

Japanese Industrial Policy during the Intewar Period: Strategies for International and Domestic Competition

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The Japanese economy experienced an industrial transformation during World War I. The result was that import substitution occurred and textile goods exports increased rapidly. During the interwar period a number of industries (including iron, steel, chemicals, machinery, and automobiles) were established. The domestic market was organized along oligopolistic lines. It was a time during which cartels and trusts were formed, and many large Japanese businesses were either established or secured their power base.

The purpose of this paper is to trace the role of industrial policy (IP) in Japan during the interwar period and to assess its impact on the import substitution process and organization of the market. The view that IP in Japan played a very strong role during this period is commonly held [2]. However, the fact that an IP was actively adopted was not always synonymous with the economic growth of the firm or the economy. To the extent that IP restricted competition, it encouraged monopolies in the some industries. Furthermore, the protectionist aspects of IP could have damaged the potential benefits of trade. The mechanisms by which IP achieved its goals while avoiding these negative side effects, therefore, is a fruitful topic of study.

There were two types of industrial policy: Industrial Construction Policy (ICP), aimed at forecasting the allocation of resources *vis-a-vis* the subsidization needed by the companies involved, including allocation of subsidies, efforts to maintain low interest rates, and the establishment of tariffs; and Industrial Organization Policy (IOP), aimed at competition in markets with legal restrictions and government involvement with administration [10].

1920s: Strategic Intervention Against International Oligopolies

World War I was the turning point for the establishment of the heavy and chemical industries in Japan. It was no easy task for Japan to develop industries that could produce commodities such as iron, soda ash, dye, etc., through privately-owned companies. Capital requirements were extensive, and there was a dearth of domestic technology. In addition, Japanese firms faced

formidable competition from foreign corporations. World War I temporarily isolated the Japanese economy from that competition and thereby provided a window of opportunity for the establishment of these industries. Table 1 illustrates industries that were established or substantially enlarged during World War I [7].

Table 1. Self-sufficiency Ratio, Tariff Rates, and Other Protective Measures

	1915	1919	20-4	25-28	29-31	32-3	Tariff rate		protective measures
							before 26	after 26	
Iron	65.6	68.8	52.3	61.6	63.9	63.6	0.1 Yen/Ton	→	A
Steel	62.1	50.0	55.4	68.3	88.1	101.8	15 %	↑ 1.1 Yen/Ton (24 %)	-
Dyestuff	29.6	62.8	33.5	50.0	58.5	77.0	35 %	↑ specific duty	A,B
Soda ash	6.5	8.6	8.7	23.4	48.4	79.9	0.35 YEN	→	A, -
Solphate	8.0	43.8	47.6	39.8	55.4	86.1	0	→	-, B
Electric machines	n.a.	90.7	77.6	88.9	92.4	96.3	13 (12.9 %)	↑ 20.6 (20.0 %)	-
Machine tools	n.a	n.a	49.2	60.7	49.7	57.5	9.8 (10.4 %)	↑ 24.2 (20.0 %)	-

Source: MICI, "Reference book about Iron and Steel industry," 1937; MITI, "Industrial Statistics 50 years," 1968; Miyajima [6].

Note: 1) Self-sufficiency Ratio: Domestic Production / (Domestic Production + Imports-Exports)

2) Parenthesis indicates actual tariff rate (Tariff/Import Price).

3) Under protective measures, A indicates subsidies, B indicates import restrictions.

At the conclusion of the First World War these new Japanese firms were immediately faced with overseas competition. In the dyestuffs industry, for example, the large German corporations, BASF and Hoechst, returned to the Japanese market. German oligopolistic companies kept their prices low on goods that were the main products of Japanese firms. Simultaneously, they maintained high prices on goods not produced by Japanese firms [2, 5]. The situation in soda ash production was similar to that in dyestuffs. The British chemical firm, Brunner Mond, pursued low-price dumping in order to prevent the development of foreign competition (Magazi Soda) [11, p.342-46].

Under these circumstances, the government began examining protective measures and organized several councils to target industries in need of protection. Although these councils diligently examined protection possibilities, consensus agreements were not immediately reached. A pivotal consideration and constraint was that protection of a specific industry might jeopardize the benefits of trade. For example, raising a dyestuffs tariff would affect the entire textile industry, and textiles were one of Japan's main exports. Protection of the iron and steel industries might also spark a price war with overseas competitors. At this point, Japan's industrial sector consisted of companies performing first stage processing of raw materials, although there were also firms producing finished manufactured products. It was therefore difficult to

standardize and adopt protective measures such as tariffs and import restrictions. In 1925 the Ministry of Commerce and Industry (MICI), antecedent of the current MITI [2], was established. Subsequently, subsidies were determined for the dyestuffs, soda ash, and iron industries. A comprehensive revision of the tariff system was implemented in 1926 (Table 1).

Features and Functions of 1920s Industrial Policy

Japan's industrial policy in the 1920s bore several distinctive characteristics. First, not all of the industries that were established and enlarged during World War I were protected under the IP. The revised tariff rate was still low. For example, the tariff on ammonium sulphate first established during World War I was eliminated. Machine industries were not recipients of subsidies. It should be noted that the aluminum and automobile industries were not yet in existence. The IP of the 1920s may therefore be best characterized as selective rather than comprehensive.

With regard to selection of protective measures, subsidies were allocated to primary production industries where the intermediate input ratio was high. These included iron, soda ash, and dye. Furthermore, increases in tariff rates were directed toward industries whose self-sufficiency ratio was relatively high, such as machinery, steel, and so forth. The determining factors in the setting of tariff rates were the maintenance of protective effects while minimizing the negative effects on downstream industries. These objectives were operationalized by limiting the increase of tariffs to the difference between the import price and production cost and increasing the tariff rate on low grade goods [14]. In retrospect, the industrial policy of the 1920s appears to have been highly systematized and appropriate to the industrial structure of the period. However, it is better to view it not as the result of a single plan, but rather as the outcome of continuous negotiations between two groups. One group, associated with liberalism, included the Ministry of Finance, downstream industries, and the cotton spinning industry; the other group was composed of MICI and interested producers.

Another characteristic of industrial policy in the late 1920s was the acceleration of the import substitution process, which promoted investment in factories and machinery and resulted in the augmentation of consumer surplus. An example of the positive results induced by the IP may be seen in the soda ash industry. Japanese government subsidies to soda ash firms deterred overseas companies such as Britain's ICI from entering the Japanese market. As a result, prices fell suddenly. The subsidy also initially gave unexpectedly large benefits to downstream industries. The soda ash subsidy also promoted plant and equipment investment by domestic firms. Because of this investment, production costs decreased because of economies of scale. The government subsidy gave the soda ash industry the opportunity to become strong enough to endure intense competition from foreign firms [5].

Following the tariff increase of 1926, domestic prices unexpectedly stabilized or even fell. Thus, these tariffs had more long-term than short-term protective results. The tariffs were configured so that they decreased on higher

grade goods. Foreign firms were thus encouraged to export higher grade goods to Japan. Correspondingly, the self-sufficiency rate of lower grade Japanese goods gradually increased. The actual tariff rate increased during the Depression because the tariff revision in 1926 had changed the duties from a value-added basis to a specific duty. This resulted in a rapid increase in the self-sufficiency ratio in industries such as steel and machinery (Table 1). In sum, industrial policy in the 1920s caused a change in the strategic behavior of both foreign and domestic firms and increased the capital surplus.

However, it would be a mistake to over-emphasize the industrial policy's beneficial effects in the import substitution process. It should be noted that the source of success of the IP was the long-term planning and innovative behavior of Japanese companies. A number of companies producing iron, soda ash, and dye suffered substantial losses. However, they belonged to groups, *Zaibatsu*, that could sustain them [7, chap. 3]. Losses on newly-formed enterprises could be offset by profits in other endeavors, guaranteeing long-term continuity of management and administration.

Restriction of Competition during the Depression

In June of 1929, the Japanese government returned to the gold standard. This brought strong deflationary pressure due to an increased exchange rate and tight fiscal policies [7, 12]. Depression-era industrial policy was geared toward industrial organization policy (IOP) rather than the industrial construction policy (ICP) of the 1920s. Incentive measures could not be adopted because of fiscal limitations, but the government needed to encourage industrial rationalization to strengthen international competitiveness and ease deflationary pressure. The Japanese economy went into recession in mid-1929, and the recession became severe as the world-wide Depression impacted the domestic economy.

Firms that were faced with a sudden decrease of demand maintained production volume by cutting prices. Market prices declined rapidly. Prior to the Depression, voluntary cartels had existed in major Japanese industries (Table 2)[4, 6]. Under the intense pressures of the Depression, however, the cartels were incapable of stabilizing or maintaining prices. A series of laws were passed in 1931 to deal with this situation. These included the Control Law of Important Industries, designed to strengthen industrial cartels. The Control Law contained two main provisions: first, it gave the government the right to order non-members to obey cartel agreements; second, the government was given the right to modify or cancel the cartel agreement for reasons such as unreasonably high prices or output restrictions.

Through enactment of the Control Law, industrial organization policy was established clearly in Japan. Rather than anti-trust legislation, policy focussed on agreements to supervise and promote cartels. The structure of the initial IOP was strongly influenced by the competitive nature of the Japanese market [12]. The proportion of small and medium sized firms was very high in the late 1920s. Many of the cartels listed in Table 2 did not have sufficient power to to regulate domestic competition or compete in the international

market. There were few barriers to foreign companies and overseas firms were a constant threat to cartel members.

Table 2. Industries Affected by the Important Industries Control Law (CL)

Code	Industry	Production volume	Share of member firms	Attitude toward CL	Effect of CL	
		1935			A	B
		10000 Yen	%			
1	Cotton Spinning	38,178	97.9	0	-	R
2	Silk Reeling	5,175	100.0	0	-	-
3	Rayon Manufacturing	5,171	100.0	0	-	-
4	Paper Manufacturing	13,410	95.5	0	-	-
5	Paperboard Manufacturing	1,321	n.a.	H	-	R
6	Carbide Manufacturing	874	79.8	H	P	-
7	Bleaching Powder Manufacturing	309	100.0	H	P	-
8	Sulfuric Acid Manufacturing	1,792	85.0	H	P	-
9	Oxygen Manufacturing	1,684	93.7	H	P	-
10	Hydrogenated Oil Manufacturing	715	100.0	H	P	-
11	Cement Manufacturing	6,115	96.5	H	-	R
12	Flour Milling	8,201	89.4	H	-	R
13	Pig Iron Manufacturing	802	88.0	H	-	R
14	Alloy Steel Manufacturing	14,405	100.0	H	-	-
15	Steel Bar Manufacturing	17,383	95.0	H	-	-
16	Carbon Disulphide Manufacturing	162	89.7	H	P	-
17	Sugar Manufacturing	4,621	96.5	H	-	-
18	Gasoline Manufacturing or Selling	2,571	95.0	0	-	-
19	Beer Brewing	7,994	100.0	0	-	R
20	Coal Mining or Selling	15,195	87.0	0	-	-

Source: [6, Tables 5,6]

- 1) Before 1930, cartels were established in all industries except codes 5,9,17.
- 2) In the steel sector there were 6 cartels.
- 3) Industry codes 1-15 were designated in December 1931, codes 16-18 in November 1932, and codes 19-20 in May 1934.
- 4) In the heading "Attitude toward CL," O means that the cartel did not favor the application of CL; H means that the cartel favored the application of CL.
- 5) In the heading "Effect of CL," P means that the CL promoted or strengthened cartels; R means that MICI provided administrative guidance over cartel activities.

Business leaders, represented largely by the Japanese Economic Federation, were by no means unanimous in their support of the Control Law. In general, medium sized firms were more supportive, and big businesses were less enthusiastic. Very large businesses such as cotton spinning firms and members of Zaibatsu were skeptical about the potential benefits of the Control Law and hesitant to see their freedom curtailed. Cartels of the

industries referred to in code 1-4 and 18-20 of Table 2 attempted to avoid having to comply with the Control Law.

Bureaucrats of the Ministry of Commerce and Industry (MICI) were responsible for the implementation of the Control Law. There was some dissension within MICI as to how the provisions of the law should be practically applied. MICI bureaucrats were strongly influenced by the German rationalization movement and the new "cartel theory" in particular. This theory emphasized the positive role of cartels because of their capacity to match production with demand and to promote specialization. If a government promoted and effectively monitored cartels, it could facilitate orderly and cooperatively-achieved economic growth. The ICP of the 1920s was the *ad hoc* result of negotiations among interest groups. By contrast, establishment of the IOP was the result of the MICI initiative, based on pursuit of clear-cut ideological goals.

Finally, through which mechanisms did the Control Law actually function during the Depression? Anticipated benefits of the law were protection from cartel breakers and reduction of the costs associated with maintaining the cartels. In retrospect these benefits were realized mainly by minor industries [6, and see code 6-10 & 16 of Table 2]. Furthermore, there is now no evidence that the Control Law was able to augment the strength of the cartels. Although the latitude for such action existed, there were no cases in which the government ordered non-members to obey a cartel agreement. This underscores the importance of the cartels that did exist in the major industries and were subject to MICI monitoring (Table 2). In the 1920s MICI did not have access to information regarding the contents of cartel agreements. After implementation of the Control Law, MICI was able to observe marketplace dynamics and also monitor corporate activities.

After the break from the gold standard, the Japanese economy turned upward. The Depression in the United States and Europe bottomed out in 1933. By contrast, Japan's growth rate was 10.1% in 1933 and 8.7% in 1934 [7]. The macroeconomic situation that enabled this dramatic growth was markedly dissimilar to that of the 1920s. The Japanese exchange rate fell sharply following the revocation of the gold standard. This was the primary factor in relieving the pressure of international competition and strengthening the competitiveness of Japanese industrial exports. High levels of government expenditures were approved along with regulation of money supply. Both of these policies contributed significantly to the business upturn. Under these circumstances, both aspects (ICP and IOP) of industrial policy developed.

Targeting and Protecting Strategic Industries

ICP was tenaciously pursued after 1932. The main industries targeted were automobile production, oil refining, and aluminum. As illustrated by Table 3, these industries were still in the early stages of development, but they were considered to be of strategic military importance. The tariffs that applied to these industries were raised 35% in 1932 and special enterprise laws were enacted. The provisions of this legislation included a licensing system for entry into the industry, investment, products, and sales activity and incentives such

as subsidies and tax breaks. The objectives of the special enterprise laws were to channel resources toward these targeted industries, to deter competition by discouraging the formation of additional companies in these industry areas while simultaneously attempting to prevent the abuse of monopolistic power, and to provide protectionist barriers. The word "defensive" was deliberately used in this legislation. From a conceptual standpoint, defence of the three targeted industries was the guiding principle. It was considered imperative to directly regulate foreign firms [2, 12].

Table 3. The Outlook for Targeted Industries in the 1930s

	Oil Refineries		Automobiles		
	Domestic Production	Self-Sufficiency ratio	Domestic Production	Imports	G.M. Profit rate
1929-31	212	35.5%	443	26,237	25.7%
32	373	45.9	880	15,084	16.9
33	393	46.0	1,681	15,573	26.5
34	479	46.5	2,247	34,354	32.9%
35	578	51.1	5,094	31,721	n.a.
36	647	49.0	7,305	n.a	n.a.
37	826	57.2	14,840	n.a	n.a.

Source: [13].

Note: 1) The production of Oil Refineries refers to gasoline.

2) The import of automobiles includes knock down production by foreign firms.

3) Profit rate of GM (profit/equity capital)

4) 1929-31 = average

The ICP of the 1930s differed from that of the 1920s in several ways. First, the priorities that determined which industries would be targeted were modified. The exigencies of developing industries with military application gained precedence over the development of industries that produced domestic and/or consumer goods. Over the course of the 1930s, industries producing military products were the top priority of Japan's IP. In this context, automobile production was chosen as a priority industry for several reasons. The automobile industry was seen as a potential core industry for R & D. Furthermore, domestic car production would encourage related supply industries. These factors resulted in a positive impact on the international trade balance. Concurrently, advocates of militarization strongly decried the hazards of Japanese dependence on foreign industry.

By the early 1930s foreign corporations were already involved in the three targeted industries. Increased tariffs in 1932 provided an additional incentive to expand their investments in Japanese industry. General Motors and Ford Motor Company had established knockdown facilities in Japan and began to enlarge their operation plants [12]. Similarly, Socony-Vacuum and Rising Sun began building refinery facilities in Japan [1]. Domestic firms could either cooperate with foreign companies or attempt to progress independently. In general, the Zaibatsu companies were not inclined to enter the targeted

industries. In instances when Zaibatsu ventured into these areas, they acted in cooperation with foreign firms. Nippon Oil and Toyota were not Zaibatsu companies and were integrally involved with independent domestic R & D.

Two strategies were employed to assist in the establishment and strengthening of automobile, oil refinery, and aluminum companies. First, a company could enter into cooperative agreements with foreign firms. With Foreign Office support, members of Zaibatsu were the dominant Japanese companies to pursue this course. A second alternative was for companies to seek government-sponsored protectionist measures enabling them to function independently. With the strong support of the military, companies outside of Zaibatsu availed themselves of this option. Operating in partnership with foreign firms appears to be the best way for new companies to establish themselves. However, the influence of the military increased steadily during the 1930s. MICI initially supported foreign cooperation but changed its position to advocate independent domestic industrial development. Ultimately, a highly nationalistic ICP was adopted.

These policy developments and corresponding legislation had direct bearing on the activities and plans of foreign firms operating in Japan. Options to expand Japanese operations were vastly diminished for GM and Ford. Socony-Vacuum and Rising Sun gave up their plans for oil refinery construction, since ceilings were placed on their sales volumes. Meanwhile, with protective mechanisms in place, Toyota and Nissan launched factory construction projects and made substantial equipment purchases.

Promotion and Monitoring of Oligopolies

In the early 1930s, Japanese government IOP promoted monopolistic organizations. In the first phase of pursuing these aims, MICI encouraged mergers. Both the conceptual groundwork and goals of this policy drew heavily on the ideology of rationalization theory. In 1934 the government-owned Yawata Iron & Steel and six private firms merged, establishing Nippon-Iron & Steel [9]. Extensive mergers took place in the beer and pulp industries. The second phase of the nationalistic IOP was designed to avoid duplication of corporate investment. Due to the business upturn, the number of new firms increased along with the level of machinery investment by existing companies. The possibility of surplus production became apparent. As a result, MICI intervened in the investment plans of private firms engaged in the production of iron and steel, superphosphate of lime, rayon, and cement. The rationale behind this intervention was that the actual number of firms would exceed the optimal number of firms and the scale of plants would not reach the minimum optimal scale if these variable were left solely to market mechanisms.

The final phase of IOP was regulation of the potentially negative effects of the monopoly power of cartels and trusts. With the absence of foreign competition pushing exchange rates down, trusts and cartels had inordinate influence over market pricing. MICI sought to guide cartel activities in the interest of downstream industries and consumers. By 1934 the price index exceeded the pre-Depression level and MICI felt that action was warranted.

MICI determined appropriate prices in fields which included steel, sulphate ammonium, pulp, beer, and sugar (Table 2).

Conclusion

If public policy is understood as an anti-monopolistic, there was no such policy during the interwar period. Rather, Japan implemented an ICP that channeled resources into the strategic industries, and an IOP that promoted cooperation among firms. The main goal of these policies was to achieve import substitution and scale economies; public interest remained a lesser consideration. Significantly, IP during the interwar period in Japan can be seen as the prototype of IP in the high economic growth era following World War II.

In contrast to other industrialized nations, IP in Japan was the dominant manifestation of government policy during the interwar period. From the point of view of comparative studies, IP was one of the major characteristics in Japan. It would be very difficult for the U.S. to target a particular industry and give special advantage to it, because it would mean granting special privileges to it. The lack of symmetry between cost and benefits would be too obvious. It would also be impossible for the U.S. to restrain competition, because antitrust policy was highly valued. However, one should also note that in Japan the government was consistently monitoring the influence of the policy on downstream industries. The benefits of trade and the negative effect of monopoly were always taken into account. This is the reason why IP in Japan had positive effects on economic growth.

How then did IP change the business behavior of Japanese firms? Briefly, IP led firms to adopt a growth oriented strategy. First, firms that reached the minimum scale level were the only ones to be given subsidies, and this promoted Japanese firms to attain such a level. Second, it was important that MICI always took account of scale economies when it gave protection to industries and when it considered mergers. Because of this, the realization of scale economies became a goal for Japanese firms. Finally, the promotion of cartels in Japan, contrary to common belief, gave rise to investment competition. After enactment of the Control Law, the price and production policy of firms became more cooperative than in the 1920s because their information sharing increased through cartels and the administrative guidance of MICI. However, investment competition became more fierce than in the 1920s because cartel agreement was usually based on existing production capacity, and individual firms had an incentive to enlarge their plant and equipment. Thus the growth oriented strategy of Japanese firms was widespread and reinforced the performance of Japanese industrial policy.

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