

**The Contributions and Roles of Industrial Policy in Postwar
Japanese Economic Development**

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(Reference Documentation)

1. Preface

The Japanese economy achieved phenomenal growth after the Second World War. After coming through two oil crises, the 1980s saw the growth rate drop to half of what it had been in what has come to be known as the "High-Growth Period," but the Japanese economy still recorded far better performance than other developed countries. The real GNP growth rate during the 1980s (1980-1988 average, and so throughout) was 4.1%, while the consumer price and wholesale price growth rates were only 1.5% and -2.3% respectively. The unemployment rate was similarly low at around 2%. After the appreciation of the dollar in the early 1980s, the balance of payments recorded large net outflows; in 1988, the current account surplus was 79.5 billion dollars, while the balance of net external assets had reached 291.7 billion dollars by the end of that year. Using a simple conversion at prevailing foreign exchange rates, Japan's per capita GNP was not even 200 dollars in 1952, but by 1980 had reached 8,900 dollars. By 1988, it was more than 20,000 dollars, a level that surpassed the United States, West Germany, France and many other countries, though these gains were in part due to a sharp appreciation of the yen. The development of the manufacturing sector is the primary engine behind Japanese economic growth. Industries like agriculture, forestry, fishing and mining have been stagnant in postwar Japan, but manufacturing has gone from outmoded facilities and technologies (and correspondingly low levels of productivity) to rapidly improve its technology and productivity levels, developing a large number of new segments and achieving world-class technologies in many fields.

This astounding success of the Japanese economy in general, and Japanese manufacturing specifically, has brought attention from around the world to the industrial policy of the government of Japan. Given its rise in economic position and the strong international competitiveness of its industries, Japan's industrial policy has provoked wariness, criticism and envy among many in the United States and Western Europe, but the Asian NIES, ASEAN countries, China and many other developing countries are extremely interested in learning from Japan's experiences. Unfortunately, until now few non-Japanese have correctly understood Japanese industrial policy. Even among the Japanese themselves, few outside of those involved understand how industrial policy really works. The perception in the past was that the government and private sector were joined at the hip in managing the country's industrial activities, that they had formed "Japan Inc." Even today, non-Japanese who are not well acquainted with circumstances here often believe that the Ministry of International Trade and Industry (MITI), the government agency with primary responsibility for manufacturing policy, is all-powerful, using administrative guidance to push and prod private companies at will. Neither of these conceptions bears much resemblance to reality, and it is necessary to provide a corrective by explaining the true nature of industrial policy.

These misconceptions regarding industrial policy are to a large part due to a lack of awareness of the changes that have taken place in policy over the years. Postwar Japanese industrial policy has not been constant; rather, its content, tools and roles have changed to suit the requirements of the times. Industrial policies that have outlived their usefulness have been terminated. For example, beginning in the 1950s Japan had a slogan that it was "founded on exports," and the export promotion policies of the time are well-known, but virtually all of the export subsidies had been eliminated by the early 1970s. Subsequent Japanese external economic policies placed priority on expanding imports, encouraging mutual investment, opening Japanese

markets and fostering closer ties with other countries. In short, changing times brought a reversal in policy orientation.

This makes it imperative that any discussion of postwar Japanese industrial policy define periods that correspond to levels of industrial development and then examine the unique features of industrial policy at each stage. There are several different approaches that could be used in these classifications, but we have decided to adopt the three periods defined by Professor Ryutaro Komiya, the Director of the Research Institute of International Trade and Industry.

The first period extends from the end of the war until the mid-1950s when the Japanese economy had generally recovered to prewar levels. We call this the "Reconstruction and Foundational Period." The second period, which we call the "High Growth Period," extends from the latter half of the 1950s to the first oil crisis in 1973. Finally, the third period extends from the first oil crisis to the present day, and is called the "Economic Maturation Period."

The nature and tools of industrial policy underwent vast changes during these periods, as did the roles played by industrial policy in the economy. Space constraints forbid us from going into a detailed explanation of historical processes in this paper, but for convenience, we use the following structure in our examination of industrial policy.

- 1) Chapter 2, "The history of postwar industrial policy," focuses on 1) the formation of the basic framework for Japanese economic administration and the basic tenets of industrial policy during the Reconstruction and Foundational Period (first period); and 2) how these policies developed and changed in the High Growth Period (second period).
- 2) Chapter 3, "Features of recent industrial policy," moves from the basic policies examined in Chapter 2 to explain how industrial policy has changed in the Economic Maturation Period (third period) before commenting on some recent issues.
- 3) Finally, Chapter 4 concludes by describing industrial policy today, focusing on the tools that are used to achieve policy objectives.

(Reference) The term "industrial policy:"

It is no easy task to arrive at a definition of "industrial policy" from the perspective of economic theory. Without delving into detailed debate, for our purposes in this paper we will use the term "industrial policy" simply to refer to any policy or program under which authorities use the tools at their disposal to influence the distribution of resources among industries, or to regulate, restrict or encourage certain economic activities by private enterprises for the purpose of remedying "market failures," or for some other purpose. For example, the practice of using protective tariffs to encourage the development of "fledgling industries" is probably the classic example of an industrial policy, dating back at least to Friedrich List. Regulations to protect the environment, prevent pollution or ensure safety (industrial safety) are examples of industrial policies that have been emphasized since the 1970s.

2. The history of postwar industrial policy

(1) Overview of industrial policy in the postwar reconstruction period

Wartime damage left Japan with vastly diminished industrial capacity, as can be seen from the extreme declines in trade: At the end of the war exports were approximately one-ninth of prewar levels, while imports were approximately one-sixth. On the production side, there were severe constraints due to the full or partial closure of machinery and munitions plants as part of war reparations, but supplies of raw materials like iron ore and coal had also slumped. Meanwhile, the inflation that began during the final years of the war translated into hyperinflation after defeat. Benchmarked against 1934 (= 1), wholesale prices were at 48.2% in 1947, 127.9% in 1948 and 208.8% in 1949.

The first industrial policies developed to address these circumstances focused on priority production strategies to restore production. Raw material imports had dried up and wartime controls were still in force, preventing market mechanisms from functioning. In light of this, particular focus was given to two sectors, coal and steel. These industries received priority allocation of resources and funding to create synergistic production gains that spilled over into other sectors. The measures were a success. Industrial production had recovered significantly by 1948, laying the groundwork for acceptance of the strongly deflationary policies imposed by the "Dodge Line."

Second, the dismantling of wartime systems was an important component of macroeconomic policy. The "Dodge Line" policies of 1949 were very effective at this by quelling postwar inflation and also providing for the orderly elimination of postwar economic controls on prices and resources (production and distribution), etc. The establishment of a fixed foreign exchange rate of 360 yen to the dollar helped to stabilize the economy and restore market mechanisms, and the Japanese economy also came under strong pressure to rationalize its industries and develop international competitiveness.

Finally, industrial rationalization policies sought to improve the international competitiveness of industry by modernizing factories and facilities that had grown obsolete during and after the war, and by introducing more advanced management techniques. Tax and financial measures were also marshaled to provide support.

(2) Elimination of postwar economic controls

Japan's postwar economic controls continued in 1946 and 1947, focusing primarily on the establishment of official prices and the introduction of rationing in order to quell inflation and prevent inequities among the population due to differences in purchasing power. Controls on commodities were based on the Temporary Materials Supply and Demand Regulation Law (1946) and distinguished between "producer goods" and "consumer goods." A number of public corporations were established to ensure fair allocation of commodities that were in particularly short supply. These corporations had exclusive purchasing and selling rights, and were given price adjustment subsidies. Price controls were based on the Price Control Ordinance (1946)

and involved the payment of price differential subsidies to increase production and export-import subsidies to adjust domestic-foreign price gaps, the vast majority of which were paid out of the national budget. (In FY 1948, the total value of price adjustment expenses posted to the budget plus other price-gap subsidies was approximately 93.5 billion yen, equivalent to 22.9% of the General Account.)

The postwar economic controls were supported by the government under the idea of "intermediate stabilization" that sought to use the transitory stability achieved by the priority production system and consequent recovery in production levels as the foundation for full-fledged stability. However, what came to be known as the "Pricing System of 3/3" (new price levels that were introduced in March 1946; for example, producer prices for 1 measure of rice were hiked from 150 to 300 yen, consumer rice prices from 75 to 250 yen, consumer coal prices from 85 to 150 yen per ton, standard daily wages set at 20 yen, and standard household monthly expenditures at 500 yen) was forced to make frequent revisions in order to keep up with black-market prices that were driven by high levels of inflation, and was ultimately forced to reorient official prices towards actual costs and constrain wages as much as possible.

In December 1948, the General Headquarters (GHQ) published the "Nine Principles of Economic Stabilization," and the next year, 1949, Joseph Dodge came to Japan and demanded currency stabilization, the establishment of a foreign exchange rate, and an end to inflation so that the Japanese economy could get back on its feet. In accordance with his prescriptions, there were large cuts to the spending budget for FY 1949 that produced an ultra-balanced budget; meanwhile, in April the exchange rate was fixed at 360 yen to the dollar. These steps brought great progress in stabilizing the economy. What came to be known as the "Dodge Line" provoked a recession of effective demand that increased dead stock and allowed prices to stabilize by shrinking the difference between black-market and official prices. It was only at this point that the postwar price and commodities controls became meaningless. In 1948 and 1949, the government began to eliminate official prices and move items off the "designated production materials" list. At the end of 1948, Japan had approximately 63,000 controlled categories (subcategories); by the end of 1951, there were a mere 80. Japan also had a total of 15 public corporations to oversee rationing and trade, employing some 150,000 workers. By the end of 1949, approximately half of these corporations had been disbanded, and by FY 1950, the workforce had been reduced to 8,600.

(3) Enhancement of the competitive base

As one looks at the development of Japanese industry in the postwar period, it is hard to ignore the periods of "excessive competition" and their impact. The basic foundation and framework for competition was put in place by the economic democratization measures after the war.

The allies insisted on the demilitarization of the economy, and one of the earliest steps was to implement economic democratization policies so as to remove the causes of militarism. In terms of specific policies, the zaibatsu were dismantled between 1946 and 1947. Also at this time, the Anti-Monopoly Law was formulated as a Japanese version of US antitrust law, there were agrarian reforms, and the "Three Labor Laws" were enacted.

Under the Law for the Elimination of Excessive Concentrations of Economic Power, Japan began to dismantle the zaibatsu under the "Memorandum on Dismantlement of Holding Companies" issued in November 1945 by the GHQ, which ordered the "Big Four Zaibatsu" (Mitsui, Mitsubishi, Sumitomo and Yasuda) to be split up. The next year, in April 1946, the "Holding Company Reorganization Committee Ordinance" was promulgated and put into effect, establishing the Holding Company Reorganization Committee as the agency in charge of breaking up the zaibatsu. During the next year or so, the Committee designated a total of 83 companies as "special companies," took over their securities and assets, and managed and disposed of them. It also designated 325 companies as having excessive concentrations of economic power under the Law for the Elimination of Excessive Concentrations of Economic Power.

As occupation policy transitioned from seeking complete demilitarization to seeking economic independence, there were a total of 10 zaibatsu subject to disposition and 18 that received reorganization orders. Though much smaller in scale than originally envisioned, these measures nonetheless eliminated the family-dominated concerns. The two classic examples are the trading houses of Mitsubishi Corp. and Mitsui & Co., Ltd., which were split up into approximately 120 and 170 companies respectively. Mitsubishi Heavy Industries, Ltd. was split into three before the former company was disbanded. In breaking up the zaibatsu, the GHQ instructed Japan to establish "securities disposal and adjustment associations" that sold stock to employees and other general-public investors.

The Anti-Monopoly Law contained blanket prohibitions against cartels not found in the laws of other countries, and a rather foreign concept to the competitive practices of Japanese industry at the time. This unsuitability resulted in several subsequent revisions. Nonetheless, the law had an extraordinarily large impact on the terms of competition for Japanese industry.

These economic democratization policies should be appreciated for the role they played in establishing a framework for corporate competition and business-labor cooperation in postwar Japan, creating general-public purchasing power to support domestic demand, and laying the groundwork for the ambitious technological innovations and capital investment that would come later.

(4) Conversion of former munitions industries to civilian demand

The conversion of Japan's former munitions industries proceeded relatively smoothly immediately after the war when these industries were still supported by, for example, preferential rationing. But it should be emphasized that the actual conversion to civilian purposes, in the broader sense of establishing the foundations for industries and companies to become self-sustaining, required a great deal of time to accomplish.

One of the most important conditions to successful conversion, in the true sense of the word, was the settlement of wartime obligations. After the war, the former munitions industries held enormous wartime credits (wartime compensation obligations) against the government in the form of subsidies and loss reserves under the General National Mobilization Law and similar laws, as well as expenses for factory dispersal under the Air Defense Law and

for the costs of military supplies produced. During 1945, the government decided to curtail all tax-based compensation, and also took a series of measures to limit the impact of curtailment on companies and financial institutions while moving to rebuild industries from the accounting side. These measures were able to reorganize the finances of munitions industries and establish both a financial and accounting basis for the continuity of production after the war. Other important conditions for success included the preparation of a basis for competition with the dismantlement of the zaibatsu (for details see Section (3)), the elimination of economic controls (for details see Section (2)) and industrial rationalization policies (for details see Section (7)).

Meanwhile, more than 130 military arsenals that had been producing bombs, gunpowder, aircraft fuel, naval vessels and the like were subject to a prolonged confiscation and retention by the occupation as part of its postwar reparations policy, but from about 1946 some of them were opened to rental and used by the private sector on a temporary basis. After the peace treaty with the United States took effect, factories designated for reparations were returned to Japan in April 1952 and sold to private companies. These privatized factories went on to become a major component in the country's industrial foundation.

As one example, the former Maizuru Naval Arsenal was an important source of ships, aircraft and weapons, but in April 1946 Iino Industries Co., Ltd. leased the land, building and facilities from the government, took on 2,500 former employees and opened the Maizuru Shipyards, which made use of military technologies to begin offering a wide range of services, including the repair, salvage and dismantlement of commercial ships and minesweepers. After the plant was removed from the compensation list, it expanded its business activities, by resuming production of the first new ships of the postwar era and continuing to produce ships for the Defense Agency and related government bodies. Similarly, the private sector requested that the government sell off the former Navy's Yokkaichi Fuel Depot, an important manufacturer of gasoline for aircraft, etc., so that it could be used in the development of the postwar petroleum refining and petrochemicals industries. The Cabinet approved a proposal to lease the Yokkaichi Fuel Depot in 1955, but time was required to make adjustments to the defense fuel procurement policy and petrochemical industry development policy, so it was not until 1957 that a final agreement was reached with the new operator and the plant sold to the newly-established Showa Yokkaichi Sekiyu Co., Ltd. The result was Japan's first large-scale petrochemicals complex.

(5) Accumulation of corporate capital

There were three main categories of policy adopted by Japan to address the capital shortfalls of its postwar companies: 1) tax measures, 2) industrial finance, including assistance from other countries and 3) deployment of personal capital.

On the tax front, assets were revalued and special amortization programs were introduced for facilities and equipment. Asset revaluation was conducted three times after 1949. The sharp postwar inflation resulted in book values that were far lower than market prices. Revaluation programs aimed to bring them in line with the price index and encourage appropriate depreciation.

This program contributed significantly to the strengthening of corporate finances. Special amortization measures included a program introduced in 1951 under which mechanical facilities designated by government agencies were eligible for a 50% increase in depreciation in order to encourage upgrades of obsolete equipment and strengthen international competitiveness. To this were added the 1952 "Increased Depreciation for Rationalization Equipment" program (50% of price in the first year), "Special Short-Term Depreciation of Testing and Research Equipment and Facilities" program (50% of price in the first year and 20% each in the second and third years), and other measures. These policies greatly reduced the financial burdens for corporate rationalization and modernization.

In industrial finance, the Reconstruction Finance Corporation (RFC) was established in 1947 to supply funding for industrial reconstruction, including long-term funds. Its main borrowers were coal (36%), electric power (17%), chemicals (8%) and steel (3%) (figures in parentheses indicate percentage of outstanding loans as of March 1949); and its lending gave priority to companies in basic, core industries (railways, telephone and telegraph services were government agencies and therefore not eligible). The RFC's loans were supported by underwriting by the Bank of Japan and emerged as an inflationary factor, so at the direction of the GHQ new lending was curtailed in 1949 and operations were taken over by the Japan Development Bank in 1951.

The government used investments and bond issues to provide the RFC's funding, but loans funded from the General Account were eliminated under the Dodge Line programs that began in 1949. In their place, the Counterpart Funds Special Account, which was funded from the proceeds of sales of assistance materials provided by the United States under the Government and Relief in Occupied Areas (GARIOA) and Economic Rehabilitation in Occupied Areas (EROA) programs, played a major role in the enhancement of the industrial base and the development of core industries. The government used these funds to provide liquidity to private financial institutions by redeeming government bonds, and also to purchase government bonds (28%), invest in the telecommunications, railway and other government-operated public services (33%), and provide investments and loans to private companies in basic industries like electric power and marine transportation (34%). When the need for long-term funding subsequently increased, the Industrial Bank of Japan, which had traditionally issued bank debentures and provided long-term lending, was joined by a newly established Long-Term Credit Bank of Japan in 1952, and the "long-term credit bank" category was institutionalized. These two banks would go on to play leading roles in supplying long-term funding, primarily to large companies.

However, public funding programs were themselves inadequate to solve the capital shortfalls. That would require the utilization of the personal capital held by individuals. To promote direct finance, the government launched a "Securities Democratization Campaign" to promote indirect finance, and a "Savings Campaign." The objective of the Securities Democratization Campaign was to alleviate the shortages in corporate capital by bringing general investors to the stock market, an institution with which they had little familiarity. In addition to classes and lectures on securities investment, advertising in the mass media and other PR, the campaign also

provided financing to personal investors and brokers. By 1949, personal ownership of stock had increased to 68.5%.

The Savings Campaign aimed to increase macro savings rates in reaction to the negative household savings rates that were seen for a while after the war. Initially, the purpose of the program was to restrain postwar inflation, but from 1952 onwards its objectives were economic independence and capital accumulation. The government set annual savings increase targets, reduced tax rates for interest income (in 1953, taxes were reduced from elective withholding of 50% to separate withholding taxation of 10%, and in 1954 elective withholding on long-term savings was reduced to 5%) and introduced interest tax-exempt savings programs for deposits up to certain ceiling amounts, for example, the Postal Savings and National Savings Association Program (1941-1963) and the Small Savings Tax Exemption Program ("Maruyu," 1963 onwards). The support provided by these programs resulted in personal savings, as calculated under national income accounting, rising from 384.6 billion yen in 1950 to 893.5 billion yen in 1955. The fiscal investment and loan program (FILP) then put this money to work in long-term industrial investments.

(6) *Foundations and rationalization of corporate management*

Japan introduced joint-stock companies almost immediately after the Meiji Restoration of 1868 as a means of moving from a feudal to a modern economy. At the time, the system caused a great deal of upheaval; the problems discussed below resulted in large numbers of corporate bankruptcies. It was only upon their resolution that joint-stock companies became established as a part of the Japanese socioeconomic fabric. Below are some of the problems and how they were solved.

- | | | |
|--|---|---|
| • Capital shortages | ← | Used productivity gains to increase capital accumulation, develop financial institutions, and raise foreign capital |
| • Inadequate transportation facilities | ← | Marshaled private railways for the development of a rail network |
| • Inadequate legal systems | ← | Formulated Commercial Code, Trademarks Ordinance, etc. |
| • Untrained managers | ← | Improvement of skills through experience; attrition of unskilled managers |
| • Mistrust of the modern economy | ← | Strong performance by some companies (railways, spinning, banks etc.) |

Japan's joint-stock companies developed on their own, but the introduction of management techniques from postwar Europe and the United States, together with concerted efforts to modernize facilities, became major factors for their development. Japan enacted the following measures to support the companies' own efforts. The Productivity Improvement Campaign was spearheaded by the Japan Productivity Center, a private foundation with

government support that played a leading role in encouraging the use of Western management techniques. The Center conducted a broad range of activities, among which the most influential were perhaps the organization of fact-finding missions consisting of industrial, government, academic and labor leaders who were sent to Europe and the United States; and the sponsorship of numerous seminars. The fact-finding missions (a total of 306 missions with 3,133 participants were conducted between 1955 and 1960) demonstrated to leaders the realities of the productivity gaps and the levels that Japan should strive for, and also provided an opportunity for them to think about specific ways to improve productivity. Seminars and mission reports helped to instill the concept of productivity and the methods for its improvement in a broad swath of the general public. Seminars covered such topics as industrial engineering (IE) as a scientific approach to production and management, quality control (QC) as a means of improving quality, and marketing as a way to reorient management towards consumer motivation (identification of consumer needs, development of products and production activities that address them, and the publication and advertising of products to inform consumers, etc.). They had significant influence over subsequent corporate management reforms.

In addition to these "soft" reforms, the "hard" reforms of capital investment facilitated by the industrial rationalization policies (tax breaks and fiscal investments and loans; see Section (7)) were instrumental in reducing the risks associated with private-company rationalization investments, and in supplementing their fund-raising.

(7) Independence of key industries

Military defeat devastated Japan's industries. The first step in the rebuilding process was the use of the priority production strategy to overcome the crisis of production declines, which was followed by efforts to strengthen the independence and international competitiveness of industry. Paramount in this were industrial rationalization policies and a number of sector-specific policies and programs that aimed to develop new industries or promote heavy/chemical industrialization.

Priority production was introduced to break free from the extreme shortages of materials and the stagnation of coal production. The strategy was to concentrate resources in a specific sector (coal), the production of which was then given priority allocation to the steel sector, thereby increasing steel production too. This mutual expansion of the coal and steel sectors in turn raised the overall industrial production level. The priority production strategy continued until Reconstruction Finance Corporation (RFC) lending was curtailed by the Dodge Line. During this process, these sectors received intensive lending from the RFC, but were also subject to direct controls on prices as well as price-gap adjustments. Priority production began to expand industrial production in 1948, and by December of that year production levels had been restored to approximately 70% of what they were before the war. It can therefore be appreciated as a strategic policy that opened the door to expanded production by effectively allocating limited resources at a time when the supply and demand balance had been significantly undermined.

In the early 1950s, steel, coal, marine transportation, electric power, synthetic textiles, chemical fertilizers and a number of other industries began

to invest capital in rationalization, and the government developed programs to support them. Unlike priority production, the primary tools for industrial rationalization policies were special taxation measures and fiscal investments and loans. Tax measures included a special amortization of "important machinery" and "rationalization machinery," tax breaks for key assets and tariff waivers for imports of key machinery. They played a significant role and in FY 1955 were valued at 5.7% of corporate income tax revenues. Fiscal investments and loans accounted for 28.3% of all industrial funding between 1952 and 1955 (37.2% for marine transportation, electric power, steel and coal).

In the latter half of the 1950s, industrial rationalization policies gave way to programs to foster new and growth industries. The specific sectors targeted were synthetic textiles, petrochemicals, machinery parts, industrial machinery and electronics, etc. Each sector formulated a five-year development plan, each was given its own legislation, and a variety of policy tools were brought to bear, including lending from the Japan Development Bank, tax breaks and special allocations of oil and foreign currency. For petrochemicals, the government and private sectors joined hands to create demand forecasts and make systematic investments (capital investment adjustments) based on these forecasts in order to avoid over-investment in facilities due to excess competition.

It was also at this time that Japan successfully developed its parts and components industries by, for example, promoting the machinery parts sector under the Law on Temporary Measures to Promote the Machinery Industry (Machinery Industry Promotion Law; June 1956) and the electronics sector under the Law on Temporary Measures for the Promotion of Electronics Industry (Electronics Industry Promotion Law; May 1957). This, we should note, played a significant role in the subsequent development of the automotive sector and other processing and assembly industries. The Machinery Industry Promotion Law used tax breaks and financial assistance to encourage the reduction of production costs by modernizing facilities and improving professional standards. Part of this involved approval for cartels to restrict quality levels and product categories. The Electronics Industry Promotion Law provided subsidies for testing and research as well as assistance for commercialization according to the business' stage of development.

Heavy/chemical industrialization is the classic industrial policy from the High Growth Period. To achieve high growth while moving closer to an optimal industrial structure, MITI established two standards, the "income elasticity standard" and the "productivity gain standard," and designated certain industries that met standards (steel, shipbuilding, petrochemicals, automobiles, machinery, machinery parts and electrical equipment and electronics) for promotion and development (see note).

The strengthening of international competitiveness was key to this, and different policy tools were combined as appropriate for the sector, including low-interest lending by the Japan Development Bank and other institutions, special amortization programs and other tax measures, import restrictions, export promotions and other border measures, and also efforts to concentrate production by promoting mergers and alliances, adjusting capital investment and approving rationalization cartels.

Many of the border measures like import restrictions, restrictions on incoming direct investment, and tax breaks on export income would be gradually liberalized as Japan joined the General Agreement on Tariffs and Trade (GATT) and the Organization for Economic Cooperation and Development (OECD), but time-limited import restrictions did serve to greatly increase the effectiveness of policy by impressing on industry the urgency of modernization and rationalization. We can therefore praise these measures for facilitating industrial adjustments and accelerating independence by providing a buffer period.

Turning to energy industries, the establishment of a comprehensive energy policy underscored the importance of low-cost, stable energy supplies as a matter of economic security (December 1963) and emphasized the need for the oil industry, in particular, to be independent from international oil capital. These principles placed oil policy at the foundation of the comprehensive energy policy and also expressed great expectations for nuclear power in the future. The Petroleum Industry Law was passed in May 1962 in anticipation of the liberalization of oil imports the coming October, and MITI took the lead in adjusting refining activities and promoting rationalization and self-regulation. More specifically, the law attempted to foster the development of national oil companies by requiring the Minister of International Trade and Industry to formulate a Petroleum Supply Plan, by establishing licensing provisions for refineries and permit requirements for new capacity in specific facilities, and also by formulating rules regarding pricing. These rules evolved to be more wide-ranging and flexible as a result of the subsequent development of the Japanese economy and changes in international energy conditions.

Note: In this context "heavy/chemical industrialization" refers to any industry that satisfied the income elasticity standard and productivity gain standard, in other words, any promising industry that could be expected to achieve high growth in both demand and supply. It did not mean that any and all heavy industries or chemical sectors would be promoted. In fact, it actually included high value-added light industry.

(8) Small and medium-sized enterprise policy

During the postwar reconstruction period, small and medium-sized enterprises (enterprises with less than 200 employees) accounted for 99.8% of all places of business and 76.3% of jobs (1947). In light of the importance of small and medium-sized enterprises to the national economy, Japan established the Small and Medium Enterprise Agency in 1948 to remedy the disadvantages that they incurred due to economic and social constraints, and to assist the self-help efforts of small and medium-sized operators. Below is a description of the coordinated small and medium-sized enterprise policy that was pursued.

1) Major policies

a) Modernization and advancement

The modernization of small and medium-sized enterprises entails more than just updating the facilities and management of individual enterprises, and indeed was a general approach that extended to the ties among enterprises and even among sectors. "Advancement" sought to bring small and medium-sized enterprises to appropriate sizes, promote cooperative operations, collect and aggregate factories and stores, etc., convert businesses, and modernize management approaches in the retail and commercial sectors.

The "Law on Temporary Measures for the Industry-Specific Promotion of Small and Medium Enterprises" (1960) was formulated specifically to modernize small and medium-sized enterprises in individual sectors, and sought to promote modernization and advancement by identifying the problems in a wide range of segments. In 1963 it evolved into the "Law to Promote Modernization of Small and Medium-Sized Enterprises."

b) Organization

Japan sought to develop vibrant companies and an active market economy by merging excessively small enterprises into more appropriate sizes (production units able to achieve the highest possible labor productivity in light of demand and current production technology). Cooperation and partnerships etc. among multiple enterprises were able to bring small and medium-sized enterprises, which had accumulated few if any managerial resources, up to appropriate scale.

The focus of policies to organize small and medium-sized enterprises at this time was on "cooperative unions," which were a standard measure for this kind of program. The "Small and Medium Sized Enterprise Cooperative Savings Insurance Corporation Law" of 1949 transformed the commercial cooperatives that had served as control organizations during rationing into more democratic unions based on Rochdale Principles (three organizational standards to be met by unions: 1) voluntary establishment, membership and withdrawal; 2) equal voting rights for all members; and 3) all allocations of earnings to members within limits set by applicable laws and ordinances, or articles of association).

c) Technology improvement

Small and medium-sized enterprises generally have difficulty recruiting engineers and providing internal training programs to develop their skills. It is therefore hard for them to take full advantage of productivity gains even if they modernize their equipment. Because of this, government needs to do more than just promote technology research and development; it must also provide training for engineers and technicians in order to increase small and medium-sized enterprise technology levels.

In the early 1950s, technology policy was limited to classes, on-site guidance and other information sharing activities, but began to be fleshed out from the middle of the decade onwards. In 1961, Japan created a subsidy to strengthen the public testing agencies

responsible for small and medium-sized enterprise technical guidance, laying the foundations for future activities as technology policy implementation agencies. At this time, publication of the "Working-Level Technology Series" began in cooperation with the National Federation of Small Business Associations, further improving the quality and skills of working-level engineers at small and medium-sized enterprises.

2) Major policy tools

a) *Finance*

Small and medium-sized enterprises do not have the same level of creditworthiness as large corporations and find it perennially difficult to raise funds from financial institutions, which makes it hard for them to secure the funding they need to continue and develop their businesses in a timely manner. It is therefore necessary to supplement private sector finance with public funds in order to ensure that small and medium-sized enterprises have stable access to the funding that their businesses require. Government programs to supplement the credit of small and medium-sized enterprises are also a significant means of facilitating their fund-raising from private financial institutions.

Postwar Japan established the "People's Finance Corporation" (1949) to provide lending to small and micro enterprises, and the "Japan Finance Corporation for Small and Medium Enterprise" (1953) to lend long-term funds. Together with the existing "Shoko Chukin Bank" (1936), they provided access to public funding with investments from the FILP (Fiscal Investment and Loan Program). To supplement small and medium-sized enterprise credit with guarantees, "credit guarantee corporations" guaranteed borrowings from private financial institutions, and the "Small Business Credit Insurance Corp." (1950) provided the corporations with re-insurance for their guarantees. Around the time that these government financial institutions were being established, the groundwork was also being laid for private-sector small and medium-sized enterprise financial institutions in the form of "credit unions" under the Small and Medium Sized Enterprise Cooperative Savings Insurance Corporation Law (1949), "shinkin banks" under the Shinkin Bank Law (1951) and "mutual banks" under the Mutual Bank Law (1951).

b) *Taxation*

A number of tax measures aimed to enhance and modernize the net worth of small and medium-sized enterprises. Major programs on the personal income tax side included constructive corporation taxation (special taxation measure) and business employee wage systems; on the corporate income tax side, reduced tax rates for small and medium-sized corporations (in 1952, the SME Reduced Rate was 35% versus a basic tax rate of 42%) and tax deductions for the retained earnings of family companies. In addition, the Special Taxation Measures Law provided for special amortization as well as deductions and reserves to promote capital investment, research and

development, and structural improvements (the "Small and Medium-Sized Enterprise Rationalization Machinery, etc., Special Amortization Program" of 1961, etc.). Local taxation also provided breaks for small and medium-sized enterprises, including lower taxation standards.

c) *Checkups and guidance*

The modernization of management approaches is an important component, but effective utilization of facilities and technology and improvements in labor productivity require that management also be rationalized in ways that improve the quality of the people overseeing areas like production, payroll, and labor affairs. However, managers at small and medium-sized enterprises do not have sufficient opportunities to gain the knowledge and learn the techniques required, nor do they have adequate in-house training systems. It is therefore necessary for the government side to provide guidance and diagnostic services.

In conjunction with the establishment of the Small and Medium Enterprise Agency in 1948, Japan formulated the "Basic Guidelines on Small and Medium-Sized Enterprise Diagnostic Checkups," and launched small and medium-sized enterprise diagnostic checkup programs at regional bureaus, at the prefectural level, and in the five major urban areas. Programs initially focused on factory checkups, but were subsequently diversified to include the addition of "group checkup" programs. The "Enterprise Rationalization Promotion Law" (1953) moved checkups from the realm of administrative guidance to a statutory measure and initiated the "diagnostician registration program." With the enactment of the "Law on Financial and Other Assistance for Small and Medium-Sized Enterprises" in 1956, facilities modernization checkups began for small and medium-sized enterprises seeking facilities modernization loans, marking the first policy-mandated checkups. Then in 1962, the prefectural governments and five major cities responsible for administering guidance, together with other interested organizations, established the "Small and Medium-Sized Enterprise Technology Center" as an implementation agency.

(9) *From export promotion policy to trade and capital liberalization*

1) *Export promotion policy*

Japan's postwar expansion in exports was achieved by private sector companies as a result of creativity and innovation in the struggle for survival amidst fierce domestic and international competition. Export promotion policy was effective in enhancing the export environment and supplementing the self-help efforts of private enterprise. Below is a general description of the self-help efforts of Japanese companies at the time.

a) *Creation of corporate image and credibility (transition from generic to name-brand products, etc.)*

- b) *New market development and market diversification (researching trading-partner customs, philosophies, consumer tastes, competing products and demand trends, and stimulating purchasing desire)*
- c) *Establishment of sales channels and after-sales servicing (use of local offices of trading houses, etc.)*
- d) *Development of products that address consumer needs and the technologies required to produce them*

The major government policies and programs created in response to these efforts focused on maintaining a freely competitive environment while using the heavy and chemical industries approach to strengthen international competitiveness, and industrial structure policies and industrial organization policies to facilitate withdrawal from non-competitive sectors. Many aspects of these policies and programs should be praised for maintaining and developing vibrant companies.

Below is a description of the primary export promotion policies. Some among them were necessary to facilitate trade relations while others were more strongly oriented toward subsidies. However, the objectives of export subsidies had already been achieved, and except for programs for small and medium-sized enterprises, most were eliminated in the early 1970s in conjunction with the liberalization of capital.

(Reference) Major export promotion policies and programs

1. Export promotion organizations and incentives
 - 1) Export Council (1954-): Coordination and adjustment among administrative agencies involved in export policy and export targets
 - 2) Japan Export Trade Promotion Agency (1954-): Establishment and administration, etc. of overseas research offices and Japanese trade promotion offices
2. Export finance
 - 1) Pre-shipment finance (1946-1972): Short-term financing for exporters' production and shipping, etc.
 - 2) Post-shipment finance (1953-1972): Bank of Japan reduced-interest rate discounting of exporters' fixed-expiration export bills
 - 3) Export-Import Bank of Japan (1951-): Medium and long-term financing to promote the export of industrial plants and machinery, etc.
3. Export promotion taxation
 - 1) Export income deduction program (1953-1964): Deduction of a certain percentage of income derived from exports
 - 2) Reserve against export losses program (1953-1962): Establishing reserves that count toward a certain percentage of losses on export transactions

4. Trade insurance
 - 1) Export insurance (1950-): Coverage of exporter, etc. losses arising from export and foreign investment-related risks
5. Export inspection
 - 1) Export inspection program (1959-): Improvement of export quality with inspections by designated testing agencies for designated export inspection categories
6. Design protection
 - 1) Export Transactions Law (1952-): Enforcement against exports that potentially infringe on the industrial properties of trading partners
 - 2) Export Commodities Design Law (1959-): Obligation for specific exports to be certified under the Design Law

2) Liberalization of trade and capital

Trade was under national control in postwar Japan even after the resumption of private sector trade in 1947. In 1958 and 1959, most of the 17 Western European countries restored their currencies to convertibility, paving the way for a steady liberalization of foreign exchange and trade. Nonetheless, the predominant opinion in Japan at that time was to approach liberalization with caution.

The continued strength of the balance of payments and the rapid gains in the international competitiveness of Japanese goods resulted in a Cabinet decision to approve the "Outline of Trade and Foreign-Exchange Liberalization Measures" in 1960, a follow-up to the discussions held at the GATT General Assembly in Tokyo in 1959. Under the Product-Specific Liberalization Plan, Japan would raise its trade liberalization rate from 40% to 80% over a period of three years, would liberalize current transactions in principle within two years, and would gradually relax the regulations on capital transactions so as to promote further liberalization. The plan exceeded its initial targets. In 1962, the liberalization target was set at 90% (actual rate 88%), and in 1964 a rate of 93% was achieved.

Upon becoming an IMF Article 8 country and joining the OECD, Japan lost the ability to restrict imports and impose non-trade restrictions for balance-of-payments reasons, and also incurred an obligation to liberalize capital transactions. This resulted in a phasing in of deregulated capital transactions, primarily for incoming direct investments. The decision on near-term liberalization measures (first measures) was made in 1967, and liberalization was gradually expanded to more segments and sectors in a series of five rounds that ended in 1973. As a domestic response to capital liberalization, measures were enacted to strengthen companies and enhance industrial structure to make them fully competitive against foreign capital.

(10) *Industrial technology policy*

The improvement of industrial technology plays a significant role in the development of a country's economy and industry, and is also a common, fundamental issue for other policy areas such as industrial policy, energy policy and welfare policy.

Japan's first industrial technology policy dates back to the Meiji Restoration of 1868, when the universities took the lead in creating training programs to import technology and make up the technology gaps with the West that had widened while the country's borders were sealed. One of the results of this was that engineering departments, rather than science departments, became the focus of science and engineering universities, and engineering was viewed not merely as technical training, but as industrial research.

The technology gaps with the West widened again during the postwar reconstruction period due to the loss of talent during the war and the restrictions on research and development under economic controls. To close the gaps, Japan provided fiscal subsidies for research and development (subsidies, tax breaks, and low-interest loans), established research institutes, established industrial technology research associations, and established recognition and awards systems. All of these were components in its technology policy. Among the most important fiscal subsidies were the Industrial Technology Testing and Research Commissions (1950) and the Industrial Technology Testing and Research Commissions System (1964), which provided financial incentives for private sector research and development.

Research into advanced technologies that were too risky or required too much funding for private companies to undertake (for example, large industrial technology research projects) were conducted by the government in cooperation with private facilities and personnel. The creation of industrial technology research associations (1961) also contributed to the effective utilization of research and development resources by providing a means for corporate and government cooperation. There were worries at the time that technology development policies would impede development and market competition, but these did not in fact take place because many of the research topics were generally basic in nature and relatively short-lived. Awards and recognition programs served as an effective incentive to research and development because of their ability to boost market credibility and provide publicity.

In addition to these direct industrial technology policies, the Foreign Exchange and Foreign Trade Control Law (1950) and the Law Concerning Foreign Investment (1950) also played significant roles in the development of industrial technology. These laws provided for effective use of limited foreign currency resources by concentrating them in industries considered to have a comparative advantage in technology imports. Policy makers also played a leading role in restraining any increases in royalty payments that were due to excessive competition among companies importing new technologies. On the other hand, they also served as a constraint on technology imports for some industries, though companies that had reached adequate technology levels

were in fact able to import the technologies they required, albeit with some delays, so the restrictive effect was relatively limited.

Industrial technology policy continued to play a leading role in the 1970s and early 1980s in dealing with issues like pollution and energy (examples include the "Sunshine Project" (1974) to develop new energy sources, the "Moonlight Project" (1978) to research and develop energy conservation technologies and a large, national project to develop desulfurization technologies (1966)), and has been more recently used to facilitate the shift in Japan's international role towards basic research. In short, this is a policy area that continues to develop and support solutions for political problems that are confronted at different points in time, all the while doing so with a long-term vision and perspective.

(11) *Soft economic infrastructure*

1) Enhancements to statistical information

A number of policies and programs were implemented during the postwar period to help the economy rebuild, and the enhancement of statistical information was a crucial tool for coordinating economic policies and providing metrics of policy effectiveness. Immediately after the war, the primary emphasis was on enhancing quantitative statistics, and it was in 1947 that statistical production surveys began. The surveys were conducted on a weekly, monthly or quarterly basis to track production and shipping volumes in 228 categories of important industrial materials and 180,000 places of business. Statistical industrial surveys began in 1948 and covered all manufacturers, studying investments in production factors and the results of production activities from a monetary basis. Their primary purpose was to gauge the structure of the manufacturing sector and its ability to create jobs.

While statistical enhancements began on the production side, the distribution system is also crucial to a market economy, and in 1948 Japan began to prepare statistics on supply, demand and distribution for major materials (1948: textiles, coal, steel and automobiles; 1952: nonferrous metals, petroleum products, etc.). The establishment of a statistical administration is usually crucial to conducting statistical surveys such as these, but in Japan, statistical functions were divided up among individual ministries, which allowed coverage to be more accurately adjusted according to changing economic and industrial conditions and administrative requirements. This in turn allowed statistical results to be fed more precisely into policy. Another vital factor in statistical surveys was the cooperation of local governments and the establishment of organizations and systems for statisticians and surveyors.

The Statistics Law of 1947 was formulated for the purpose of enhancing administrative organizations and the legal framework to ensure the reliability of statistics and promote the improvement and development of statistical systems. The law classifies statistics into two categories: "designated statistics" and everything else. Government agencies are obligated to report designated statistics to the general public, and surveyors are required to publish their findings in this area.

During the subsequent High Growth Period, the statistical framework was enhanced with indexes of production, inventories and shipping, and inter-industry relations tables. These macroeconomic indexes play an extremely important role in measuring and forecasting economic trends and structures. The basic survey of small and medium-sized enterprises also began in 1957 because of the gaps between large companies and small and medium-sized enterprises during the High Growth Period. Japan continues to enhance and evolve its statistical systems to keep up with the requirements of the times.

2) Promotion of industrial standardization

Another essential foundation for a country's industrial development is the formulation of uniform, nationwide standards to rationalize and standardize production, consumption and transactions. The points emphasized in this standardization are conformity with existing industrial standards, democratic procedures in the formulation of standards, and maintenance of objectivity, suitability, rationality and public interest. This approach has enabled the spread and development of industrial standardization that is consistent, objective, rational and effective in the private sector.

The spread of the Japan Industrial Standards (JIS) played a key role in postwar industrial standardization and industrial development. The program is based on the Industrial Standardization Law of 1949 and maintains uniform standards for basic industrial products like screws and steel (currently approximately 8,200 standards). This contributes not only to product quality, functionality and suitability to purpose, but also improves the efficiency of production. The "JIS Mark" system provides consumers with accurate information on quality and functionality, as well as encouraging the spread of quality control concepts and methods by requiring inspection of quality control systems at the time certification is issued. To spread the JIS concept, Japan held explanatory meetings for producers, and quality control training sessions and employee education programs for the distribution industry. It also produced JIS product guides, consumer posters and mass media advertising and publicity.

3) Enhancements to the Weights and Measures Law, the Industrial Property Right Law (Patent Law, Trademark Law, etc.) and the Mining Law

The Weights and Measures Law (amendment of the Weights and Measures Law of 1891) was formulated in 1951 to improve production efficiency and quality with accurate weights and measures. In addition to adopting the metric system as a uniform measurement system (entered into force in 1959, prior to which campaigns were held to promote uniform weights and measures), Japan also enacted the Patent Law in 1959 to provide protection for industrial properties like inventions and trademarks (based on the Summary Rules of Monopoly of 1871; subsequently amended several times), the Trademark Law (based on the Trademarks Ordinance of 1884; subsequently amended several times), a new Law Concerning the Special Exceptions to Procedures, etc. Relating to Industrial Property Rights (formulated in 1888; amended in 1959) and also the Mining Law to establish mining rights and provide for the

rational development of the mining industry (formulated in 1905; amended in 1950). All of this legislation played an important role as soft economic infrastructure.

3. Features of recent industrial policy

Most of the policies and programs summarized in the previous chapter have continued to change and evolve to keep up with the times, and they play important roles even today. However, in terms of the scope of industrial policy, Japan reached an important watershed during the third oil crisis (since the first oil crisis in 1973). It was during this period that Japan emerged as an economic power and a mature country, giving industrial policy a much wider range of issues to deal with. That situation continues to this day.

In 1968, the Japanese economy became the second largest economy in the free world after the United States, and it was during this period that Japanese products saw a substantial leap in their international competitiveness. The country emerged at the top of the world in the production and export of automobiles, electronic equipment and numerically-controlled machine tools; and as its enormous trade surpluses showed, the economy had become both large and mature. On the other hand, these gains in international competitiveness also triggered trade and economic friction with the United States and Europe at the end of the 1960s, forcing some industries to adjust and regulate their exports.

For industry, the questions were how to deal with rising prices for oil and other commodities, how to adapt to tighter demands and supplies of oil, how to promote energy conservation and alternative fuels, how to transform the structures of structurally-depressed segments (industrial adjustment policy), how to bail out and promote small and medium-sized enterprises, how to develop industrial location policies that address regional gaps, how to deal with environmental issues, and how to promote research and development in ways that emphasize international cooperation. On top of all this, there was also trade friction to deal with.

Due to space constraints, we examine only two or three of these issues in detail below.

(1) Promotion of research and development

The promotion of research and development has been one of the most important domains for Japanese industrial policy. Generally, the research and development of technologies for broad industrial use is a risky venture and the social benefits from these activities usually outweigh the actual profits accruing to the private companies who engage in them. There are some areas where it is particularly difficult for private companies alone to conduct R&D, and some where the time required by projects is extremely long. There are others in which the risks are too great and still others, like energy and pollution, where the issues are highly public in nature and require urgent action. In these areas, it is desirable for the government to take the lead or to provide support for private-sector R&D.

Like scientific and academic research to promote the programs of the Japanese government, pure basic research for technology development is primarily the responsibility of the Ministry of Education (and the universities and research institutes under its jurisdiction) and Science and Technology Agency. MITI's programs to promote research and development are oriented towards basic and applied research in industrial science and technology, and are generally referred to as "technology development policy."

These policies come in four broad categories.

- 1) "Visions" are created to show future industrial and technological directions as an aid to private firms in the planning of their activities.
- 2) Incentives given to specific R&D areas in order to encourage private sector companies to tackle them. These incentives may take the form of tax breaks, government lending or subsidies. MITI may also recruit private companies to join R&D associations on specific topics. One well-known success story is the "Ultra-LSI Technology Research Association" of the 1970s.
- 3) R&D performed by MITI-affiliated institutes themselves.
- 4) Information services, coordination and intermediation for international cooperation in technology development. One example is the international joint research project (the so-called "Human Frontier Science Program") that was advocated by Japan at the Toronto Summit in 1988.

(2) Industrial adjustment policy

"Industrial adjustment aid" and "structural adjustment policy" are industrial policies that help industries in decline or recession because demand for their products has fallen off or their international competitiveness has deteriorated and they find themselves with excess production capacity and therefore excess allocations of resources. The objectives of these policies are to assist industries and adjust structures by encouraging the transfer of resources to other sectors, the movement of companies into new fields or the exploration of promising new areas.

1) Industrial adjustment policy in Japan

The communiqué entitled "Policies for Adjustment: Some General Orientations" adopted by OECD ministers in June 1978 discusses "general guidelines for the positive adjustment policy" (PAP), stating that industrial adjustments should in principle be left to market mechanisms and any assistance programs should be of limited duration and progressively smaller in size (time-limited policies). Furthermore, the program should contribute to more efficient corporate management, should ensure market competition so that product prices are not above levels that would generate appropriate profits (maintenance of competition), and should clearly articulate the social costs, tools and processes required (transparency). Japan's industrial adjustment policy basically shares the "PAP" concept. In other words, it views industrial adjustments and changes in industrial structures as the ongoing process of market mechanisms; but when there are sudden, large-scale shifts in the environment, it sees the need for temporary assistance to facilitate the adjustment process and cushion the changes.

2) Content of the industrial adjustment aid

Japan's industrial adjustment policies in the 1980s focused primarily on industries at a comparative disadvantage internationally. Two different types of policies were employed: the first provided assistance to

companies within the industry as they converted to new businesses; and the second promoted the smooth transfer of resources to other sectors. One example of the first category would be assistance for the traditional textile industry to diversify and convert into more fashion-oriented apparel segments. The goal of programs was to encourage creativity on the part of managers within the segment, and to assist small and medium-sized enterprises, in particular, in the development of new products and fields because of their relative lack of capacity to convert on their own. The government provided subsidized lending, assisted small and medium-sized enterprises in starting joint ventures, and encouraged the exploration of new fields in cooperation with managers in other sectors. In other words, this was very much an SME program. Converted to subsidies, these assistance measures were extremely small in scale, none worth more than about 1 billion yen per year.

Examples of larger companies converting to new businesses can be seen in the steel industry. Japan's steel industry has achieved world-class levels of economic efficiency and is now seeking to improve its production ratios in areas like high-tensile strength steel, stainless steel, other special steels, surface-processed plates, and other high-end products that are considered to have strong growth potential. It is also using existing technologies and human resources to develop new materials like carbon fibers and titanium. Policy measures to assist this (at large companies) include special amortization programs for the required machinery, extension of the deferment period for carrying over losses on equipment, and other taxation benefits. However, in both cases the signaling effects of information sharing was more important than the direct effects of the monetary assistance and tax breaks.

The second category of policy seeks to promote the transfer of resources from sectors at a comparative disadvantage internationally or that have seen sharp declines in the demand for their products and are now over-supplied with facilities and labor. Examples include nonferrous metals, aluminum smelting and shipbuilding. The "Law on Temporary Measures for the Structural Improvement of Specified Industries" of 1983 has played a particularly important role in this area.

Under the law, the government designates specific industrial sectors (electric furnace steel, aluminum smelting, viscous short fibers, ammonia, urea, ferrosilicon, cardboard, ethylene, cement, electric wires, cables, etc.; 22 sectors in total), enters into discussions with each, and then formulates basic structural improvement plans to provide companies that are scrapping outmoded equipment with subsidized lending and tax breaks. If individual companies find it difficult to scrap facilities on their own, special exceptions are provided in the Anti-Monopoly Law to provide for joint action (in other words, the formation of cartels by affiliated companies to decommission facilities), and when necessary the government may also instruct industries to take joint actions. The law was repealed in 1988, but the 26 industrial designated sectors on average achieved 98.4% of their initial targets.

3) Features of Japanese policy

Japanese policies to assist with the industrial adjustments of industries in decline (depression) do not take the form of protective trade measures such as import restrictions or tariff hikes that have a flat effect on all companies in the sector. There are, however, a few rare examples of direct protective trade measures, including de facto restrictions on imports of textiles from China and Korea. In most countries, protective trade policies for industries in decline have a tendency to become permanent and to expand to related sectors. Once enacted, they usually create entrenched interests, which is why Japan has focused its industrial adjustment policies on converting industries to new products and encouraging the reallocation of resources. These programs are time-limited and relatively effective over short-term periods.

(3) Mitigation of trade friction

The term "trade friction" is probably unique to Japan, and is used to refer to a situation in which the interests of bilateral trading partners are at odds for a prolonged period of time and negotiations become prolonged as well. On the export side, this has often taken the form of a surge in the exports of a specific product from Japan in bilateral trade with a specific country to the detriment or anticipated detriment of the trading partner's industries that compete with the imported goods. Trading partners have reacted by imposing tariff hikes and quantitative restrictions or anti-dumping measures to restrain imports, and urged Japan to place voluntary restrictions on exports or have seen growing political calls for such measures within their borders. It is to these sorts of situations that the term "trade friction" refers.

On the import side, "trade friction" refers to prolonged negotiations over the liberalization of imports from the trading partner. There is also "economic friction" that refers to conflicting interests between Japan and other countries, and the prolonged negotiations to resolve them in other areas of international economic relations like finance, services, intellectual property rights and distribution.

In the 1980s, Japan applied medium- and advanced-level technologies to achieve strong competitive advantages in mass-production, assembly-driven machinery industries, the automotive industry, the electrical equipment industry and the electronics industry. These industries frequently experienced sharp improvements in technologies (production technologies, quality control) and productivity, leading to sharp declines in production costs and fierce competition. As product prices rapidly declined, there were often surges in both production and exports. For trading partners who did not have competing domestic industries, this meant that they could enjoy the benefits of trade in the form of lower prices for Japanese imports, and there was consequently no "trade friction" (for example, high-end cameras or exports of VTRs to the United States). However, when trading partners had domestic industries in competition with the exports (or were in the process of developing them), these industries often found themselves at a competitive disadvantage to Japanese goods and were faced with contracting production and employment, or in some cases potential failure. The result was often a rapid rise in complaints and criticisms regarding Japanese exports and

Japanese industry. From the Japanese perspective, most of the criticisms of dumping by importing countries were merely complaints by those who had been disadvantaged as a result of proper changes in trade due to rapid technological advances and industrial development.

Envisioning such situations, GATT provides for "emergency import restrictions" in Article 19 so that importers can deal with import surges, but for a variety of reasons countries generally do not resort to these provisions and instead turn to ad hoc solutions such as bilateral agreements for individual cases or measures that are illegal under GATT like unilateral quantitative import restrictions and demands for voluntary export restrictions on the part of the exporter (usually Japan).

Japan did comply with demands for voluntary export restrictions in some product categories like automobiles, but in the Uruguay Round of GATT negotiations Japan has come out proactively in favor of rules-based solutions, taking the stance that trade negotiations should be multilateral in nature and governed by GATT rather than relying on gray measures like bilateral agreements.

4. Industrial policy tools

This final chapter examines the tools that are used to achieve the policy objectives explained in Chapters 2 and 3. As already touched on, there are several different approaches that can be taken. Policy tools include direct legal regulation, financial incentives and inducements, and "direction-setting" in consultations and discussions. The general trend moving from the first period into the second and onto the third has been for the tools to evolve from direct to indirect, and from compulsory to inductive. The pages that follow provide an outline concentrating on the "soft" policy tools being used today.

(1) Provision of information

MITI provides three forms of information: 1) statistical information on trade and industrial trends; 2) analyses of the status of trade and industry; and 3) articulation of trade and industry issues and outlooks.

- 1) In terms of statistical information, the ministry regularly creates and publishes industrial production dynamic statistics, industrial statistics, commercial statistics and other information.
- 2) Most of its trade and industry analysis is published regularly (generally annually) in the form of "white papers." Examples include the "Trade White Paper," "Economic Cooperation White Paper" and "Small and Medium-Sized Enterprise White Paper." The purpose of these documents is to analyze current issues in trade and industry and identify policy challenges. In addition, the ministry processes and analyzes its statistical information to create analytical papers. One example is the "Analysis of Industrial Production Activities."
- 3) To identify trade and industry issues and present outlooks for the future, the ministry creates and publishes "vision" statements. Indeed, vision statements have been given considerable emphasis in recent years as a tool for the implementation of industrial policy, and will therefore be discussed in detail in their own subsection.

(2) Vision for industrial development

The articulation of a "vision" for industrial development has been considered extremely important within the overall framework of industrial policy. "Vision" is a term that has a specific meaning within the context of the government of Japan, and particularly MITI. It is generally used in relation to specific types of economic policy, especially industrial policy, to refer to an overall description of the medium- or long-term industrial development desired by authorities. Industrial policy authorities formulate a vision and present it to interested parties in order to encourage industry to develop in a certain direction or to promote certain forms of economic activity. The difference between a "vision" in this context and a "plan" in a command economy is that a vision is in no way compulsory. Japan's Economic Planning Agency creates a "National Economic Plan" as a medium-term (5-10 years) document, but this is basically a statement of the aspirational observations or forecasts (including a certain degree of expectation and hope) of the planning

authority (i.e., the Economic Planning Agency), and is not a centralized "plan" with compulsory force.

"Visions" are similar in nature to the National Economic Plan. They present aspirational observations, expectations, forecasts and future possibilities either for industry as a whole (primarily manufacturing) or for specific industrial fields or policy domains, and they go into far greater detail than the National Economic Plan.

Most visions are created as responses submitted to the Minister of International Trade and Industry by consultative bodies like the Industrial Structure Council (formerly the "Industrial Structure Research Committee") or other councils, and are not subject to any formal decisions or approvals by the government (in other words, there is no Cabinet resolution or approval). They are only recommendations of basic policy directions for MITI to take in the future, and even for the ministry they do not represent a final, binding statement of specific, individual policies. Indeed, most of the specific policy measures contained in vision statements will require government budget or other backing. It should be noted in this context that Japanese government budgets are produced on a single-year basis only. What this means is that budget expenditures must basically be deliberated and approved by the Diet every year, which makes it impossible to decide in advance on industrial policy measures that will be in effect for multiple years into the future.

Nonetheless, vision statements are still considered one of the most effective policy tools that MITI has in pursuing industrial policy. There are three reasons for this: 1) they present companies and consumers with outlooks for the economy or industry as a whole; 2) the formulation of a vision statement involves detailed exchanges of information and opinions by leaders in the business, consumer and academic fields, with MITI providing secretariat functions; and 3) a vision provides a broad-brush statement of the industrial policies that will be adopted by MITI in the future. Each deserves a more detailed explanation.

With respect to the first point, an industrial policy vision is created by bringing together experts on industry and a wide range of other fields to articulate directions for industrial development that are based on the best information available at the time and considered desirable for the Japanese economy as a whole. The product of these discussions is then presented to interested parties in the form of recommendations. Private companies are generally well versed in their own industrial sectors, but when it comes to the economy and industry overall, they give high credence to forecasts and outlooks that are created by pooling the judgments and insights of a wide range of government and private-sector experts. The tendency is therefore to respect the outcomes as convincing benchmarks unless there are reasons to actively oppose them. But it must be emphasized that individual companies are in no way bound by a government "economic plan" or "vision." This much should be clear from the fact that economic growth from the end of the 1950s to the first oil crisis was far higher than the government's National Economic Plan.

Turning to the second point, it is generally the Industrial Structure Council that drafts important vision statements for Japanese industry as a whole, a point touched on above. The Industrial Structure Council consists of up to 130 committee members appointed by the Minister of International

Trade and Industry who are generally representatives of both supply-side and demand-side industries, academia, journalism, labor unions and consumer organizations. In addition to its full session, the Council has a variety of committees, subcommittees and working groups to examine basic policy and individual areas, and spends between six months and a year in the drafting of a vision. The first draft of the vision is produced by the relevant secretariat departments in MITI based on the discussions in the Council, and is then presented to the Council for revision. Forecasts for individual industrial sectors are created as a joint project by sector organizations, academicians, journalists and relevant MITI departments. After fully incorporating the opinions of industry and experts, these forecasts are adjusted to maintain consistency with macroeconomic forecasts and demand forecasts for other sectors.

Indeed, one of the most important and essential impacts of a vision is the exchange of information and debate that takes place in the Council, etc. during the drafting process. When viewed as a system for exchanging information on Japanese industrial policy, perhaps the greatest inductive effect of a vision comes from the exchange of opinions and information among people in the industry during the course of drafting and presentation, rather than any direct effects that specific policy measures may have on private companies.

With respect to the third point, a vision plays a major role in the general policy framework of MITI as a whole. As long as there are no significant changes in circumstances, the policy directions presented in the vision constitute basic guidelines for the drafting of individual MITI policy and program proposals, particularly for policies with long-term impact (for example, import promotion) and policies that require long-term commitments (for example, energy conservation, the promotion of research into basic technology or the formulation of programs to mitigate trade friction). As will be seen below, MITI has specific policy tools at its disposal, including fiscal spending, government lending and tax measures; but how specifically to utilize these tools in the advancement of industrial policy is a subject for discussion and debate within MITI every year. At that time, measures (guidelines) are deliberated by the Industrial Structure Council. Vision statements serve as a common medium and long-term direction for MITI as a whole, improving the consistency and coordination of industrial policy and contributing to more rational and systematic implementation.

(3) Restraint and encouragement using legislation and administrative guidance

Obviously, specific administrative measures that are taken in the conduct of economic policy must be based on legislation, but individual administrative actions can consist of either "formal" measures based directly on legal provisions, or "informal" consultations, discussions and inducements based on the ministry's founding law or other legislation. This latter category is referred to as "administrative guidance."

Measures that are directly grounded in legal provisions include licensing and permits. In the context of industrial policy, examples would be approval for electric power charges or other public services, or adjustment activities (approval of cartels) based on the Export and Import Transaction Law or Law

Concerning the Organization of Small and Medium Enterprises Organizations, etc.

Administrative guidance is defined as a measure that does not have legal compulsory force in restricting rights or imposing obligations, but that seeks to encourage or induce certain behaviors or non-behaviors so as to achieve, with the cooperation of counterparties, certain administrative objectives within the scope of the responsibilities and/or jurisdictions defined for an administrative agency in the laws governing its establishment. In the context of industrial policy, administrative guidance refers to consultations and discussions between policy authorities, and individual industries and companies to encourage private sector cooperation for the achievement of policy objectives.

Obviously, administrative guidance relies upon the voluntary compliance of private companies, so companies will follow it if they are convinced it is rational, but disregard it otherwise. While it depends upon the specific issue involved, administrative guidance has a certain rationality as a means for the government to convince and encourage private companies to take certain actions provided that adequate measures are in effect to maintain fairness and transparency.

People in the West tend to see administrative guidance as something unique to Japan among developed countries, and do not consider it to have any counterpart elsewhere, but this is a mistake. There are any number of examples of administrative guidance being used to achieve economic policy in both Europe and the United States.

(4) *Economic incentives in fiscal, monetary and tax policy, etc.*

Regulation and inducement based on laws or administrative guidance can be effective in restraining corporate behavior or restricting it to a certain framework (compliance with standards), but is generally ineffective in convincing companies to proactively engage in production activities, research and development, investments, exports, imports and other behavior considered desirable for industrial policy reasons. Achieving these purposes requires incentives in the form of fiscal spending, lending or tax breaks. Taxation can also be used as a negative incentive by requiring external costs to be internalized.

Nonetheless, the amount of fiscal spending used to achieve industrial policy is surprisingly small. MITI's draft budget for the 1992 accounting year, including payroll and administrative expenses, was 850.8 billion yen on the General Account (1.2% of the government as a whole), 1,052.2 billion yen on the Energy Special Account (including allocations from the General Account) and 56.2 billion yen on the Patent Special Account. Eliminating the overlap, the total budget was 1,503.1 billion yen.

The next category of measures is "government lending." Sometimes referred to as "policy lending," this is the practice of providing loans at slightly more advantageous terms than general market rates for private sector projects that are consistent with policy objectives. Several financial institutions are used for this purpose, including those mentioned above: Export-Import Bank of Japan, Japan Development Bank and Japan Finance Corporation for Small and Medium Enterprise.

Tax measures include special amortization schedules and increased amortization for capital spending, as well as reserve allocations. Special amortization and increased amortization encourage investments in areas that will achieve a policy objective, allowing relevant fixed assets to be depreciated at higher rates than normal. This was broadly used during the first part of the High Growth Period to foster specific industries (for example, steel, machinery and electronics) and encourage research and development, but most measures have subsequently been curtailed and there are only a few remaining today, covering areas like pollution prevention equipment and industrial adjustment policy. Other tax measures besides special depreciation and increased depreciation include the "Additional Testing and Research Deduction" to encourage corporate R&D, and the "Reserve for Losses on Foreign Investments etc." that allows companies doing business in developing countries to provision reserves for relevant investments and loans and count them towards losses.

(Reference Documentation)

The Evolution of the Vision Statement

1. Trade and industrial policy vision in the 1960s: Heavy/chemical industrialization

Average annual growth rate for share of Japanese exports in total world trade
(1960-1968)

Food, fuel: 5.2%

Heavy/chemical products
(steel, metal products, mechanical equipment, chemical products etc.): 10.1%

Light industrial products (textiles, paper, ceramics): 8.4%

2. Trade and industrial policy vision in the 1970s: Intellectual concentration

Export structure for major categories (dollar-based)

(Year)

1970: Mechanical equipment

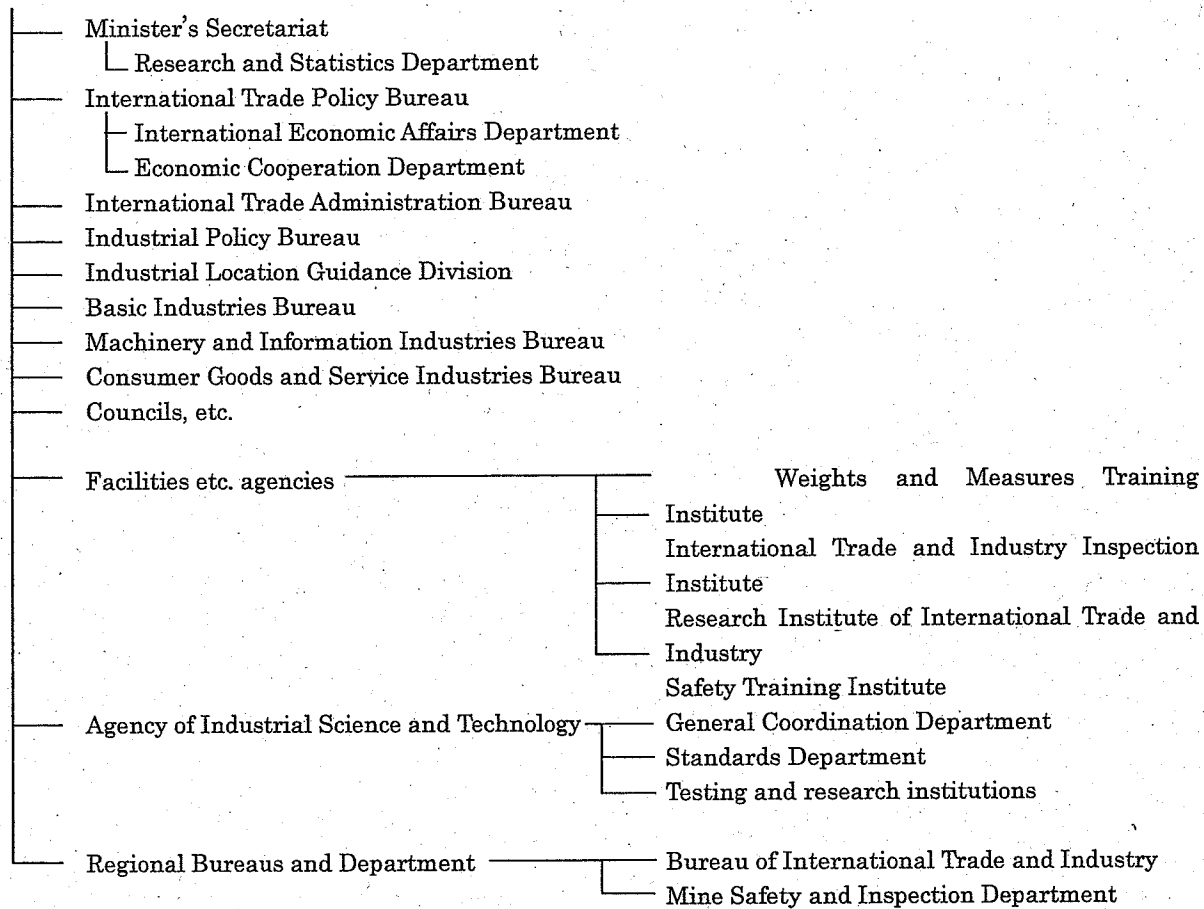
1979: (左から) Food products, Textiles and textile products, Chemical products, Nonferrous metals and mining products, Metals and metal products, Industrial machinery, Electrical equipment, Transportation equipment, Precision equipment, Others

Source: Overview of External Trade

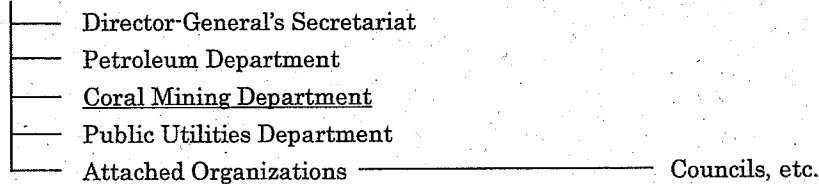
3. Trade and industrial policy vision in the 1980s: Creative intellectual concentration
4. Trade and industrial policy vision in the 1990s: Creation of human values in the global age

Organization Chart of Ministry of International Trade and Industry (MITI)

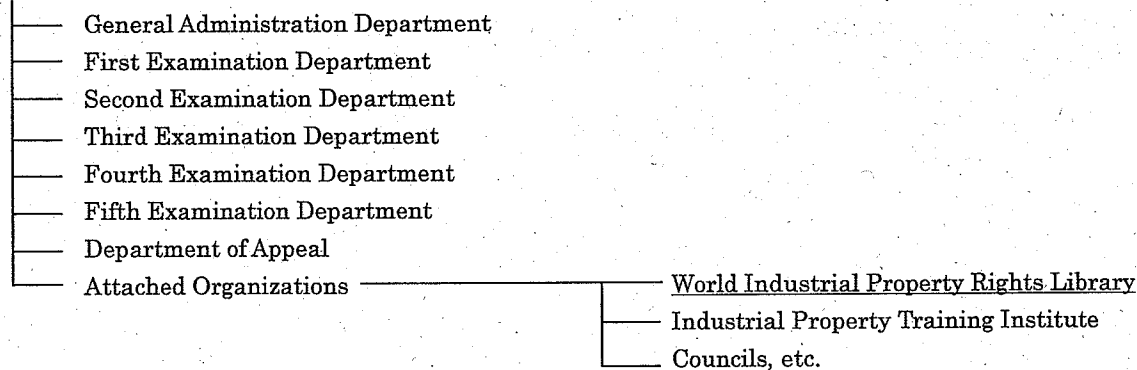
MITI



Agency of Natural Resources and Energy



Patent Office



Small and Medium Enterprise Agency

