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JAPANESE INDUSTRIAL RESTRUCTURING
POLICIES, 1945-1979

By

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The Japanese Industrial Restructuring Policies, 1945 - 1979

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Introduction

This is a survey article that purports to summarize the information of major practices of the so-called "Industrial Policies" (Sangyo-Seisaku) in Japan since 1945 up to the present and the arguments on their pros and cons in government and academic circles.

The postwar development of the Japanese Economy may be divided into four stages. This division is made not only for the convenience of the discussion in this paper but also for the purpose of understanding the general political-economic conditions in Japan for the past thirty four years.

Period	Characteristics	per capita Product
I. 1945 - 1952	The Occupation Period	('50: 132 dollars)
II. 1952 - 1960	The Reconstruction Period	('55: 256 dollars)
III. 1960 - 1970	The Rapid Growth Period	('65: 891 dollars)
IV. 1970 - 1980	The Trial Period	('75: 4,404 dollars)

* 1938 per capita income in '50 dollars : 195

The changes of industrial composition in the Japanese economy during this period may be observed by the following two tables. They include projections into the future.

Table 1. Changes in Industrial Composition

	I	II	III		
1955	37.6	24.4	38.1	I	Primary Industry
1960	30.2	28.0	41.8		
1965	23.5	31.9	44.6		
1970	17.4	35.2	47.4	II	Secondary Industry
1975	12.7	35.2	52.0		
1980	10.6	37.3	52.1	III	Tertiary Industry
1985	8.9	37.5	53.7		

Table 2 : Changes in Production (1975 constant prices)

(billion yen, %)

	1965		1970		1973		1974		1975		1985		Average Annual Growth Rate			
		Compo- nent ratio		Compo- nent ratio		Compo- nent ratio		Compo- nent ratio		Compo- nent ratio		Compo- nent ratio	'70/ '65	'75/ '70	'75/ '65	'8 '75
Agriculture, forestry and fisheries	12,023	8.1	12,843	4.8	12,842	3.8	13,073	4.0	13,183	4.2	17,150	2.9	1.3	0.5	0.9	
Mining	954	0.6	1,582	0.6	1,825	0.5	1,774	0.5	1,534	0.5	2,150	0.4	10.6	-0.6	4.9	
Foodstuffs	11,517	7.7	15,547	5.8	18,396	5.4	18,524	5.7	19,129	6.1	31,580	5.4	6.2	4.2	5.2	
Textiles	4,947	3.3	6,976	2.6	8,268	2.4	7,153	2.2	7,138	2.3	8,650	1.5	7.1	0.5	3.7	
Paper and pulp	2,491	1.7	4,528	1.7	5,437	1.6	5,210	1.6	4,615	1.5	8,300	1.4	12.7	0.4	6.4	
Chemicals	3,848	2.6	8,374	3.1	10,441	3.1	11,062	3.4	10,106	3.2	19,510	3.3	16.8	3.8	10.1	
Petroleum and coal products	3,585	2.4	7,875	3.0	10,403	3.1	10,247	3.2	9,447	3.0	15,740	2.7	17.0	3.7	10.2	
Ceramics, stone and clay products	2,009	1.3	4,418	1.7	5,850	1.7	5,368	1.7	4,578	1.5	8,790	1.5	17.1	0.7	8.6	
Iron and steel	7,279	4.9	16,780	6.3	20,954	6.2	20,518	6.3	17,683	5.6	26,280	4.5	18.2	1.1	9.3	
Non-ferrous metals	1,065	0.7	2,289	0.9	3,246	1.0	2,900	0.9	2,497	0.8	4,040	0.7	16.5	1.8	8.9	
Fabricated metal products	2,252	1.5	5,071	1.9	6,798	2.0	6,548	2.0	5,509	1.7	12,610	2.2	17.6	1.7	9.4	
General machinery	3,294	2.2	9,218	3.5	11,980	3.5	12,749	3.9	11,673	3.7	27,480	4.7	22.9	4.8	13.5	
Electrical machinery	3,302	2.2	9,727	3.6	13,080	3.8	11,979	3.7	9,856	3.1	26,360	4.5	24.1	0.3	11.6	
Transport machinery	5,336	3.6	11,823	4.4	17,499	5.1	17,681	5.5	16,782	5.3	29,880	5.1	17.2	7.3	12.1	
Precision machinery	797	0.5	1,514	0.6	1,934	0.6	1,947	0.6	1,696	0.5	4,530	0.8	13.7	2.3	7.8	
Other manufactures	9,159	6.1	17,114	6.4	21,158	6.2	18,629	5.8	17,764	5.6	33,470	5.7	13.3	0.7	6.8	
Construction	17,768	11.9	33,309	12.5	45,614	13.4	31,980	9.9	33,913	10.7	68,030	11.7	13.4	0.4	6.7	
Electric power, municipal gas and water supply	2,653	1.8	4,694	1.8	6,447	1.9	6,511	2.0	6,460	2.0	12,790	2.2	12.1	6.6	9.3	
Commerce	11,140	7.5	23,040	8.6	31,519	9.3	30,185	9.3	30,449	9.6	55,750	9.6	15.6	5.7	10.6	
Finance, insurance and real estate	9,213	6.2	14,632	5.5	21,996	6.5	22,150	6.8	23,595	7.5	40,100	6.9	9.7	10.0	9.9	
Transport and communication services	6,418	4.3	10,901	4.1	12,447	3.7	13,487	4.2	13,628	4.3	25,620	4.4	11.2	4.6	7.8	
Total	25,261	16.9	36,188	13.6	41,524	12.2	43,948	13.6	44,777	14.2	81,340	13.9	7.5	4.4	5.9	
	149,204	100.0	266,829	100.0	340,480	100.0	323,627	100.0	315,660	100.0	583,590	100.0	12.3	3.4	7.8	
Primary industry	12,023	8.1	12,843	4.8	12,842	3.8	13,073	4.0	13,183	4.2	17,150	2.9	1.3	0.5	0.9	
Secondary industry (Manufacturing)	81,325	54.5	161,477	60.5	209,810	61.6	190,391	58.8	179,648	56.9	341,540	58.5	14.7	2.2	8.2	
	(62,196)	(41.7)	(125,392)	(47.0)	(160,755)	(47.2)	(155,513)	(48.1)	(143,037)	(45.3)	(268,340)	(46.0)	(15.1)	(2.7)	(8.7)	
Tertiary industry	55,856	37.4	92,509	34.7	117,828	34.6	120,163	37.1	122,829	38.9	224,900	38.5	10.6	5.8	8.2	

Source: Input-Output Tables, 1965, 1970, 1973, 1974, 1975, 1976 ; 1985 : Projection

There is no doubt that the unprecedented speed of Japanese economic growth required an extremely rapid adjustment or restructuring of industrial composition for such a short period. The Japanese economy being basically a free private enterprise system, this change of industrial composition has been brought about fundamentally as an achievement of free competition. This point needs especially to be emphasized, because this paper presents rather exclusively the arguments on the government policies toward business or industrial organizations and pays far less attention to the dynamic responses or positive actions of private enterprises which made the government policies succeed or the over-all achievement of economic development much better than expected.

The Japanese government, however, has taken also a number of public policies toward business, which is often called uniquely Sangyo (Industry) Seisaku (Policy) in Japanese, and it was mainly attributed to the decision-making of the Ministry of International Trade and Industry. But there are many policies for which other ministries are primarily responsible. Foreign exchange control, for instance, is the policy to be determined primarily by the Ministry of Finance. The Industrial Policies may be defined as the governmental policies designed primarily to influence the behaviors, the achievements or the structure of private enterprises. The practise of policies differed in different stages of development. Therefore, the general characteristics of these stages may be briefly sketched as a background of specific industrial policies to be discussed in the following sections. Then the various types of industrial policies applied in Japan may be explained with reference to the specific problems recognized by the government authorities in each period.

I. The Four Stages of Development and Industrial Policy

The Occupation Period, 45 - 52: It was the period of recovery from war-time destruction and control and also the one of installing new institutional apparatus for "democratic" restructuring of the Japanese economy. The production levels of main manufacturing industries

at the time of cease-fire were 10 - 30% of the pre-war highest levels. Starvation was a real, imminent threat to the people's living. Even before rampant inflation was under control by austerity program under the supervision of US advisers, the following measures were adopted: a) dissolution of Zaibatsu (big financial combines); b) enactment of anti-trust and labor union laws; c) passing of Foreign Exchange Control Act; d) control of imports by requiring permit and certificate; e) establishment of special semi-governmental banks: Japan Development Bank, Japan Export Import Bank, Small Business Finance Corporation and Reconstruction Finance Corporation.

All these measures were mobilized with the basic idea named "Priority Production Formula" (Keisha Seisan Hoshiki), which at first tried to recover the production of coal, electricity and steel. Scarce resources, foreign exchange and imports were allocated to key industries like coal-mining, steel mills, export industries or for food imports or critical raw materials needed for the production of exportable goods. Similar priorities were given in financial loans. The loans provided by the above-mentioned financial institutions accounted for only a small portion of the total amount of loans given to private businesses. But they guaranteed that the industries supported by governmental, low-interest loans are given priority in obtaining other scarce resources. So that they are credit-worthy and the private banks joined in supporting the investment of these industries. Thus the occupation period laid a ground and framework of the following reconstruction period. The Korean War in 1952 changed a whole perspective of the dreamy future of the Japanese economy and gave rise to the realistic reconstruction more or less along the passage of modernization since the prewar time. Too idealistic regulations and policies were modified already toward the end of this period. As the San Francisco Treaty gave an independence to Japan, she became bolder in pursuing its own policy-decisions.

The Reconstruction Period, 52 - 60: The momentum generated by the sudden increase in Japanese exports, especially Special Procurement

by the US forces gave an enormous impetus to the reconstruction of Japanese economy and set a new goal of the Japanese economic development; namely, "Modernization and Export Promotion." The recovery of light industries and development of heavy-chemical industries were recognized as a basic strategy of industrialization in Japan at this stage. The popular slogan then was "Stability by Savings; Prosperity by Exports.": The ceiling of industrial production was correctly recognized as set by the balance of payments. Government as well as private enterprise concentrated their effort on the break-through of this ceiling of B/P by "modernizing" Japanese manufacturing industries. Modernization meant, on the one hand, an adoption of advanced, efficient technology, management know-how or marketing system in individual enterprises, and also, on the other hand, inter-firm cooperation in developing more efficient industrial order like joint investment, standardization of products, merger and exchange of information. Government played a somewhat active role in promoting the latter aspect of modernization.

The following measures exemplify a certain aspects of Japanese Industrial Policies at this stage. A detailed account will be given in later sections. a) Anti-trust law was modified (1953) to permit certain types of cartel, and the so-called "rationalization" cartels were formed to make a joint purchase of raw materials or make the quality control uniform. b) Anti-recession cartels were permitted under the strict approval and supervision, if some companies suffer from recession so much that they cannot "modernize" themselves; which meant that they cannot meet the expectation of becoming export industries. c) Japan Development Bank, for example, started several special programs of loans to help some potential export industries modernize themselves. The strategically chosen industries were machinery, petro-chemical and electronics industries. d) The so-called "over-loan" - loans extended from the Bank of Japan to private commercial banks - became prevalent, so that private commercial banks tended to be bullish in extending loans to new industries. e) Some purchasing

agents were established to buy the products of certain depressed industries and thereby rescue the serious impact on unemployment and management of potential export enterprise; e.g. cotton textiles (1953), ammonium sulfate (1954), copper (1955), rayon-staples (1957) and coal (1959). f) A new law was passed to promote the import of advanced technology and foreign capital associated with it in 1950. This policy was more actively pursued by MITI. During this period some industries established themselves as export industries and began to demonstrate the potential of Japanese exports. They were, to mention a few examples, textile, sewing machine, camera, telescope etc. Some other new industries, which will later become stars of Japanese exports, were initiated as infant industries in this period; namely, automobiles, electronics, ship-building and steel. As early as 1955, the Japanese government adopted a program for the liberalization of foreign trade and exchange. The actual drive, however, out of post-war protectionism became intense only under the Income Doubling Plan in the next period.

The Rapid Growth and Internationalization Period, 1960 - 1970: The ambitious plan to double per capita income in ten years, advocated by Prime Minister Ikeda was actually achieved almost twice as much as the plan originally set. The strong incentives and motivation on the part of Japanese businessmen to accomplish economic development on this resource-poor insular country were really remarkable. Indeed, rapid economic growth became almost the national goal to be attained by the cooperation of government and business. The Committee of Industrial Structure established at MITI in 1961 became the most important advisory committee for Industrial Policies in Japan and its members consisted of top government officials, top businessmen and a few academic experts. The committee published practically every year a report which gives a summary of the studies of the various problems facing Japanese industries and the indicative plan of Industrial Policies. As a matter of fact, almost all the basic informations of Japanese Industrial Restructuring Policies are contained in these

reports listed in References. These reports are always best-sellers, and give a strong guidance about the direction of industrial development in Japan in each stage. The amount of information offered by these reports to the private enterprises is very much in detail. According to the guide-post of these reports and other indicative plans of the government, the private enterprise made an enormous effort in improving productivity and quality of products, developing new products and increasing the amount of exports in many fields. The tempo of "modernization" accelerated itself, and most companies dared to investment in the new ventures even at the cost of deteriorating debt-capital ratio.

In spite of the extraordinary effort in the private sector, MITI still found it possible to quicken the process of "internationalization" of Japanese key export industries by Industrial Policies. In particular, the problem was how to make the strategic industries like automobiles more competitive in the international market. They were small in scale, externally indebted and technologically still behind American or European companies in the same field. MITI contacted the private businesses frequently in the official and unofficial ways and gave various forms of supports (subsidies, low-interest loans) and suggestions, called "Gyosei Shido" (Administrative Guidance), to make merger, joint investment, specialization etc.

Liberalization of foreign trade became very urgent especially after the start of Kennedy round in 1962, and liberalization of capital transactions became Japanese obligation after she became a member of OECD and IMF in 1963. A number of Japanese industries performed very well in increasing production and export during this period. They were automobiles, electronics, computers, airplanes, and other machinery. Thanks to the extraordinary performance of these new industries, Japanese exports increased so much that the ceiling of the balance of payments disappeared in the latter half of the 60's. This removal of ceiling really spurred the unprecedented growth of the Japanese economy.

The rapid economic growth created several new problems; e.g. pollution, extreme urbanization and deserted villages, new types of consumers' needs, relief of the unemployed out of declining industries like coal mining, and modernization of small and medium size businesses. In addition, the increased dependence of the Japanese economy on the imported food, energy and other natural resources began to worry the concerned officials and experts. A number of industrial policies designed specifically for these problems were put into force. Needless to say, the problems were not solved easily and carried over to the following period. The new tasks of the Japanese economy were shaping up for three reasons: (1) the need to respond to the higher standard of living that people demand; (2) the need for the Japanese economy to perform properly as a national economy ranking the second in the world trade and finance; (3) the need to develop the economy in better harmony with natural environments. These were the assignments to the next period.

The Trial Period, 70 - 80: The so-called Nixon shocks marked the beginning of this period: (a) abolishment of fixed exchange rate, (b) an embargo of soya bean export, (c) US-China rapprochement with no Japanese involvement. They were almost simultaneously or subsequently coupled with (d) the sharp rise 2.5 times of the import prices of major crops in the world market mainly due to the abnormal climatic conditions in 1972 - 73; and (e) the first oil crisis. The impact of these shocking events awakened the Japanese that the Japanese economy was tightly integrated with the world economy through trade, capital, aid, knowledge and man mobility, and that interdependence between Japan and the rest of the world had to be taken into account even for the purpose of policy-making in economic affairs. Many Japanese intellectuals felt that the Japanese economy was on trial and that more strenuous effort was necessary to overcome the difficulties of further industrialization of this defense-less, resources-poor island empire. Many old aiding measures toward businesses became unnecessary, but restructuring of industries was required in the light of new criterions.

Those criterions had to be considered in view of the new problems in the late 60's; that is, shortage of labor, secular trend to inflation, excessive urbanization, environmental pollution, bottle necks caused by the import requirements of grown-up Japan's economic size, remaining technological gap between Japan and US - EC, insufficient capacity of large-

scale technology and inadequate social overhead capital. To solve these problems, the following direction of Industrial Policies was advocated:

1) Innovation in the Industrial Structure to Meet the Ever-Improving Needs of the People; a) promotion of technological development; b) encouragement of new (knowledge-intensive) industries; c) promotion of wider vista for information-oriented society; d) overcoming the bottlenecks due to the scarcity of critical factors of production; e) elimination of low productivity and stagnant industries.

2) Harmony of Industrial Activity with Nature and Human Life: As the scale of economic activity expanded, the external diseconomy and the social cost of increasing material production began to pose many new non-economic problems. The government intervention into the market mechanism was recognized as something unavoidable. Measures were taken for the following purposes in the 70's: a) comprehensive utilization and regulations of land resources; b) prevention of environmental pollution; c) stabilization of prices (land, food & services and consumer protection d) technology assessment; e) adaptation to social needs (housing, education, medi-care & other public services)

3) Maintaining an Appropriate Social-Framework for Effective Competition at Home and Abroad: Difficulties seem to occur in the industries with the greatest merit in large scale of production and those facing competition with newly industrializing countries. The following points are particularly relevant in the 70's; a) consolidation of competitive conditions and prevention of demerits of monopoly and oligopoly; b) government's active roles in some areas where competition and price mechanism alone cannot properly function: infant industries, stagnant industries, research and development, information industry, special treatment of small business; c) assistance to international economic activities and establishment of new rules of conduct for trade and investment abroad.

So far described above is an outline of Industrial Policy conducted by MITI. Good or bad, MITI plays an important role in guiding the direction of Japanese industrial development. But it is an exaggeration to think that MITI is the head-quarters of Japan, Inc. MITI's budget comprises only 1% of the national budget. As has been described above, MITI's role is to offer a vision that serves as a policy target and persuade Industry in that direction. In arriving at this vision, however, MITI solicits the opinions of business, consumer, men of learning and experience

in various councils and committees. It is a process of mutual understanding and persuasion. So far the vision and the policies guided thereby have been very successful. The success itself consolidated the trust and cooperation between government and private business. This may be an extension of Japan's modernization since the Meiji era. A vice-minister Y. Ojimi called the government and private enterprise "the two wheels of a cart."

II. The Ideas and System of Industrial Policy

Industrial Policy in the broad sense is the government's policies designed to influence the structure, behaviors and achievements of industries. It covers the following types of policies, which are listed with their objects below:

(Types of Policies)	(Objects)
1. Industrial Infrastructure and Pollution Policies	Location, Overhead Capital, Communication, Working Environment, Man Power, Technology, environment
2. Industrial Organization Policies	a) Anti-Monopoly Law & Other Regulations b) Market Structure (restriction or promotion of entry, fair trade) c) Market Behavior (price control, standardization, persuasion)
3. Industrial Restructuring Policies	a) Macro-Industrial Policies b) Sectoral Industrial Policies

Industrial Policy in the narrow sense is the last one; namely, sectoral industrial restructuring policies. General fiscal and monetary policies can affect the structure, behavior and achievement of individual industries, but the policies designed specifically for some industry are also available. Examples are the discretionary foreign exchange control and the restriction of entry or industrial location by requiring certificates or permits.

The policy measures are based on (1) legal regulations, (2) gyosei shido (administrative guidance) or (3) other suggestive measures. The last measure is sometimes called "tsu-tatsu" (notification). These are many notifications issued from various ministries to private businesses. Their effectiveness depends on the availability of other policy measures when

the notifications are not taken seriously. The wide use of *gyosei-shido* in Japan is well-known. But a careful evaluation of its effectiveness needs further investigation. OECD study (The Industrial Policies of 14 Member Countries, 1971) is regarded as unsatisfactory in Japan. Professor Ueno lists up 58 laws and 50 "*gyosei-shido*" as effective industrial policy measures for the period 1952 - 1965.

The essence of Industrial Policy is to combine these various measures to achieve a certain restructuring of industrial composition in the direction required for the advance of industrialization in Japan. The Japanese Industrial Restructuring Policies, as outline in Section II, first adopted rather protective measures as if Japan had been one of developing countries which had to protect "infant industries" and "modernize" the old, traditional, small-scale enterprises. As the economy developed, they became less and less protective and are approaching to the American type of fundamentally free enterprise system. The basic question in policy-making in these different stages was how the Japanese government authorities had chosen a certain industries as those to be given priority in reconstruction and development.

Choice of Strategic Industries

Ever since the very beginning of Japan's modernization in late 19th century as well as the start of rehabilitation of post-war Japanese economy, it was recognized by everybody that Japan is very scarce in land and natural resources and needs to export the manufactured goods and import the raw materials, food and energy. Hence, it was so obviously important to choose the proper lines of industries according to the principles of comparative advantage in international division of labor and cooperation. The need of allocating scarce productive factors not only by market mechanism but also by supplementing it with public controls was recognized for the purpose of preserving the public welfare, fair trade and price stability.

So far, however, as land was concerned, strangely enough, the public policies were not introduced openly until as late as 1969 - 1973; namely, Urban Redevelopment Law in 1969, Reform of Land Taxation in 1970, Industrial Relocation Act in 1972 and National Land Planning Act in 1973. This is probably, to a great extent, due to the Japanese Constitutions's strong protection of Private Property Ownership in Article 29. As a result, the price of urban land in 1972 went up 20 times as much as that

in 1955, which is about 19 times as high as the whole-sale price index for the same period.

As for the other production factors, they had to be allocated between more efficient large scale of enterprises and less efficient medium and small scale of enterprises. This allocation could not be left to the market mechanism in many cases, partly because small businesses had to be protected for the employment and income distribution purposes and partly because some new export industries had to be developed with the anticipation that they would have a comparative advantage after some time. MITI never took the short-term point of view in assessing the comparative advantage of Japanese manufacturing industries in international trade. The general method of approach to this problem was to find some strategic industries which satisfy the following conditions:

1. Industries must be not only import-substituting at the beginning but also later export-promoting with great potential markets all over the world.
2. Efficiency of capital in the industries must be very high. It will be high for the industries whose outputs have the demand of high income elasticity and the benefit of economy of scale.
3. The cost of production of those industries must have a comparative advantage in the international division of labor by being located in Japan.
4. Those industries that have many subsidiaries are desirable in offering good employment opportunities at medium and small scale enterprises.

From these points of view, they selected a combination of highly technical and capital-intensive but basic industries like Iron & Steel, Petroleum Refinery, Petro-Chemical and those similarly capital intensive industries but with lots of labor-intensive subsidiaries like Automobiles, General Machinery, Electronics etc. This choice of some strategic industries was not made without very serious controversy among responsible top decision-makers. The development of automobile industry was particularly the ease in point. As early as 1949 the governor of the Bank of Japan and a number of academic economists insisted that Japan has little chance in obtaining a comparative advantage in this industry. It was MITI which finally persuaded into developing that industry and succeeded in achieving the enormous exports in the 70's. Such success gave MITI a prestigious position in Japanese public policies and put it in the role almost like a

judge at the court of selecting industries. Private businesses took advantage of this leadership of MITI in resolving rivalry among themselves and improving their public relations by giving the impressions that MITI's support implied the coincidence of the industries' development with the public interests from the national point of view.

Three Main Measures of Industrial Policies

The Japanese government may be said to have had a very clear idea of Industrial Policy from the very outset of post-war reconstruction and taken the positive measures in the following three ways.

- (1) Integration of Industrial Restructuring Plan within the framework of General Economic Plan: A typical example was the above-mentioned Income Doubling Plan in 1960. It had two aspects. One was the income plan part which was meant to get the public support and give the well-defined objective of economic policies; another was more substantive in giving a detailed guidepost for developing heavy and chemical industries. This indicative plan laid out the essence of Japanese economic policies in the 60's, and it was used to justify the various industrial policies adopted by MITI and other ministries.
- (2) Preferential allocation of capital and financial resources to the selected strategic industries: A number of governmental or semi-governmental banks were used to supply the low-interest loans to those industries, while all commercial banks were strongly guided by the Ministry of Finance to coordinate their lending policies with MITI's Industrial Policies.
- (3) Various policy measures were used to protect those strategic industries and to promote their development. Those protective measures are: (a) import restrictions by foreign exchange control; (b) protective custom duties; (c) control of foreign capital investment; (d) commodity taxes favorable for domestic products; (e) control of importing foreign technology. The measures for promotion are: (a) preferential supply of low-interest loans from governmental and non-governmental banks; (b) subsidies; (c) special depreciation allowance by Special Taxation Law; (d) exemption of custom duties for special machines imports; (e) easier permit of importing specific technology and know-how; (f) public works expenditure allotted to some industrial locations; (g) incentives given by MITI's administra-

tive guidance (gyosei shido). For the third purpose, a considerable number of new regulations were instituted or passed throughout the post-war years, Table 6 - 11 will show, somewhat in a too emphatic way, how wide the regulations have been.

The first measure was very effectively done by using various quantitative methods of econometrics and predicting the future Japanese industrial structure like the one shown in Table 2. An extensive use was made of the Interindustrial Tables available every year and of macro-econometric models of some 200 equations. In addition a careful study of cost structure in each important industry is undertaken for different scales of production, and it was compared with the similar information on foreign competitors. The documents listed at the end of this paper entitled the Long-term Vision of Industrial Structure are full of these studies and information. They offered an excellent guidance for Japanese industrialists to obtain a perspective of the future of their industries relative to foreign competitors as well as in the framework of the developing Japanese economy. In these studies attention was paid to "the income elasticity criterion" and "the cost structure", which were regarded as two major judgement criteria for Industrial Policy.

The performance of the Japanese economy in achieving the long-term restructuring may be summarized by Table 3. The table shows that the so-called "heavy-chemical industrialization" programmed in earlier vision of MITI plan was realized in the middle part of the 60's. It should be noticed

Table 3: Changes of Industrial Gross Output (1 billion Yen; 65 price)

	(1)		(2)		(2)/	(3)		(3)/	(4)		(4)/
	55	%	60	%	(2)/	65	%	(2)	70	%	(3)
A.F.F.	3.021	13.3	3.355	8.4	1.11	4.444	6.9	1.32	5.318	4.4	1.20
Mining	292	1.3	464	1.2	1.59	561	0.9	1.21	757	0.6	1.35
Text.	1.057	4.7	2.014	5.1	1.90	3.206	5.0	1.59	5.026	4.1	1.57
Chem.	704	3.1	1.187	3.0	1.69	2.583	4.0	2.18	5.511	4.5	2.13
Metal	1.265	5.6	3.127	7.8	2.47	5.321	8.3	1.70	12.300	10.1	2.31
Mach.	1.031	4.5	4.182	10.5	4.06	8.147	12.7	1.95	23.032	18.8	2.83
Pap.	307	1.4	664	1.7	2.16	1.161	1.8	1.75	2.093	1.7	1.80
Other	3.304	14.6	6.082	15.3	1.84	11.077	17.3	1.82	20.479	16.8	1.85
Const.	2.300	10.1	4.367	11.0	1.90	6.679	10.4	1.53	11.584	9.5	1.73
Serv.	9.403	41.4	14.312	36.0	1.52	20.998	32.7	1.47	36.030	29.5	1.72
Total	22.684	100.0	39.753	100.0	1.75	64.177	100.0	1.61	122.130	100.0	1.90

that it took 15 years, despite the government's deliberate effort, to reach a higher stage of industrialization set as the target of Industrial Policy.

Table 4 summarizes the income and price elasticities of some sectoral outputs in domestic consumption and exports, which seems to prove the adequacy of "income elasticity criterion".

Table 4: Income & Price Elasticities of Demand

Domestic Demand	Income Elasticity	Price Elasticity
Food	0.376	-0.681
Textile	0.605	-0.802
Cons. Durables	1.523	-1.413
Exports		
Textile	0.483	-0.624
Chemical	3.046	-
Iron & Steel	3.249	-1.232
Metal Prod.	1.426	-2.235
Machinery	1.448	-1.457
Automobiles	1.945	-2.554

Secondly, the policy measures were mobilized to support the development of strategic industries: (a) directing government public works toward Industrial Infra-structure Policy; (b) allocating the loanable funds to those favored industries. Table 5 shows that the government investment kept the pace with private fixed capital formation or even led the latter in its growth rate, whereas the welfare type of government investment did not grow as fast as the investment in industrial infrastructure. Only in late 60's and more in the 70's the welfare investment caught up with the needs of rising standard of consumption.

Table 6 shows that emphasis in allocating the public funds (nine governmental banks and financial institutions) was placed on (a) some strategic industries like Machinery and Metal Products; (b) protection and modernization of primary industries; (c) expansion of basic industries like Electric Power, Transportation, Construction Industries; (d) protection and modernization of small commercial businesses. The general direction of the supply of funds can be traced also by the records of loans from the Japan Development Bank, which is the leading government bank and

the similar industrial composition of loans from private commercial banks. Thus the supply of loanable funds in Japan may be described that the total amount of supply was controlled by the Bank of Japan; the level of interest rate and the system of interest rates were administered tightly by the Ministry of Finance; the industrial distribution of the available funds was guided by the policies of governmental banks and followed by private commercial banks competitively in the effort of expanding their respective shares. The Bank of Japan always supplied the banks if the funds are demanded for strategic industries chosen by MITI or Economic Planning Agency, whereas the Ministry of Finance adopted the low interest rate policy unless the unfavorable balance of payment or the price increase demanded a restrictive policy.

Thirdly, the direct intervention of government into entry, pricing, production, sales, investment on the basis of some regulation is very wide. It may be classified as follows:

- a. Requiring official permits or certificates in new entry to the businesses;
- b. Intervention into pricing;
- c. Setting some standard price;
- d. Direct control of price
- e. Controlling the amount of production;
- f. Administering the amount of fixed investment;
- g. Giving subsidies;
- h. Monopoly.

These interventions are some times practised only partially. The following tables list up these interventions for various industrial activities, but if only partially intervened (like tuition for private universities), a' or b'... indicates that kind of case. Needless to say, policy d indirectly affects prices, so that d implies c; but only d is indicated in the following tables. This extensive listing will indicate the degree of Japanese Industrial Policy in the narrow sense and may be very indicative of the extent of interventions and also their limits. The number in parentheses show the year when the regulations were authorized. The details of restrictions are given in the laws, acts or regulations enacted in the those years, but they are omitted in this preliminary draft.

These policy measures were directed to foster the strategic industries

and modernize the handicapped industries in the Primary and Tertiary Sectors. All in all, these policies were successful in newly established manufacturing industries but not so in other sectors of the economy. In fact, the labor productivity indices calculated by dividing the industrial gross output in Table 3 by the corresponding labor employed in each industry show that the labor productivity increase from 1955 to 70 was:

Primary sector	3.1
Tertiary sector	2.5
Chemical	5.4
Metal & Metal Products	4.3
Machinery	7.2

The labor productivity in the first two sectors remained as low as one seventh of the most efficient Machinery Industry, and their gaps were widening between 1955 and 70. The policies directed toward these two sectors and textile industry were primarily protective or remedial.

III. The Effects of Industrial Policy

There are many aspects in evaluating the effects of Japanese Industrial Policy. The argument here will be limited only to the question whether those chosen industries have successfully become export industries. Table 12 shows how competitive Japanese exports have become among 12 industrialized countries (US, UK, West Germany, France, Sweden, The Netherlands, Belgium, Italy, Canada, Austria, Switzerland, Japan) in terms of their export prices and market in the exports of all 12 countries. The US's export price has gone up significantly, and she lost her market share by 2,8%, whereas Japanese export price has come down - in 67 - 70 it has gone up, however - and she gained 7.5% in her market share. Japanese advantage is greatly assisted by the fixed exchange rate, while the cost of major export industries has come down, as Figure 7 below demonstrates. The rise in Japan's export price after 1967 seems to show, however, the end of the scale of economy, labor shortage and the rigidity of some goods prices due to the development of oligopolistic industrial organizations.

This cost structure of major Japanese export industries is demonstrated in terms of average prime cost, producers' price and export price. Figure I shows that the declining trend in the prime cost reaches the bottom around 1965 and then the cost starts showing an upward trend. This causes the rise in export price later in 1967. Perhaps the end of

the favorable effects of vigorous Industrial Policies pursued by MITI may have been marked toward the end of the 60's. Needless to say, for the purpose of investigating the international comparative advantage, the comparison of cost and prices with main exporting countries is necessary. I.B. Kravis and E. Lipsey's Price Competitiveness in World Trade, NBER, New York, 1971 offered such an information up to 1964. It is reproduced here as Table 12:

Table 12: Export Price Charges and Market Shares

	Ind. Exp. Price Increase			Market Shares		
	53	63	67	53	63	70
US	22	7	12.4	26.2	21.8	18.4
UK	17	10	5.3	15.2	14.2	10.2
W. Germany	6	4	11.1	13.4	19.9	19.2
Italy	-20	-1	9.9	3.3	5.8	6.9
Japan	-11	-3	11.1	3.8	7.8	11.3

This clearly proves that the Japanese industries listed here have established themselves in the middle part of 60's, which coincides with the observations made earlier on the basis of Japanese cost structure. Thus the effects of Industrial Policy may be said to be largely successful in the 60's.

In the 70's, however, a number of problems have shown up, and they seem to indicate the back side of the success of Industrial Policy or the bad side effect to same extent. Two main effects may be mentioned: one is the so-called Pollution problems and the price and wage rigidity or upward trend caused by oligopolistic organization of Japanese industries fostered during the booming years. The former includes not only the industrial physical pollution but also the social and other malaise due to too much urban concentration. These problems have recently attracted a great deal of attention from professional and government circles. The discussions will be omitted here.

The increasing degree of oligopoly in a number of leading industries was well-known in the early 60's, but competition among the few was keen enough, so that one could assume that effective competition prevailed up to the middle part of 1960's. However, while large corporation became more and more oligopolistic, they organized the transactions with small

and medium size enterprises as subcontracts. The productivity differential between large corporations and small corporations became very large. The former often formed the cartels in recession times and were accused as illegal against anti-monopoly law. The number of cases of offense has been increasing, according to Mr. K. Sanekata's study, from 1965 to 73: 14, 14, 8, 20, 21, 42, 35, 19, 67.

At the same time Industrial Policies to protect the Primary and Tertiary Sectors and small and medium size enterprises created many types of associations called Jigyo-Sha Dantai (Business Associations or cooperatives). The number reached 22,626 in 1974. They are often the bases for cartel-like behaviors or cooperation in business dealings. They often became the bases for administrative pricing even among less powerful businesses. They were frequently overlooked or permitted from the protective point of view.

In recent years, however, the Japanese government has become increasingly conscious of eliminating old restrictive regulations, and the execution of Anti-Monopoly Law is becoming more and more strict. The Fair Trade Commission is examining all of the laws, acts and regulations related to governmental interventions listed in Table 5, 11. This will change the rules of business transactions in Japan a great deal. It announced also recently (August 27, 1979) a new guideline even to Business Associations as follows:

- (1) Any action concerning pricing or production level will be classified as legal, illegal or undecided and regulated accordingly,
- (2) MITI's "administrative guidance" will be subject to regulations of this Commission,
- (3) Consultation will be permitted in advance.

The Japanese business circles immediately welcomed this new direction of Japanese Industrial Policy, but MITI's policies toward business enterprises are bound to be influenced by the new guidelines. The extent to which Japanese Industrial Policy will really change still remains to be seen. But it is certain that the direction of change will be to preserve or recover the competitive nature of Japanese industrial organization and private enterprise rather than the reverse.

Table 5: Pattern of Real Government Investment^K

(bill. Yen in '65 price)										
(1)	(2)	$\frac{(2)}{(1)}$	(3)	(4)	(5)	(6)	$\frac{(4)}{(3)}$	$\frac{(5)}{(4)}$	$\frac{(6)}{(4)}$	
G D P	GDFCF	%	Private Cap. For.	Public Cap. For.	Indust. Pub. Work	Welfare Pub. Work	%	%	%	
59	78,923	13,594	17.2	9,039	4,555	2,177	2,378	50.4	47.8	52.2
64	132,711	32,856	24.8	22,102	10,754	6,355	4,399	48.7	59.1	40.9
				(2.44)	(2.36)	(2.92)	(1.85)			
70	268,794	76,298	28.4	52,862	23,436	13,608	9,828	44.3	58.1	41.9
				(2.39)	(2.18)	(2.14)	(2.23)			

Gross Domestic Fixed Capital Formation does not include private residential investment and inventory investment. The figures in parentheses for (3) (6) show the multiplier values relative to the previous year's values of the same figures.

Table 6 : Industrial Composition of Governmental Bank Loans

(billion Yen)

	60		65		66		70		71		72	
	(1) Loans	%	%	(2) Loans	%	%	(2)/(1)	Loans	%	%		
For. Fish.	298	15.6	13.5	501	15.7	13.8	2.02	373	14.7		12.5	
ng	91	4.8	4.1	46	1.2	1.1	0.51	28	1.1		0.9	
ille	67	3.5	3.1	90	2.4	2.1	1.34	105	4.2		3.5	
nical	67	3.5	3.0	72	1.9	1.7	1.08	22	0.9		0.8	
il Prod.	83	4.4	3.8	180	4.7	4.1	2.16	97	3.8		3.2	
inery	290	15.1	13.1	582	15.2	13.4	2.01	123	4.9		4.1	
er & Pulp	31	1.6	1.4	25	0.7	0.6	0.83	25	1.0		0.8	
er Manuf.	155	8.1	7.0	220	5.8	5.1	1.42	219	8.6		7.3	
struct.	38	2.0	1.7	101	2.6	2.3	2.66	103	4.1		3.4	
rice	794	41.4	36.0	1,909	49.8	44.0	2.40	1,442	56.7		48.1	
ul Ind.	(1,917)	(100.0)		(3,830)	(100.0)	8	2.00	2,540	(100.0)			
sonal	292		13.3	511		11.8	1.75				15.4	
al	(2,210)		(100.0)	(4341)		(100.0)	1.96				(100.0)	

Table 7: Direct Interventions - Food & Food-Processing Industries

1. Alcohol	- d, e, f	(1937)
2. Rice: production	- d, f, g	(1942)
whole-sale	- b, d, e, f	(1942)
retail-sale	- d, e, f	(1942)
3. Wheat	- b, d, g	(1942)
4. Food	- a	(1947)
5. Central Market	- a, d, f	
6. Retail Market	- a, f	
7. Salt: production	- a, e, h	(1949)
sales	- a, h	(1949)
retail sales	- d, e, h	(1949)
8. Tobacco: production	- a, f, h	(1949)
retail sales	- a, d	(1949)
9. Animal Feeds Import	- b	(1952)
10. Dried Potatos	- b, c'	(1953)
11. Liquors: production	- a, c, e, f	(1953)
sales	- a, c, e	(1953)
12. Malt Production	- a	(1953)
13. Butchery	- a	(1953)
14. Veal	- c', g	(1958)
15. Beef	- b, c'	(1959)
16. Eggs	- g	(1960)
17. Pork	- b, c', e, g	(1961)
18. Soya Beans, Rape	- e, g	(1961)
19. Sugar Cane	- b, c, f	(1964)
20. Domestic Grape	- b, f	(1964)
21. Processed Milk	- c, g	(1965)
22. Milk Products	- b, c'	(1965)
23. Sugar Import	- b, f	(1965)
24. Vegetables	- e, g	(1966)

Table 8: Direct Interventions - Manufacturing Industries

1. Raw Silk	- b, c', e	(1951)
2. Airplane	- a, f	(1952, 58)
3. Guns	- a, f	(1953)
4. Ships: foreign	- f, g	(1950, '59)
coastal	- f, g	(1953)
5. Chemical Fertilizer	- b, e, f	(1954, 64)
6. Department Stores	- a, e, f	(1956)
7. Special Machinery	- f', g'	(1956, 71)
8. Electronic Equipments	- f', g'	(1957, 70)
9. Coal	- a, c, f	(1955)
10. L N G: prod.	- a, c, f	
sales	- a, c, f	
11. Coals for Elect. Power	- c	(1963)
12. Petroleum	- a, c, f	(1962)
13. Textile	- c, e, f, g	(1964 67)
14. Medicine: production	- a	(1960)
sales	- a	(1960)
15. Medical Equipments	- a	
16. Cosmetics	- a	

Table 9: Direct Interventions - Public Utilities & Services

1. Rent	- d	(1946, 52)
2. Mail, Tele-Communication	- a, d, e, f	(1947,53)
3. Schools	- a, d', e, f	(1947,49)
4. Medical Doctors	- a, d	(1948, 58)
5. Inns	- a	(1948, 57)
6. Hotels	- a, d	(1949)
7. Amusement Center	- a	(1948,57)
8. Travel Agent	- a, d	(1947)
9. Public Bath	- a, d	(1948, 57)
10. Laundry	- a	(1950,57)
11. Barber	- a	(1947,57)
12. Beauty Parlor	- a	(1957)
13. Land, Housing	- a, c', e'	(1946, 52)
14. Water Works	- a, d, e, f	(1957)
15. Drainage	- d, f	(1958)
16. Electricity	- a, d, f	(1952, 64)
17. Gas	- a, d, f	(1954)

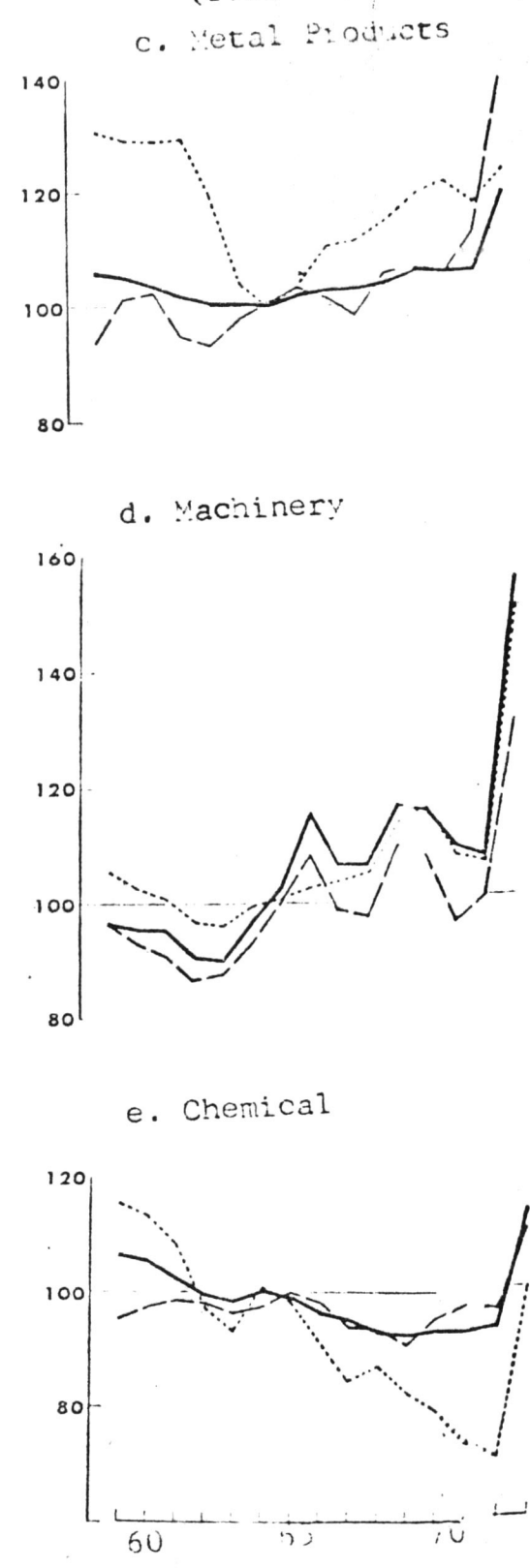
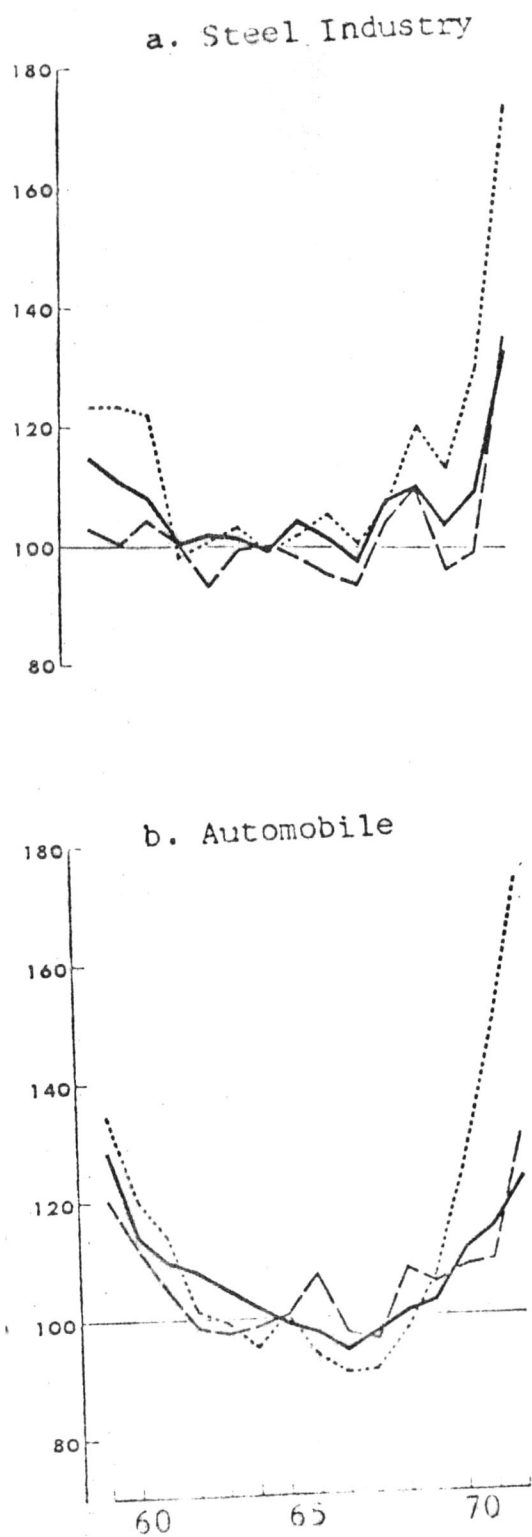
Table 10: Direct Interventions - Transportation

1. National Railroad	- a, d, f	(1948)
2. Local Railroad	- a, d, e, f	(1948)
3. Other Private Railroad	- a, d, e, f	(1910, 1948)
4. Trucking	- a, d, e, f	(1948)
5. Bus Truck Terminals	- a, d, f	(1951)
6. Bus Transport	- a, d, f	(1938)
7. Railroad Transp. Agent	- a, f	(1949)
8. Regular Liner, Passenger	- a, d, e, f	(1949)
9. Automobile Shipping	- a, d, e, f	(1949)
10. Irregular Liner, Passenger	- a, d, e, f	(1949)
11. Coastal Cargo Shipping	- a, c, d, e, f	(1952)
12. Coastal Chartered Shipping	- a, c, d, f	(1952)
13. Coastal Shipping Agent	- a, d, f	(1952)
14. Loading & Unloading	- a, d, f	(1951)
15. Airline, regular	- a, d, e, f	(1952)
16. Airline, irregular	- a, d, f	(1952)
17. Other Air Transport	- a, f	(1952)
18. Foreign Air-Lines	- a, d, e, f	(1952)
19. Warehouse	- a, d	(1956)
20. Custom Clearance	- a, f	(1956)
21. Export Cargo Control	- d, e, f	(1949)
22. Import. Cargo Control	- e	(1949)
23. Forwarding Agency	- d	(1949)

Table 11: Direct Interventions - Banking, Insurance & Security

1. Interest Rate	- c, d	(1947)
2. Banking	- a, f	(1927)
3. Savings Bank	- a, e	(1920)
4. Mutual Bank	- a, e, f	(1951)
5. Long-Term Credit Bank	- a	(1952)
6. Financial Banks	- a, e	(1951)
7. Labor Banks	- a	(1953)
8. Trust Business	- a, f	(1911, 52)
9. Mutual Financing. Ass.	- a, f	(1931)
10. Insurance Premium	- d	(1948)
11. Damage, Marine Insurance	- a, e	(1939,48)
12. Life Insurance	- a, e,	(1939,48)
13. Foreign Insurance Co.	- a, e	(1949)
14. Security Exchange Co.	- a, d, f	(1948)
15. Security Investment	- a	(1951)
16. Security Exchange	- f	(1948)
17. Foreign Exchange Trans.	- a	(1954)
18. Financial Cooperative	- a, d, e	(1949)
19. Postal Savings ^{a/c}	- a, d, e, f	(1947)

Figure 1: Cost and Prices of Main Export Industries
(1965 = 100)



——— Producers' price
 Export price
 - - - Average prime-cost

Table 12: International Comparison of Export Prices

1. Iron & Steel (SITC 67)	53	62	64
US	100 (84)	100 (100)	100 (100)
UK	92	78	82
Germany	85	76	78
Japan	n.a.	70	70
2. Metal Products (69)			
US	100 (86)	100 (100)	100 (102)
UK	97	92	92
Germany	90	92	90
Japan	n.a.	74	73
3. Electric Machinery (72)			
US	100 (102)	100 (100)	100 (97)
UK	97	103	106
Germany	90	96	97
Japan	n.a.	89	91
4. Ship-Building (735)			
US	100 (98)	100 (100)	100 (97)
UK	68	59	55
Germany	62	56	53
Japan	59	51	46
5. Precision Instrument (861)			
US	100 (86)	100 (100)	100 (102)
UK	76	88	91
Germany	86	88	88
Japan	n.a.	82	83

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