiles, but gradually shifted to a trade pattern in which raw materials were imported in exchange for processed exports.

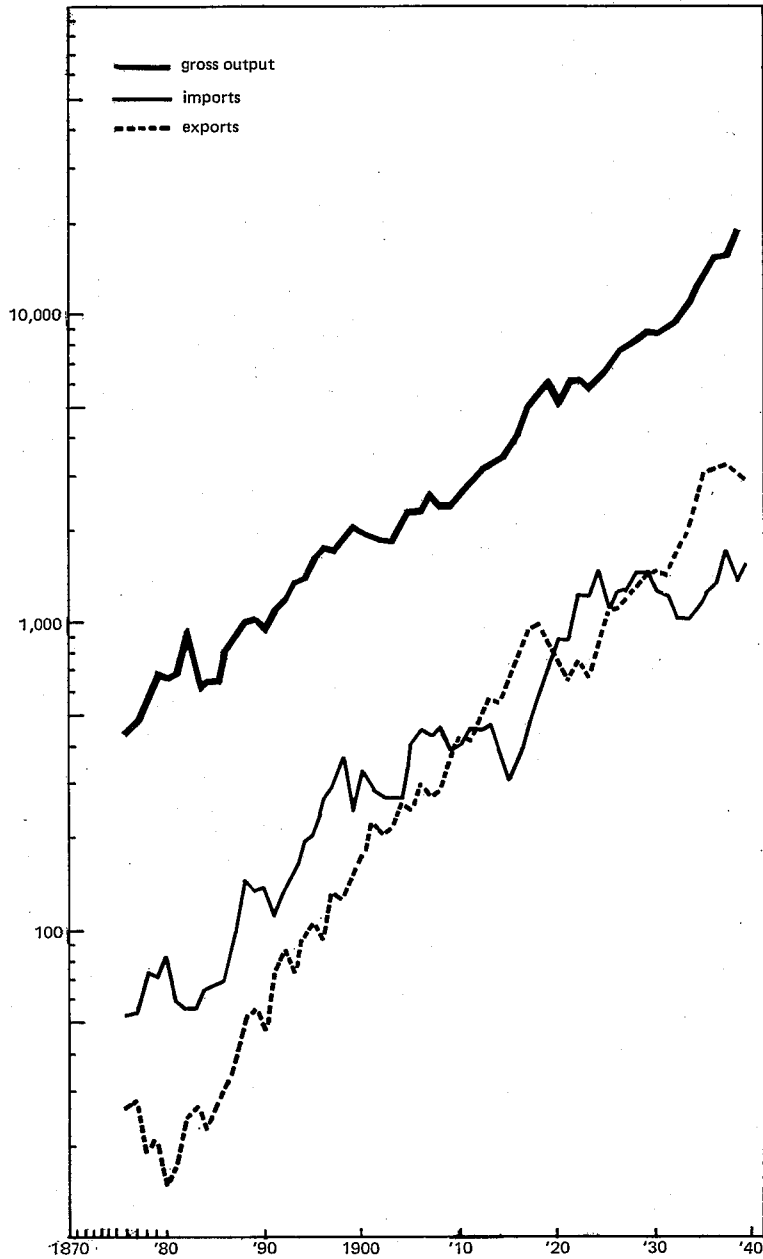
Thus successful import substitution and export promotion were needed to accompany industrial growth. Figure 1 shows Japan's manufacturing production growth (including intermediate products) and imports and exports of manufactures (including trade between Japan and the prewar colonies of Taiwan and Korea). Imports of manufactured goods grew more rapidly than gross output of manufactures before 1900 but import growth rate slowed afterwards. Manufactured goods exports grew more rapidly than both imports and gross output throughout the whole period. The export growth rate was 7.6 per cent per year for the 1890-1940 period. Exports have exceeded imports since the mid-1920s and were ten times greater in 1965.

The output expansion that accompanied successful import substitution and export promotion was not made at the same time in all manufacturing industries. Production of cotton textiles, matches, and other miscellaneous labor-intensive articles was already taking place in the 1880s. By the turn of the century, after these articles were substituted for imports, they were exported. Production of iron and steel began in 1901. Domestic output has exceeded imports of iron and steel since 1923 and exports have been greater since 1932. Machinery and

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The original research was carried out as a part of Professors Bhagwati and Krueger's NBER project on industrialization policies in less developed countries. The author is indebted to Professor Kazushi Ohkawa for encouraging him to take up this study. An analysis of Japan's trade policy in the post-World War II period will follow.

Fig. 1. Gross Output, Exports, and Imports of Manufactures  
(Million yen at 1934-36 price)

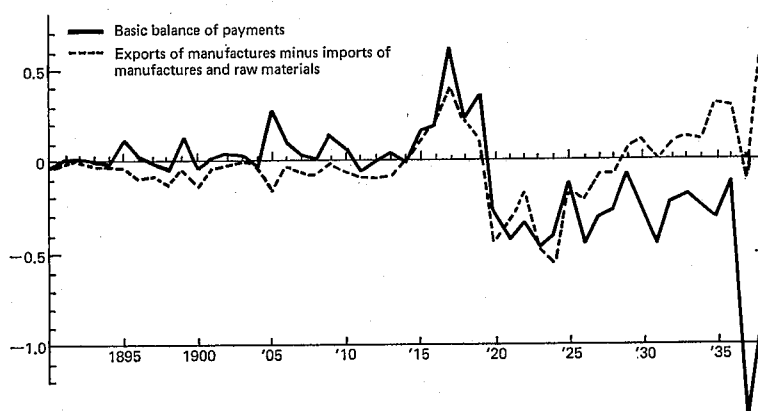


Note: Before World War II figures of output represent those of Japan proper and exports and imports in Figure 1 and trade balance in Figure 2 include trade between Japan proper on one hand and Taiwan and Korea on the other. For more details on figures and sources see [8].

chemical industries developed at about the same pace as the iron and steel industry. Full import substitution was almost completed by these industries before World War II. Exports of these commodities were confined primarily to Japan's sphere of influence (Taiwan, Korea, Manchuria, and Kwantung Province in China). Only after World War II were they exported to world markets at competitive prices.

The process of Japan's industrial growth was always under a balance of payment constraint. Figure 2 depicts the situation of Japan's balance of payments for the period before World War II. The dotted line shows the balance between exports of manufactures and imports of manufactures and raw materials, the balance of trade directly related to Japan's industrial growth. Balance of payment deficit continued for the first half of the period and, apart from the extraordinary export boom and set-back during and after World War I, made steady improvement in the late-1920s and 1930s. No doubt it was this balance of payment deficit in the early years of Japan's industrialization that made import substitution of manufactures one of the main aims of Japan's foreign trade policy.

Fig. 2. Japan's Balance of Payments: 1890-1938  
(Billion yen)



Source: See Figure 1.

The most important thing we have to examine is the role played by central government in industrial growth. What policies were taken to protect and promote industrial growth? Import duties were fixed at a less than 5 per cent ad valorem equivalent rate by 1899 and were raised afterwards. But what were the basic principles of government tariff policy and how did the tariff structure change? The main purpose here is to explain the institutional aspects of tariff policy and compile quantitative data on the tariff structure during the period of 1890-1940.<sup>1</sup>

<sup>1</sup> Professor Lockwood appraised the role of tariff protection during this period. "On bal-

Non-tariff protection policies such as import quotas, production subsidies, government purchases, and export promotion cannot be neglected in our discussion but the lack of reliable data prevents us from giving more than a brief comment.

## II. HISTORY OF TARIFF PROTECTION

The tariff treaty with foreign powers in 1866 established initial conditions for development of Japan's industry and trade. It limited Japanese import and export duties unilaterally to as a low rate as 5 per cent for specific duties (ad valorem equivalent) on most commodities. Except for foodstuffs, grains, and coal, most raw materials for industrial production were not exempted from those duties. The ad valorem equivalent rate of these duties declined to 2 or 2.5 per cent due to inflation in the first two decades of the Meiji era.

After continued efforts to revise the treaty, Japan resumed tariff autonomy in 1899. The Tariff Law was established in March 1897, and went into effect in January 1899. General revision of the Tariff Law was made in 1906, 1911, 1926, and 1932 but partial revision were made almost every year. On the other hand, the tariff treaty with the United Kingdom and other foreign powers in 1866 restricted tariffs on their products to such low levels as 5 to 15 per cent. These conventional tariffs were levied on 40 per cent of all dutiable imports and they were maintained until the complete resumption of tariff autonomy in 1911. With a 35 per cent devaluation of the yen in 1932 all specific duty items were levied as import surcharges of the same percentage value.

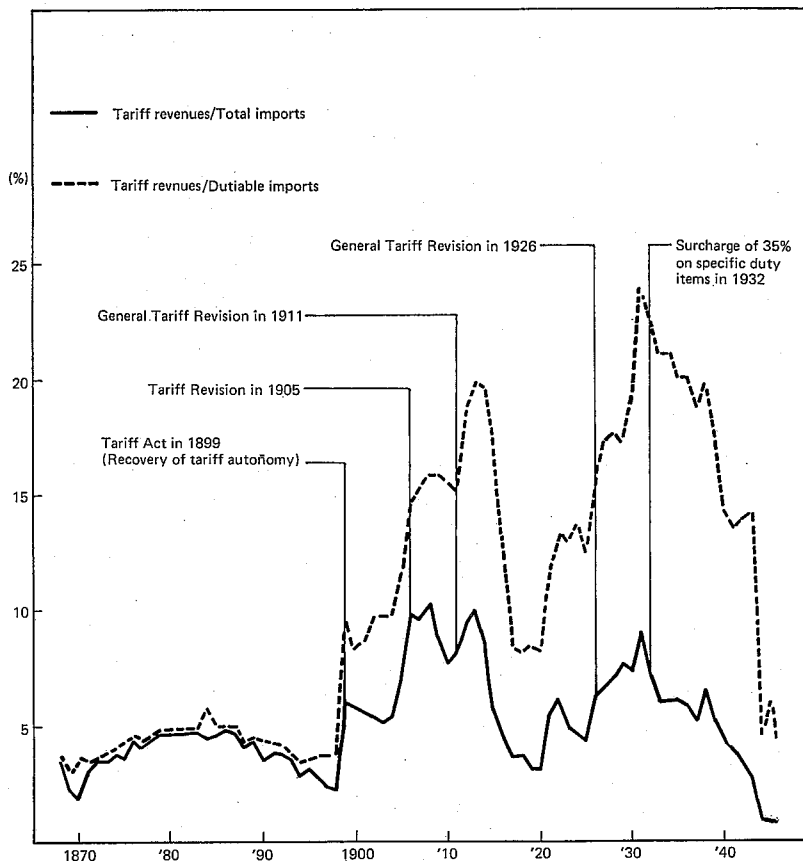
Besides the Tariff Law and conventional tariffs there was a third category—special tariffs. Complete and partial exemption of tariffs on daily necessities at the time of the Great Earthquake of 1923 and those on rice and wheat in bad crop years are good examples of this category. They were intended to be temporary at the outset, but quite a few remained long enough to be incorporated in the tariff schedule. Under the First and Second Emergency Special Tariffs enacted in 1904 and 1905 to finance the Russo-Japanese War, 5 to 20 per cent surcharges were levied on almost all imports except those under conventional tariffs. This tended to be maintained thereafter. The 100 per cent duties on luxury merchandise consisting of 147 items in 1924 were enforced primarily for balance of payment purposes but were incorporated into the tariff schedule of 1926 and continued in effect until World War II.

Figure 3 shows changes in the average rates of tariffs which are defined as the ratio of total tariff revenues to either the value of total imports or that of

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ance there can be little doubt that protection in home and colonial markets helped to extend the range and diversity of Japanese manufacturing. The older industries—silk and cotton textiles, and small scale consumer trades in great variety—needed little shelter from foreign competition over and above that provided by cultural differences and transport costs. But many newer industries requiring radical departures from traditional techniques and a large market for economical operation certainly benefited from tariff assistance, at least for a period of years" [6, p. 544].

Fig. 3. Average Tariffs Collected: 1868-1945



Source: Appendix Table I.

dutiable imports. Average tariff rates remained low until 1899, and then increased and, except for the fall during and after World War I, they continued their upward trend until the early 1930s. This tendency was not so clearly seen in changes of the average tariffs on total imports as in those on dutiable imports. The fall during the World War I period reflects the decrease in effective ad valorem equivalent rates of specific duties during inflation. Since the late 1930s average tariffs were pushed downward partly because of enlarged tariff exemptions for important heavy manufactures and partly because of the shrinkage of Japan's import trade from outside of the trade blocs.

The increase in average rate of tariffs was accompanied by an increasing degree of differentiation among commodities or commodity groups from 1900 to 1940. This is easily seen in the widening gap between average tariffs on total imports and on dutiable imports after 1899. The share of the value of dutiable imports as part of total imports declined rapidly from a high level of 95 per cent before 1890 to 30 per cent in 1940. This was partly due to the increasing share of

raw material imports, which were subject at first to the same degree of tariffs as manufactures but became exempted from duty since the late 1890s. Tariff differentiation implies a deliberate policy of industrial protection. Unless policy makers aimed at complete self-sufficiency in the Japanese economy, they would not levy high tariffs uniformly on all imports. The protection of an industry becomes effective only at the cost of all other manufacturing and non-manufacturing industries.

Industrial protection is not the only argument for tariffs. For the earlier period after the Meiji Restoration, tariff revenue was the main concern of tariff policy. During that period Japan imposed 5 per cent duties on most exports and the revenue from export duties was on average two-thirds of import duties. Irrationality of export duties had long been shown and the movement for abolition spread nation-wide in the early 1890s, but duties on such major exports as raw silk and tea were maintained until 1899 when under tariff autonomy import duties were raised and yielded a larger revenue.

In spite of the fact that the main source of government revenue in Japan in this period was land taxes and, as is seen in Appendix Table I, tariff revenue was at most 5–10 per cent of total government revenue, undoubtedly tariff revenue was the main purpose of tariff imposition at least for the earlier period. However, as industry grew, industrial protection began to take place of revenue purpose. Both the Special Emergency Tariffs (1904–1905) and the Luxury Tariffs (1924) were originally motivated by the increase in tariff revenue but they made peculiar marks in the history of Japan's tariff protection.

Tariff imposition was made selective to protect domestic industries throughout this period. Appendix Table I also shows changes in average rates of tariffs on manufactures, raw materials, and foodstuffs (each of which includes duty-free items). Average tariffs on manufactures followed a pattern similar to that of dutiable imports in Figure 3 and will be analyzed in greater detail in following sections. Average tariffs on raw materials were at the same level as those of manufactures until the early 1890s but tended to lower as individual important raw materials were exempted from duty one by one: ginned cotton in 1896, iron ore in 1901, and so on. The number of duty-free raw material items was increased from forty-nine to eighty-nine by the general revision of 1906.

The abolition of import duties on raw cotton marked Japan's step toward import dependence on raw materials. At first the Meiji government encouraged home cultivation of cotton in its pursuit of import substitution of cotton textiles. But Japanese cotton was not fit for spinning fine thread and the growing domestic production of cotton textiles was accompanied by increasing imports of cotton yarn in the early 1890s. The abolition of cotton duties reflected the change in governmental policy into import substitution of cotton yarn depending on imported raw cotton of fine quality. At the same time export duty on cotton yarn was also abolished, although there was little export then. The abolition of both duties greatly encouraged domestic spinning of imported raw cotton and export of cotton yarn exceeded import in a few years, whereas domestic cultivation of raw cotton not only for market but also for home consumption decreased rapidly after 1896.

It is interesting to note the changes in tariffs on agricultural products from the protection point of view.<sup>2</sup> Tariffs on agricultural products were originally intended to balance emergency surcharges on the land tax during the Russo-Japanese War; rice had been exempted from duty until 1905 when a 15 per cent duty was levied; duties on wheat and barley were raised from 5 to 15 per cent. These agricultural tariffs remained after the Emergency Surcharges were abolished and they were incorporated into the tariff schedule in 1906.

These tariffs initiated agricultural protection in Japan. The duty on wheat was raised further to 20 per cent in 1911. The duty on rice, on the other hand, provoked a public controversy on agricultural protection between landowners and manufacturers. In 1913 the controversy was finally concluded in the Diet by compromising tariffs such as a specific duty of one yen per 60 kg (ad valorem equivalent was 23 per cent of average import prices in 1910-12) on imports of rice from outside the Empire coupled with exemption from duty for rice imports from Taiwan and Korea. Contrary to the British "Corn Laws" debate, the Japanese version resulted in the self-sufficiency of rice within the Japanese Empire as a whole.<sup>3</sup> After all agricultural protection resulted in the encouragement of colonial agriculture and, through cheaper rice and lower wages, added to industrial protection of Japan.<sup>4</sup>

The volatile movement of average tariffs on foodstuffs in the 1910s was largely affected by tariffs on sugar imports. Duties on refined sugar continued to be as low as 10 per cent under the treaty until 1911 when they were raised to a 50-60 per cent ad valorem equivalent. Under tariff protection, sugar production in Taiwan could be developed rapidly to take place of imported sugar from outside the Empire.

It should be emphasized that the time trend changes in Japan's tariff policy

<sup>2</sup> Readers should be careful in examining tariff figures on rice and sugar whose imports into Japan were largely supplied by Korean and Taiwanese producers in the 1920s and 1930s as shown below. Tariff figures for these commodities in Appendix Table II apply only to imports from outside the Japanese Empire.

RICE AND SUGAR IMPORTS OF JAPAN PROPER: 1898-1933								(%)
	1898	1903	1908	1913	1918	1924	1928	1933
Rice and paddy:								
from outside the Empire	97.7	91.4	69.1	63.3	52.4	25.1	16.9	5.0
from Korea				14.9	33.1	57.8	56.4	66.7
from Taiwan				2.3	8.6	30.9	21.8	14.5
Sugar:								
from outside the Empire	94.7	87.2	67.5	70.4	38.0	34.1	34.7	9.7
from Taiwan	5.3	12.8	32.5	29.6	62.0	65.9	65.3	90.3

Note: Imports of sugar from Korea were small, almost negligible.

Sources: Ministry of Finance, *Dainihon gaikoku bōeki nempyō, 1898-1933* [Annual return of the foreign trade of the empire of Japan: the customs]; Government of Taiwan, *Taiwan bōeki nempyō, 1898-1933* [Annual return of the trade of Taiwan]; Government General of Chōsen, *Chōsen bōeki nempyō, 1898-1933* [Chōsen: table of trade and shipping].

were not free from the world-wide waves of free trade movement and protectionism. Initially, free trade was forced on Japan in the midst of the free trade movement initiated by the 1860 Cobden-Chevalier Treaty between Great Britain and France. The trend reversed toward protectionism from the late 1870s to World War I during which time Japan resumed tariff autonomy and began to raise tariff barriers. When protection was strengthened further in the post-World War I years and escalated to autarky within each trade bloc in the world-wide tariff war of the 1930s Japan had the highest level of tariff protection.<sup>5</sup>

### III. INDUSTRIAL PROTECTION BY TARIFFS: INSTITUTIONAL ANALYSIS

In the preceding section the hypothesis was suggested that Japan's tariff imposition became selective aiming mainly toward industrial protection. More evidence should be given for this hypothesis, and the structure of tariff protection for manufactures during the period 1890-1940 will be analyzed in detail in this and the next section. The main thing here is to examine the changes in tariff structure in response to the progress of industrialization. There are two approaches in analyzing this problem. One is to detail such institutional facts as the principle of tariff imposition and nominal structure of the tariff schedule. The other is to compile tariff data on individual principal commodities and analyze quantitatively the changes over time in tariff protection for manufactures. The two are complementary and the former will be examined in this section and the latter in the next section.

#### A. *Principles for Tariff Policy*

We can find good evidence for industrial protection by selective tariffs in the report of the committee for tariff study made at each general tariff revision. The tariff report at the general tariff revision in 1911 proposed the principle that tariffs should be levied principally for revenue purposes and industrial protection should be given secondary consideration in the establishment of tariffs. But this principle seems to show the fact that the government did not want to appear to be protectionistic and in effect industrial protection dominated the structure of the tariff schedule. Two special tariffs for Emergency Surcharges in 1904-1905 and Luxury Duties in 1924 were motivated by revenue purposes but the former began agricultural protection and the latter incorporated prohibitive tariffs on consumer goods imports of foreign origin into the general tariff schedule.

After World War I and during the early 1920s, special tariffs were effected for the protection of individual industries on various occasions. There were

<sup>3</sup> For more details on this debate, see [4].

<sup>4</sup> For the role of cheap supply of colonial rice in Japan's industrial development, see [7, Chap. 10].

<sup>5</sup> See [3].



tariff increases for iron and steel products, synthetic dyestuffs, and other chemical products. All of these industries started or developed rapidly during World War I and demanded tariff protection on being confronted with revived foreign competition. There was still strong enthusiasm for industrialization after World War I and extreme autarky prevailed to the extent that it was believed that all existing manufacturing industries should be maintained at any cost.

The report of the tariff committee (October 1921) established in preparation for general tariff revision of 1926 explicitly proposed that industrial protection be the principle of tariff policy. General criteria for tariff imposition were described in the report, which are as follows.

1. *Criteria from protective point of view*

(1) Tariff protection should be confined to such industries as (a) important industries which have not started yet but have prospects for development, (b) important industries which have already started but not fully developed and have prospects for further development, and (c) important industries which have already fully developed but need to be maintained in the future.

(2) Rates for protective tariffs should not exceed those under which domestic products can just meet fair competition with foreign products in the domestic market.

(3) Natural products and industrial materials which are either not produced domestically or domestically produced but without any prospect for future increase should be, in principle, exempted from duties.

(4) Higher tariffs should be levied on semi-manufactures than on raw materials, and even higher tariffs on finished than on semi-finished products.

2. *Criteria from revenue point of view*

(1) Revenue tariffs should be limited to such imports which yield tariff revenue, and their rates should not be high enough to reduce the value of imports.

(2) For revenue tariffs the highest rates should be levied on luxury consumption goods and lower rates on other goods according to their needs in the national welfare.

3. *Exceptions from the preceding rules*

(1) Daily necessities, especially foodstuffs, should be either exempted from duty or given the lowest possible rates.

(2) High protective tariffs should be levied on commodities for military use with future prospects for domestic development but should be abolished for those not having such prospect.

(3) Free or lowest possible rates should be given to commodities for cultural, educational, and sanitary purposes.

These criteria are rational and could have been easily extended to all-round protection as was partly realized in the series of tariff revisions in the 1920s. Newly developed heavy manufactures were given higher tariff protection under

this general tariff revision. This was followed by tariffs on sugar and starch in 1927, lumber in 1929, artificial silk in 1931, and increases for pig-iron and other heavy manufactures in 1932. Another general tariff revision was planned in 1936 to give additional protection to new industries but it resulted in an increase for several commodities including automobiles and petroleum in 1937.

There were strong objections raised by free traders to this increasing tendency towards protectionism. They argued against all-round protectionism and contended that protection should be confined to fewer promising industries and that those industries under protection should be surveyed for achievement. Abolition of tariff protection for fully developed industries was also demanded but the attempt failed in most cases as clearly evidenced in the case of the abolition movement for the duty on cotton yarn. There was no import of cotton yarn at the time but 5 per cent duties were continued. Cotton weavers and hosiers, typically small and medium sized firms, pleaded for the abolition of cotton yarn duty both publicly and in the Diet (1925) to increase the pressure from Chinese cotton yarn which became increasingly competitive as a result of the silver depreciation. But cotton spinners, several big firms, succeeded in maintaining it until 1930 when it was finally lowered to 3.3 per cent.

#### B. *Disaggregation in the General Tariff Schedule*

The degree of commodity classification in the general tariff schedule provides more evidence for tariff differentiation. The tariff schedule effected in 1899 included only 532 classes and was rearranged in the general tariff revision of 1906 into the standard commodity classification of nineteen categories, 538 classes, and 819 items, which lasted until the shift to the BTN system in 1961. The tariff schedule was disaggregated further into 1,599 items in 1911 and 1,699 items in 1926. The disaggregation of the commodity classification reflected the emergence of new industries and commodities in foreign trade but was also needed for deliberate protection of domestic industries.

#### C. *Escalated Tariff Structure*

The first tariff schedule of 1899 set up nine classes of tariff rates at 5 per cent intervals from zero to 40 per cent. Individual commodities were assigned one of these rates according to the rule of raising the rates for higher stages of processing. That is, 0-5 per cent was levied on raw materials, 10 per cent on semi-manufactures, 15-20 per cent on finished manufactures, and more than 25 per cent on luxury goods. The escalation in tariff structure became steeper in the schedule of 1906. Raw materials were assigned tariffs of 0-5 per cent, finished manufactures 30-40 per cent, and luxury goods 50-60 per cent. In the tariff schedule of 1911 and 1926 commodities were differentiated, within the same structure of escalation, by such factors as the need for protection for import-competing products, the future prospects for domestic production, the effects on export competitiveness (in case of materials used in export industries), and so on. The effective rates of protection produced by this escalated structure differed

from the nominal structure of tariffs and we can conclude that this escalated structure of nominal tariffs gave higher effective protection to manufacturing than they appeared to.

#### D. *Ad Valorem vs. Specific Duties*

The Tariff Law of 1899 principally adopted ad valorem duties but for administrative convenience it set up specific duty rates using average import prices for the preceding six months. The Tariff Law of 1906 set up principal rates as either ad valorem rates or specific rates by commodities and afterwards an increased proportion of imports were made subject to specific duties. The ad valorem equivalent of specific duties declined during the period of increasing import prices before 1920, and were revised upward several times. Especially, during World War I the rapid rise of import prices lowered ad valorem equivalents to such low levels (a few per cent) that tariffs were raised back to old levels by changing many specific duties to ad valorem rates in 1921. (Most were returned to specific duties again in the general revision of 1926.)

The ad valorem equivalent of specific duties increased in the 1920s with decreasing import prices, but they were seldom revised downward. In June 1932, specific duties were raised uniformly by 35 per cent so as to adjust to the exchange depreciation. It was alleged that the adjustment was needed to maintain the ad valorem equivalent of specific duties against the increased yen prices of imports resulting from a 35 per cent increase in yen price of the dollar (in early 1932). However, since yen prices for many imports were raised by less than this percentage and exchange depreciation by itself has the combined effect of import tariff and export subsidy, this uniform adjustment of specific duties gave double protection to domestic producers.

#### E. *Other Aspects of Tariff Policy*

Besides the increased industrial protection seen in the tariff schedule, supplementary tariff policies were provided by the tariff laws in 1906. Export duties had already been abolished by 1899 as mentioned in Section II. On one hand, three specific purpose tariffs: countervailing tariffs, retaliatory tariffs, and anti-dumping tariffs were effected. They were established to safeguard domestic production against "unfair competition" by foreign exporters but were seldom enforced before the 1930s. In the world-wide trend toward industrial protection in the 1930s they were strengthened into the Trade Protection Law in 1934, under which a retaliatory levy of a 50 per cent surcharge on all imports from Canada and Australia was enforced in retaliation against the discriminatory tariff on Japanese merchandise by those two countries. Both were abolished in six months by new trade agreements with the two nations. On the other hand, exemption and payback rules were established for materials used in export industries.

Temporary Storage Yard Law was enacted in 1900 under which materials were exempted from import duties provided that they were simply processed for re-export in particular permitted areas called the "temporary storage yard." In

order to promote processing re-exports further, domestically produced materials were permitted processing in 1912. In the early 1920s the free port argument was predominant in business circles and discussed in the Diet in 1925. The government responded in 1927 by enacting the Tariff Factory Law under which temporary storage yards were changed into tariff factories and improvement was made including simplification of procedures and extension of the storage period from six months to one year so that the number of tariff factories increased in the late 1920s.

#### IV. INDUSTRIAL PROTECTION BY TARIFF: QUANTITATIVE ANALYSIS

In Section II, the trend of tariffs was analyzed in terms of average tariffs on total imports or those on large commodity groups such as manufactures, food-stuffs, and raw materials. But in order to depict the pattern of industrial protection by tariffs we should look not so much at the average level of tariffs but rather at their upward or downward deviations from the average, that is, the structure of individual tariffs. For that purpose data is needed on individual tariffs throughout the period. Therefore tariff data has been compiled for sixty-one principal commodities at five-year intervals from 1893 to 1938. A quantitative study of the tariff structure can then be made on the basis of this data.

Let us begin with an explanation of the main features of this data. Its original source is the "Quantity and value of merchandise imported by each port," in *Dainihon gaikoku bōeki nempyō* [Annual foreign trade of the Japanese Empire], published by the Ministry of Finance. In the original data the value was recorded for every individual commodity imported into each of Japan's main ports, from outside the Japanese Empire, coupled with tariff duties collected on the commodity at port. Both values of imports and tariffs collected on each commodity are summed up for all ports and the rate of tariff burden, that is, the ratio of tariffs to values of imports, is calculated. The rate of tariff burden is called the rate of tariff.

Each of the sixty-one commodities does not correspond to each category of commodity classification in the original statistics. The commodity classification was disaggregated further in later years and sums of the sixty-one commodities in terms of the share of import value in total imports is between 60 and 70 per cent. They are divided into six to eight groups by industry and by economic use (or stages of processing) and the tariffs on each groups are compared with each other in order to derive some facts in the structure of tariff protection.

A well-known fact is that the rate of tariff burden is liable to underestimate the import restricting effect of tariffs. That is, the rate of tariff burden calculated for an aggregated commodity group such as total commodity or manufactures in Section II reduces to an arithmetic mean of tariffs collected on individual commodities in the group weighted by value of imports. Higher tariffs on individual commodities tend to restrict import and lower the weighted arithmetic mean of tariffs. Our data for tariffs on individual commodities, however, is

fairly free from this bias. Further, simple arithmetic means are calculated as average tariffs for groups classified by industry and economic use in order to evade this bias. Considering the following difficulties pertaining to nominal tariffs (tariffs listed in the tariff schedule), the rate of tariff burden is the only feasible figure for the rate of tariffs.

(1) Besides general tariff revision, nominal tariffs were changed partly almost every year (including special tariffs), and they were subject to conventional tariffs or complete or partial exemptions. It requires much time to find an effective rate of nominal tariffs on each of the sixty-one commodities through the period.

(2) Quite a few commodities were subject to specific duties and it is time consuming to find reliable levels of import prices to derive ad valorem equivalents.

Tariff rates are calculated for approximate ten year periods of 1893, 1898, 1903, 1908, 1913, 1918, 1924, 1928, 1933, and 1938 (see Figure 3). Original import data for 1922 and 1923 are not complete for the Port of Yokohama due to the Great Earthquake of 1923. Thus, 1924 was selected instead of 1923. It is also worthwhile to note that the import of daily necessities were exempted from duty in March 1924, which tends to lower the rates for 1924. On the other hand, the publication of import statistics of important commodities was stopped for security purposes in 1937 and coverage of our sample declined to 30 per cent in 1938. The rates of tariff burden of sixty-one individual commodities are shown in Appendix Table II. Tariff figures for group classified by industry and by economic use are summarized in Tables II-III.

One problem here is to give empirical support to the hypothesis of differentiated tariff structure and to depict the principle of tariff differentiation. Table I summarizes changes in average tariffs (both simple and weighted arithmetic means) of the sixty-one commodities. The simple mean increased after 1898 and, except for the fall in 1918 and 1924, continued to increase until World War II. The arithmetic mean weighted by import values of individual commodities, however, increased until 1913 and tended to decline in the 1920s

TABLE I  
ARITHMETIC MEANS AND STANDARD DEVIATIONS OF 61 TARIFFS

	Simple Arithmetic Means	Weighted Arithmetic Means	Standard Deviations Around Simple Means
1893	3.9	3.4	1.7
1898	3.7	1.7	1.8
1903	9.9	3.3	7.0
1908	16.2	9.9	16.7
1913	19.8	9.7	15.8
1918	10.7	3.5	10.9
1924	10.9	3.1	12.5
1928	22.6	6.2	22.9
1933	23.8	5.7	22.8
1938	29.2	1.2	45.0

Source: Appendix Table II.

TABLE II  
SIMPLE AVERAGE TARIFFS ON INDIVIDUAL COMMODITY GROUPS  
(Classified by Industry)

No.	Year									
	1893	1898	1903	1908	1913	1918	1924	1928	1933	1938
A Agricultural products	2.52	2.49	8.57	20.61	19.99	14.39	8.63	14.37	23.08	24.24
C Raw materials	3.96	2.79	5.66	8.73	6.42	3.34	1.77	4.01	7.63	4.16
S Primary Products (A+C)	3.43	2.68	6.63	12.69	10.94	7.02	4.06	7.46	12.78	12.19
B Manufactured foodstuffs	3.22	3.36	12.61	35.89	42.67	24.44	19.02	47.37	50.55	58.31
D Textile manufactures	3.20	2.84	12.43	14.86	20.68	9.55	11.85	26.31	25.54	39.17
E Other light manufactures	4.71	4.62	11.86	16.21	21.11	11.71	10.33	20.97	19.15	18.00
Q Light manufactures (B+D+E)	3.78	3.69	12.24	20.87	26.13	13.99	13.07	29.35	29.13	34.96
F Chemical products	4.63	4.75	6.29	6.51	13.50	4.13	17.15	32.63	28.43	47.15
G Metals and metal products	4.17	3.83	9.83	12.06	15.31	6.30	3.74	17.19	17.99	21.45
H Machineries	4.20	4.24	12.59	24.33	25.45	18.25	17.34	22.38	26.94	19.46
R Heavy manufactures (F+G+H)	4.32	4.24	9.32	13.33	17.66	9.06	12.34	23.47	23.89	31.75
T Total	3.91	3.71	9.88	16.19	19.81	10.68	10.93	22.60	23.76	29.16

Source: Appendix Table II.

Note: Simple arithmetic means of individual tariffs belonging to each group. Commodities not imported are excluded from calculation.

TABLE III  
SIMPLE AVERAGE TARIFFS ON INDIVIDUAL COMMODITY GROUPS  
(Classified by Economic Use)

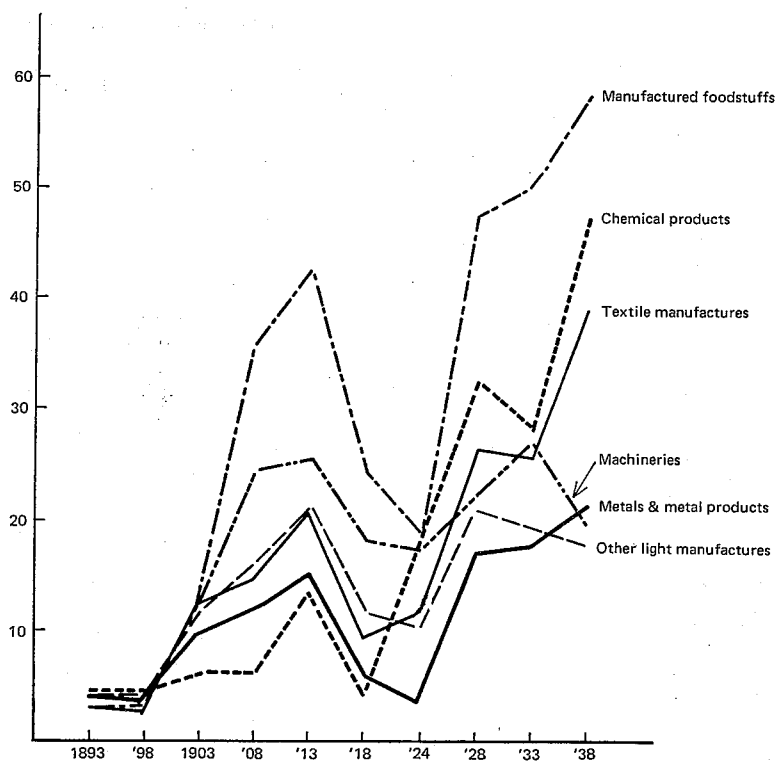
No.	Year									
	1893	1898	1903	1908	1913	1918	1924	1928	1933	1938
A+B Foodstuff	2.91	2.97	10.81	29.78	33.60	20.42	14.86	34.17	39.56	44.69
C Raw materials	3.96	2.79	5.66	8.73	6.42	3.34	1.77	4.01	7.63	4.16
I Intermediate goods 1-L	4.04	3.45	6.60	4.07	12.25	5.74	6.80	13.60	16.48	9.54
J Intermediate goods 1-H	4.84	4.44	3.72	3.84	6.41	2.84	13.92	14.68	15.02	13.99
O Intermediate goods 1 (I+J)	4.49	3.95	5.16	3.96	9.60	4.42	10.04	14.09	15.82	10.65
K Intermediate goods 2-L	4.24	4.17	10.59	8.10	18.11	7.67	6.14	15.27	11.05	6.75
L Intermediate goods 2-H	4.04	4.03	8.88	9.42	16.21	3.44	7.08	19.88	17.29	15.97
P Intermediate goods 2 (K+L)	4.14	4.09	9.56	8.89	16.97	5.13	6.67	17.90	14.61	10.85
M Capital goods	3.67	3.86	8.75	13.75	17.33	6.98	10.60	14.27	16.89	7.27
N Consumer goods	4.04	4.12	17.31	31.21	30.12	20.55	20.43	41.43	41.59	63.10
T Total	3.91	3.71	9.88	16.19	19.81	10.68	10.93	22.60	23.76	29.16

Source: See Appendix Table II.

and 1930s. This is partly because the imports of free-of-duty or low duty items (such as raw materials) increased their shares but it also reflects underestimation due to the restricting effect of higher tariffs. On the other hand, the standard deviation of tariffs of the sixty-one commodities increased from low levels before 1900 up to World War I and despite the drops in 1918 and 1924 continued to increase until World War II. This evidence is consistent with the hypothesis of selective structure of tariffs mentioned above.

In what way was the tariff structure differentiated throughout the period? The sample commodities are classified into several groups by industry and by economic use respectively and changes in average tariffs for each group can be examined (see Tables II and III). To begin with, let us have a look at changes in average tariffs for four broad groups, agricultural products, other raw materials, light manufactures, and heavy manufactures. The average tariffs of the four groups remained at almost the same level until 1898 but tended to diverge after 1903. The rates of both light and heavy manufactures followed a pattern similar to the total average in Table I but the rate for light manufactures exceed that for heavy manufactures throughout the period. On the other hand the rate for agricultural products increased, keeping pace with that of light manu-

Fig. 4. Average Tariffs on Commodity Groups Classified by Industry

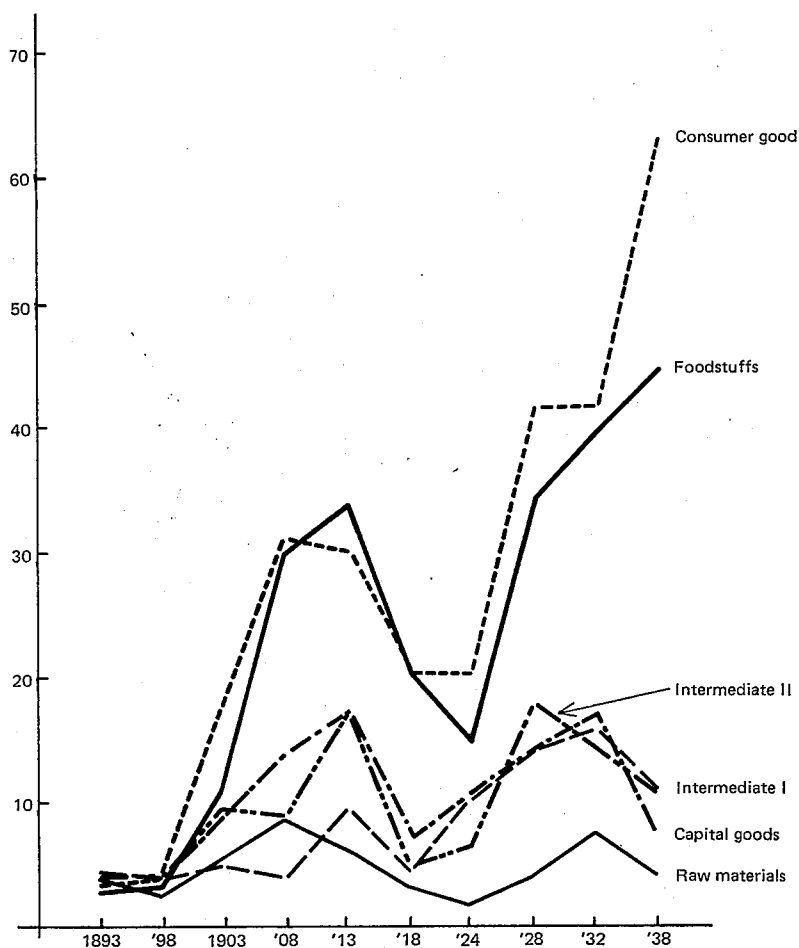


Source: Table II.

factures until 1913, but its rate of increase slowed down and fell short of that of heavy manufactures after the 1920s. The rate for raw materials fluctuated between 2 and 8 per cent. (This fluctuation of average rates of raw materials seems to be dominated by changes in tariffs on mineral oils.)

Let us disaggregate light and heavy manufactures (see Figure 4). The rates of tariff on manufactured foodstuffs increased earlier and remained at a higher level than of any other group. Textiles kept pace with other light manufactures until 1924 but exceeded the latter after 1928. On the other hand, the rates for heavy metals and chemicals in heavy manufactures lagged behind other groups but after 1924 the rate for heavy metals and chemicals increased so rapidly as to exceed that for textiles. Average tariffs on machinery were raised relatively earlier but remained at 20–25 per cent and were caught up by the rate for metals

Fig. 5. Average Tariffs on Commodity Groups Classified by Economic Use



Source: Table III.



in the 1930s. In Figure 4, we cannot discern any clear principle for tariff differentiation.<sup>6</sup>

On the contrary the average tariffs of groups classified by economic use showed a clearer pattern of differentiated structure (see Figure 5). Both consumer goods (excluding foodstuffs) and foodstuffs increased earlier than any other groups and maintained the highest level throughout the period. Raw materials constituted the group with the lowest percentage of between two and eight points. Intermediate goods I and II and capital goods did not show any rapid increase and stayed at 17 per cent. This shows a structure of tariffs escalated and is clearer than tariff differentiation by industry.

The obscure relationship between light and heavy manufactures depicted in Table II and Figure 4 can be attributed to tariff differentiation by economic use that was incorporated into differentiation by industry. A large part of the rapid increase in average tariffs on chemicals and textiles after the late 1920s resulted from the increase of tariffs on individual commodities in the consumer goods category within the two groups. We may conclude that the basic structure of differentiation was the escalation of tariffs according to economic use (or stages of processing) of individual commodities.<sup>7</sup>

## V. INDUSTRIAL PROTECTION POLICIES OTHER THAN TARIFF POLICY

Tariffs were a main policy instrument for industrial protection used by the Japanese government before World War II (especially after tariff independence). The preceding three sections were devoted to the analysis of tariffs. But the government had to resort to policies other than tariffs such as quantitative import restrictions, production subsidies, and other direct and indirect government aids to industrial development. It is difficult to quantify the magnitude of these policies but they cannot be neglected for our discussion of industrial protection. In this section we will give a brief comment on each.

### A. *Quantitative Restriction on Imports*

The import approval system was first introduced for rice under the Rice Law (1921) empowering the government to adjust the supply of this grain in the market. It was also applied only temporarily for synthetic dyestuffs and ammonium sulfate in special occasions (the former in 1924 being confronted with German dumping and the latter in 1931 after the breakdown of the international cartel).

<sup>6</sup> Protective effects of tariffs on domestic manufacturing activities are properly measured not in terms of nominal rates but in terms of their effective protective rates, which are, however, not available for the prewar period because of the lack of systematic data for input-output relationships.

<sup>7</sup> In the first draft of this paper, I made an attempt to find the tendency of tariffs on heavy manufactures exceeding those on light manufactures in the process of heavy industrialization, but could not produce statistically significant evidence.

But it was not until 1937 that the Japanese government resorted to quantitative restrictions on general imports. Quantitative restrictions themselves had not been adopted as a permanent policy by any country until 1931, when France resorted to this measure in the world-wide increase of protectionism. The main European countries soon followed. Japan was far behind in the adoption of this policy.

In Japan, quantitative restrictions began with the exchange control system in January 1937, which was introduced for the purpose of stabilizing the exchange of yen and licenses were given to each importer according to his past performance. But in September of the same year the system was changed under the Trade Adjustment Law into a stricter import quota system. The system was devised in order to improve the persistent deficit in the balance of payments and to secure supplies of commodities for military purposes. But we can safely conclude that, except for a few industries such as automobile and metal working machinery, quantitative import restrictions had little effect on industrial development throughout the period before World War II.

#### B. *Production Subsidies*

The government used subsidies to promote the modernization of the Japanese economy. They were used especially in the 1880s and 1890s and the interwar period. This was reflected in the ratio of subsidies given to industry by government expenditure, 4–5 per cent for 1880–90, declining to 1–2 per cent between 1900 and World War I, and increasing again to 8 per cent in the interwar period. The distribution of subsidies changed over time. Subsidies were given mainly to construction in the 1880s, to transportation and communication between 1890 and 1910, and to agriculture after the late 1920s. Production subsidies for mining and manufacturing were relatively small (see the table below). The ratio of subsidies to manufacturing income was less than 1 per cent throughout the whole period. We should consider, however, not so much the quantitative magnitude as the qualitative aspect, for subsidies were directed at building infrastructure and at fostering “strategic” industries such as ship-building under Ship-Building Encouragement Law in 1896, steel production,<sup>8</sup> and automobiles.<sup>9</sup>

SUBSIDY SHARES TO SECONDARY INDUSTRY IN THE TOTAL VALUE OF  
SUBSIDY FOR SELECTED YEARS (%)

1890	1900	1910	1920	1925	1929	1938
17.3	19.4	10.9	25.3	3.6	2.3	5.4

Sources: [1].

Note: Including administrative subsidies.

<sup>8</sup> Since 1927, a subsidy of three to six yen per ton (10–20 per cent tariff equivalent) was provided for the use of domestically produced pig iron as a substitute for tariff increase.

<sup>9</sup> Under Military Truck Subsidy Law in 1918, for the production, maintenance, and purchase of motor trucks.

On the other hand the exemption from corporate tax and other taxes has the same effect as a production subsidy. For example, steel-producing firms with more than a certain production capacity were exempted from all domestic taxes under the Steel-Manufacturing Encouragement Act in 1917. The exemption was not included in the calculation of subsidies mentioned above.

### C. *Direct Aid by Government*

We should not neglect direct aids by government given to initiate and develop new industries. One such direct example of aid was the government finance for risks accruing to the initiation of new industries. Experimental plants were established by government at the start of the silk, cotton, and woolen industries and were turned over to private firms after success was achieved. The early development of chemical, metal, and machinery benefited much from the activities of government-owned foundries, research institutes, and the national universities. These governmental institutions played an important part in introducing new techniques and in training and supplying engineers to private firms.

Stronger leadership was taken by government to develop steel production. After the failure of private firms for two decades, Yawata Iron Works was established by the government and it succeeded in the integrated production of iron and steel for the first time in Japan. It took Yawata nine years before it could operate at a profit, but the deficit over the period and the expansion of investment afterwards were financed by government expenditure. Yawata played a central role in the expansion of steel production in Japan throughout the period before World War II. (Its share in steel production was more than 90 per cent in the 1900s and remained at the level of 50 per cent during the 1920s.)

### D. *Government Purchase*

The pace of development of an industry is principally determined by the scale and growth of the domestic market. In the process of import substitution, domestic producers have to compete for domestic market shares with imports. Import substitution was achieved basically by the improvement of domestic products both in cost and quality. If, however, part of domestic demand is preferentially reserved for domestic products irrespective of the remaining cost and quality differences between domestic product and import, the pace of import substitution will be accelerated considerably.

A buy-Japanese movement was started at the end of 1914 by Kokusan-shōreikai (Society to Encourage Domestic Manufacture). This was a semi-official movement working for the substitution of domestic products for such imports as drugs and chemicals, iron and steel, machinery, glass, paper, and woolen fabrics. They had been largely supplied by imports until 1914 when World War I broke out and the volume of those imports decreased and their prices increased rapidly. It is important to note the fact that domestic products in these commodities groups were widely considered inferior to imports at the time so that, only foreign products could do for example in some heavy electric machinery in government factory work [9]. The aim of the society was to encourage

the manufacture of domestic products and to increase their use.

Led by Baron Eiichi Shibusawa, one of the most eminent business leaders in the Meiji and Taishō period (up to 1925), the society "pledged itself to conduct the following program; surveys of home industries; holding fairs and exhibitions to display domestic products; give public lectures; answer inquiries on home manufactures; collect and display samples and catalogues; publish a review, etc." [5, pp. 238-39]. The government made 3,000 yen appropriation for the society's maintenance in 1914, and 5,000 yen a year from 1915 on.

In the 1920s the buy-Japanese movement was given further impetus by such additional moves as protection of domestic industries against revived competition with foreign competitors and the need for improvement in balance of payments. The British consulate in Tokyo sent a report on this movement as follows.

Though it is not strictly within the category of legislation mention should be made of an extremely strong official campaign to encourage the use of domestic products. This has ramifications in all quarters, such as, for example, the issue of instructions by the Railway department laying down what domestic good must be used and what imported goods may be used. It is understood that certain government departments when calling for tenders now specify in many cases articles of Japanese manufactures irrespective of quality. [2, p. 64]

But it is difficult to make a quantitative appraisal of the effect of this policy on import substitution. Before World War I, a large part of domestic demand for such manufactures as steel, ships, and automobiles came from the government for railroad construction, military use, and so on. Take steel products for an example. Two-thirds of the Yawata's sales were to the government in 1903. The ratio was 50 per cent in 1921 and as high as 20-25 per cent in the late 1920s. The ratio is much higher if we include indirect demand by private producers of machinery and metal manufactures induced by government demand. It cannot be doubted that the government pursued the policy of preferential purchasing for domestic products within the extent permissible by cost and quality differences between domestic products and imports.

At the same time efforts were made on the producer's side to catch up with imports both in quality and cost. In industries where there were great technological difference between domestic and foreign products as electric machineries, major Japanese manufactures rushed to introduce advanced technology from European and American manufacturers under license contracts in the mid-1920s [9].

#### E. *Export Promotion*

As European competition revived in the world market after World War I, Japan's exports staggered and export promotion became more important in her trade policy. Export promotion of various types was pursued in the 1920s and 1930s. One was to establish a quality control system for traditional Japanese exports as silk, cotton textiles, celluloid, and other miscellaneous commodities. Another was to encourage these exports to new markets such as Latin America, the Middle East, and Australia by giving government guarantees to the bank

acceptance of export bills to these markets. These policies were enacted in the mid-1920s and strengthened in the early 1930s.

On the other hand, markets were provided by governments for the emerging exports of heavy manufactures (metals, chemicals, and machineries). Exports of these commodities expanded steadily to Manchuria and Kwantung Province in the 1930s but it should be noted that they were tied with growing national investment in these areas.

## VI. CONCLUSION

After 1900, Japan adopted industrial protection, under which such industries as metals, machinery, and chemicals developed and succeeded in import substitution. Protection was also provided to developed industries such as cotton textiles and matches. This could easily be extended to all-round protection and was seldom removed once provided.

A major instrument of industrial protection was the tariff. From 1900 to the early 1930s Japanese tariffs were differentiated according to stage of process, thereby gradually developing the trade pattern of raw material imports and processing exports. More direct import restriction was seldom used until 1937 with minor exceptions for synthetic dyestuffs and ammonium sulfate.

A few strategic industries such as steel-making, ship-building, automobile, and airplanes were provided more direct, promotional aid such as production subsidies (including exemption of corporate income tax), and government ownership. There was no clear explanation provided for the provision of promotional policies for particular industries. It was explained that subsidies were provided as a substitute for tariff increase when tariffs could not be raised either because of a tariff agreement or because of the fear of tariff retaliation. Considering the fact that subsidies were not replaced by tariff increase after external constraints were removed, the subsidy seems to have been adopted with the following considerations; first, an increase of tariffs on such basic intermediate products as pig iron might have caused an upward pressure on general price level, and second, that subsidies were more effective than mere import restriction in promoting the development of strategic industries. Government-owned factories and firms were established to give a strong impetus to those areas of production related to defense. Many were small and medium size except for Yawata Iron Works.

While subsidies and government ownership were confined to a few strategic industries, government purchase policy and semi-official buy-Japanese movements affected import substitution of a wider range of manufactures. Due to the lack of documents and statistics on these policies, we cannot tell how widely they were applied or how effective they were in promoting import substitution, but it would be safe to say that they contributed at least to some extent to the development of heavy manufactures of domestic demand for which military and other official demands occupied a large share.

In spite of the fact that other forms of protection were adopted and more effective than tariff protection in a few strategic industries, tariffs were con-

sidered the orthodox measure for industrial protection in prewar Japan and were assigned a more important role relative to other protection measures than in the LDC's today.

How much protection contributed to Japan's industrial growth cannot be answered merely on the basis of the present study. But other studies of Japan's industrial growth and trade tell us that its industrial development was accompanied by successful import substitution and export promotion brought about by basic factors other than protection [8]. First, the domestic demand for manufactures was large enough even in initial stages and grew rapidly enough in subsequent years to induce rapid development of domestic manufacturing production. Second, output expansion induced by rapid growth of domestic demand was accompanied by cost reduction through scale economies, learning effects, and other forms of technical progress. These two factors combined, generated industrial growth with successful import substitution and export, while protection accelerated it. In the absence of these two generating factors, heavy protection would not have succeeded in aiding industrial development. Rather, too much protection, especially by means of import restriction, could mitigate competition in the domestic market and discourage the cost reducing efforts by domestic producers. Import substitution could be achieved but not export to outside markets.

In the process of Japan's industrial development, protection did not retard the two generating factors mentioned above. Subsidies and other promotional policies assisted the development of key industries and tariff protection was kept at low or medium levels for intermediate and capital goods so as not to retard all manufacturing activities, apart from prohibitive tariffs on consumption goods. It should be noted that Japan's tariff protection reached its highest level in the late 1920s and early 1930s, during which the most rapid cost reduction was realized in many production areas.

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APPENDIX TABLE I  
THE TARIFFS OF JAPAN: 1868-1945

- Column 1: Average rate of tariffs on total imports.  
 Column 2: Average rate of tariffs on dutiable imports.  
 Column 3: Shares of dutiable imports in total import values.  
 Column 4: Shares of import tariff revenue in total sum of central government's revenue.  
 Column 5: Average rate of tariffs on foodstuff imports.  
 Column 6: Average rate of tariffs on manufactured imports.  
 Column 7: Average rate of tariffs on raw material imports.

Year	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1868	3.5	3.7	93	1.1			
1869	2.2	3.0	72	1.3			
1870	1.8	3.6	52	3.0			
1871	3.0	3.4	91	3.0			
1872	3.5	3.6	98	1.9			
1873	3.5	3.8	93	1.2			
1874	3.8	4.1	94	1.2			
1875	3.6	4.3	86	1.3			
1876	4.4	4.5	97	1.5			
1877	4.1	4.2	97	2.2			
1878	4.4	4.6	97	2.4			
1879	4.6	4.8	95	2.5			
1880	4.6	4.8	95	2.7			
1881	4.7	4.8	97	2.1			
1882	4.7	4.8	97	1.9			
1883	4.7	4.8	98	1.6			
1884	4.5	5.9	92	1.8			
1885	4.6	5.0	93	2.2			
1886	4.8	5.0	97	1.8			
1887	4.7	5.0	95	2.4			
1888	4.1	4.3	97	2.9			
1889	4.3	4.5	96	3.0			
1890	3.5	4.4	81	2.8	0.2	5.2	4.2
1891	3.8	4.3	87	2.3	0.3	5.6	2.8
1892	3.8	4.2	90	2.7	0.3	4.9	4.4
1893	3.5	3.9	86	2.7	0.4	4.7	3.0
1894	2.9	3.4	88	3.6	0.3	4.7	1.4
1895	3.2	3.5	92	3.6	0.5	5.0	1.0
1896	2.8	3.7	76	2.6	0.5	4.3	1.0
1897	2.4	3.7	64	2.3	0.4	4.1	0.9
1898	2.2	3.7	60	2.9	0.4	4.4	0.9
1899	6.0	9.7	62	5.2	4.3	10.8	1.3

APPENDIX TABLE I (Continued)

Year	(%)						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1900	5.8	8.3	70	5.7	2.9	8.9	1.8
1901	5.6	8.7	65	5.3	2.1	10.4	1.8
1902	5.4	9.7	56	5.0	3.0	9.0	2.6
1903	5.1	9.7	53	6.3	2.3	10.3	2.3
1904	5.5	9.8	56	6.3	2.0	10.2	3.1
1905	7.0	11.6	60	6.4	5.3	9.7	4.2
1906	9.8	14.6	67	7.8	10.7	12.7	5.0
1907	9.5	15.2	62	5.5	11.1	13.2	4.2
1908	10.2	15.9	65	5.6	10.0	13.6	5.6
1909	8.9	15.9	56	5.2	11.3	13.0	4.2
1910	7.7	15.5	50	5.4	10.9	12.2	3.5
1911	8.1	15.0	54	6.4	12.3	12.1	3.3
1912	9.4	18.6	52	8.5	20.5	14.2	2.6
1913	10.0	19.9	50	10.2	26.2	13.6	1.9
1914	8.4	19.7	43	6.9	25.8	12.8	1.6
1915	5.6	17.2	33	4.3	25.9	8.7	1.6
1916	4.4	11.4	30	4.2	23.9	7.0	1.0
1917	3.6	8.4	43	3.5	19.3	5.8	0.7
1918	3.7	8.2	46	4.2	14.0	4.8	0.6
1919	3.1	8.5	38	3.8	5.7	5.7	0.6
1920	3.1	8.2	38	3.7	5.6	6.3	0.6
1921	5.5	11.7	47	4.3	18.3	8.7	0.9
1922	6.2	13.2	47	5.6	12.1	12.2	0.8
1923	4.8	12.8	38	4.7	7.2	10.0	0.9
1924	4.6	13.7	34	5.4	6.2	8.2	1.2
1925	4.2	12.5	34	5.2	6.8	9.8	0.9
1926	6.2	15.7	39	7.2	10.4	13.7	1.1
1927	6.6	17.4	38	7.0	10.7	16.2	1.4
1928	7.0	17.7	40	7.7	12.1	13.4	1.6
1929	7.6	17.2	39	8.1	10.2	13.4	1.7
1930	7.3	19.3	38	7.1	10.9	13.4	2.5
1931	9.0	24.0	38	7.3	18.7	14.9	3.1
1932	7.5	22.7	33	5.3	15.5	12.7	3.2
1933	6.0	21.0	29	5.0	10.0	11.4	2.8
1934	6.0	21.1	29	6.1	9.3	11.6	2.8
1935	6.1	20.0	31	6.9	7.8	11.9	2.9
1936	5.8	20.1	29	7.5	8.7	11.2	2.9
1937	5.2	18.7	28	6.5	6.4	7.3	3.4
1938	6.6	19.9	33	4.6	5.5	7.7	5.8
1939	5.2	17.3	30	3.0			
1940	4.3	14.3	30	2.2			
1941	3.9	13.7	28	1.0			
1942	3.2	14.0	23	0.6			
1943	2.7	14.3	19	0.3			
1944	0.8	4.5	19	0.1			
1945	0.9	6.0	13	0			



Sources: Data source for columns (1)–(4): Ministry of Finance, *Zaisei kinyū tōkei geppō* [Monthly report of financial statistics], No. 178.

Columns (1) and (2) are the percentage of import tariff revenue in total import values and in dutiable import values respectively. Figures of column (4) during 1935–45 represent values of each fiscal year but those before 1935 are derived by dividing tariff collected during the individual calendar year by government revenue [1].

The data source for columns (5)–(7) is Ministry of Finance, "Quantity and value of merchandise imported into all ports" in *Dainihon gaikoku bōeki nempyō*. (See the note to Appendix Table II for more details of these statistics.) Seventeen divisions of commodities are aggregated into three groups—foodstuffs, manufactures other than foodstuffs, and raw materials. The average rate of tariff for each group is calculated by dividing the value of tariffs collected by the c.i.f. value of imports of each group.

APPENDIX TABLE II  
TARIFFS ON INDIVIDUAL COMMODITIES (%)

No.	Year	1893	1898	1903	1908	1913	1918	1924	1928	1933	1938
1. Rice and paddy		0.00	0.00	0.00	13.67	18.72	9.92	0.72	13.98	41.24	28.20
2. Wheat		0.00	0.00	4.22	13.46	17.49	8.80	2.90	17.09	9.38	11.47
3. Coffee		5.05	4.94	25.68	44.81	32.72	32.51	27.44	25.23	40.21	55.62
4. Flours, meals, and starches		0.00	0.00	9.26	31.63	28.43	15.60	17.93	27.48	36.41	17.13
5. Sugar		3.38	3.00	5.05	33.32	44.35	34.56	14.50	13.27	1.91	6.64
6. Vegetable and fruits in tin		—	—	—	42.41	33.16	22.91	21.99	100.00	100.45	90.62
7. Meat and fish in tin		2.86	3.81	10.01	19.72	33.42	17.22	6.51	25.00	24.97	27.67
8. Condensed milk		4.99	5.00	5.44	4.68	20.80	12.48	4.74	18.48	39.55	24.74
9. Whisky		4.87	5.01	33.28	83.60	95.87	43.90	48.44	100.00	100.00	183.06
10. Cotton ginned		2.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11. Wool		5.01	0.00	0.00	0.00	0.00	0.00	0.00	0.17	0.01	0.00
12. Cotton yarns		4.28	2.94	5.79	4.08	8.33	3.37	1.19	3.77	3.02	0.04
13. Woolen yarns		3.21	2.90	7.49	4.47	7.30	4.27	2.01	7.37	14.36	5.94
14. Artificial silk		—	—	—	—	35.16	12.82	21.55	53.85	60.85	32.62
15. Cotton fabric		5.26	4.12	7.12	5.98	10.87	3.59	3.18	14.23	0.81	—
16. Woolen fabric		3.01	2.53	9.39	9.16	16.43	6.78	4.90	12.68	12.95	12.48
17. Jute fabric		3.12	3.38	10.17	4.50	15.30	8.22	4.60	3.50	8.10	5.57
18. Undershirts		1.79	1.84	18.74	30.70	29.16	13.25	7.22	25.52	25.16	4.35
19. Hosiery		0.00	0.00	20.04	23.27	33.94	16.73	29.49	—	—	—
20. Carpets		4.94	4.99	20.72	36.69	29.62	16.92	32.48	89.57	79.02	213.21
21. Pine, fir, and ceder		4.96	4.99	5.00	7.13	6.50	2.81	0.17	2.06	15.52	4.71
22. Natural rubber		6.45	5.08	4.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23. Sole leather		2.23	1.34	8.68	7.58	18.16	12.05	13.51	13.69	17.04	16.86
24. Pulp for paper making		—	5.01	6.35	4.24	4.59	1.91	2.55	2.92	3.60	1.76
25. Rubber manufactures		4.98	5.00	9.99	10.90	28.54	12.21	11.41	21.97	14.61	7.86

APPENDIX TABLE II (Continued)

(%)

No.	Year	1893	1898	1903	1908	1913	1918	1924	1928	1933	1938
26.	Paper	5.01	5.00	10.51	11.32	15.94	6.16	8.38	12.38	15.24	0.81
27.	Glass (sheets and plate)	4.06	5.01	16.36	6.77	21.57	9.06	4.36	26.84	14.61	7.02
28.	Shoes	4.84	5.10	19.95	40.00	36.67	27.41	7.52	48.87	50.00	75.00
29.	Pencils	4.96	5.00	14.99	25.95	31.21	8.94	—	21.42	15.64	23.40
30.	Films for photograph	—	—	—	—	19.62	16.61	19.66	30.77	23.55	17.55
31.	Musical instruments	5.18	5.06	15.18	39.12	34.85	22.75	25.56	30.84	37.18	29.70
32.	Oil seeds	5.01	5.00	4.37	10.49	11.03	6.30	3.48	1.17	1.48	1.70
33.	Vegetable oil	5.05	4.53	10.68	8.33	2.14	2.56	5.43	12.00	10.56	11.80
34.	Animal fats	5.22	5.00	8.44	8.47	4.68	2.88	0.01	5.02	8.66	8.44
35.	Mineral oils	5.00	5.00	14.54	45.89	38.06	18.45	8.55	12.82	26.31	—
36.	Coal	0.00	0.00	6.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00
37.	Paraffin wax	4.98	4.99	0.00	2.17	13.93	9.36	50.11	49.10	17.66	8.09
38.	Caustic soda	4.99	4.99	9.36	9.15	10.81	2.65	14.86	17.88	21.07	19.88
39.	Chlorate of potash	5.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00	16.40	—
40.	Ammonium sulfate	—	—	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
41.	Synthetic dyestuff	5.01	5.00	10.00	7.06	13.95	1.21	31.33	44.98	32.79	26.46
42.	Celluloid	—	4.99	10.66	17.09	33.83	0.00	—	—	—	—
43.	Soaps	2.34	3.29	11.95	9.32	23.78	13.43	13.37	60.75	55.36	96.12
44.	Perfumed water	5.45	4.97	8.34	7.32	11.67	6.39	10.37	55.70	55.76	132.33
45.	Iron ore	—	—	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—
46.	Pig iron	4.17	3.61	4.20	3.87	3.53	0.54	2.63	3.77	15.23	—
47.	Lead, ingot	5.09	3.59	5.06	4.00	3.79	1.63	2.01	2.67	4.77	—
48.	Iron and steel (bar, rod, shapes)	3.73	2.60	6.56	6.88	13.22	3.16	5.16	18.00	24.13	—
49.	Iron and steel (plate, sheets)	3.33	2.68	6.63	6.43	9.62	1.78	1.27	16.87	23.51	—
50.	Iron and steel (pipes, tubes)	4.96	5.00	10.00	10.04	13.56	4.63	5.46	17.23	11.34	—
51.	Nails	2.19	1.96	11.40	9.14	20.28	6.33	2.69	16.64	12.34	8.01
52.	Rails	5.01	5.00	4.65	3.14	19.82	6.00	4.34	29.02	24.34	—
53.	Materials for construction	—	5.00	20.01	25.00	21.65	7.84	6.38	16.29	9.82	29.41
54.	Cutlery	4.92	5.07	20.00	40.00	32.27	24.80	—	34.18	36.46	26.93
55.	Ships	1.46	0.40	5.00	10.00	15.52	2.76	19.79	13.19	37.50	—
56.	Working machines	4.55	5.00	10.00	15.00	14.31	7.49	7.42	13.09	12.73	1.61
57.	Spinning machines	5.00	5.00	10.00	15.00	18.70	8.52	6.09	13.16	8.99	7.17
58.	Dynamos and electric motor	—	5.03	10.00	15.00	20.78	9.14	9.07	17.64	8.36	13.02
59.	Automobiles	—	—	—	—	30.60	31.06	14.03	29.06	34.45	—
60.	Camera	5.00	5.01	15.03	50.00	48.55	49.79	51.05	42.31	60.71	45.27

APPENDIX TABLE II (Continued)

(%)

No.	Year	1893	1898	1903	1908	1913	1918	1924	1928	1933	1938
61. Watches		5.01	5.00	25.52	40.95	29.67	19.00	13.94	28.20	25.84	30.24
62. Total imports		3.51	2.26	5.17	10.30	10.09	3.76	4.65	7.06	6.03	6.60

Note: Figures show over time changes in tariffs on sixty-one individual commodities during 1893-1938. The tariff rates are calculated by dividing tariff duties collected on individual commodity imports by import values.

Values (c.i.f.) of imports of individual commodities and tariff duties collected on each are taken from "Quantity and value of merchandise imported into each port," in *Dainihon gaikoku bōeki nempyō* [Annual return of the foreign trade of the empire of Japan] (Ministry of Finance). Imports are those of Japan proper from foreign countries so that imports from Taiwan since 1897 and those from Korea since 1912 are excluded but imports from Manchuria and Kwangtung Province are included. The commodity classification of these statistics has changed several times but corresponds to the classification used in the tariff tables.

Sixty-one commodities are selected in order to represent the tariff structure. Many correspond to individual commodity categories in statistics throughout the whole period but some are aggregated over several commodity categories in some years. Not all commodities continued to be imported over the whole period and such new products as artificial silk (No. 14) and photographic films (No. 30) were imported only in later years. The symbol of — in Appendix Table II indicates that the commodity concerned was not imported in that particular year.

The sixty-one commodities are classified into several groups both by industry and by economic use and simple average rates of tariffs are calculated for individual groups (Tables II and III in the text). Details of the classification are shown in Appendix Table III.

## APPENDIX TABLE III

## COMMODITY CLASSIFICATION BY INDUSTRY AND ECONOMIC USE

Economic Use	Industry	Primary Products	Light Manufactures		Heavy Manufactures			
			Textiles	Other Light Manufactures	Chemical Products	Metals & Metal Products	Machinery	
Foodstuffs		1		4				
		2		5				
		3		6				
		32		8				
				7				
				9				
	Raw materials		10					
			11					
			21					
		33						
		34						
		35						
		36						
		45						
Intermediate goods I			12	22	37	46		
			13	23	38	47		
			14	24	39			
Intermediate goods II			15	25	40	48		
			16	26	41	49		
			17	27	42	50		
						51		
						52		
						53		
Capital goods							55	
							56	
							57	
							58	
Consumer goods			18	28	43	54	59	
			19	29	44		60	
			20	30			61	
				31				

Note: Numbers represent commodities listed in Appendix Table II.