19 October 1993

ENGLISH ONLY

TRADE AND DEVELOPMENT BOARD
Ad Hoc Working Group on Expansion of
Trading Opportunities for
Developing Countries
Second session
Geneva, 22 November 1993
Item 3(a) of the provisional agenda

Country presentation submitted by Japan*

---

* The attached country presentation is circulated in the form and language in which it was received.

TD/B/WG.4/Misc.17
GE.93-54050

THE ROLE OF INDUSTRIAL POLICY IN THE POST WORLD WAR II ECONOMIC DEVELOPMENT IN JAPAN

Contents

1 Introduction 1

2 Historical Overview of Japan's Industrial Policy 6

2.1 Industrial Policy in the Post-War Reconstruction Period 6

2.2 Abolition of Postwar Economic Controls 7

2.3 Development of a Base for Competition 9

2.4 Conversion of Military Industries to Civilian Use 11

2.5 Capital Accumulation in Corporations 13

2.6 Foundation and Rationalization of Business Management 16

2.7 Supporting Priority Industries 18

2.8 Policies Concerning Small and Medium Enterprises . . . 22

2.8.1 Key Policies 23

2.8.2 Primary Policy Measures 25

2.9 From Export Promotion Policy to the Liberalization of Trade and Capital Flows 28

2.9.1 Export Promotion Policy 28

2.9.2 Liberalization of Trade and Capital Flows 31

2.10 Industrial Technology Policy 32

2.11 The "Soft" Infrastructure of the Economy 34

2.11.1 Introduction and Maintenance of Statistics 34

2.11.2 Promotion of Industrial Standards 36

2.11.3 Creation of Laws on Measurement, Industrial Property (Patent, Trademark, etc.) and Mining 37

3 Some Features of Recent Industrial Policy 38

3.1 Promotion of Research and Development 40

3.2 Industrial Adjustment Policy 41

3.3 Coping with Trade Friction 45

4 Industrial Policy Measures 48

4.1 Providing Information 48

4.2 "Visions" on Industrial Development 49

4.3 Restraint and Encouragement Based on Laws and Administrative Guidance 53

4.4 Fiscal, Financial and Tax Incentives 55

Appendix **57**

1 Introduction

During the 40 years following World War II the world witnessed the dramatic growth of the Japanese economy. Although the two oil crises reduced its growth rate in the 1980s to almost half that in the preceding "high-growth period," its performance has been far better than that of other major industrialized economies.

From 1980 to 1988, the economy grew at an annual rate of 4.1% in real terms and prices were kept under control with an average yearly increase of 1.5% in consumer prices and a 2.3% decline in wholesale prices. Unemployment was maintained at a level as low as about 2% and the country's balance of payments continued to register large surpluses following the dollar appreciation in the early 1980s. The current account surplus reached $79.5 billion in 1988 and net overseas assets reached $291.7 billion at the end of the same year. Per capita GNP denominated at current exchange rates grew from less than $200 in 1952 to $8,900 in 1980 and surpassed $20,000 in 1988, partly assisted by sharp appreciations of the yen since the mid-1980s. In 1988, it exceeded, in dollar terms converted at the current exchange rate, the per capita GNP of the United States, West Germany and France. Behind this successful economic growth lies the development of Japan's manufacturing industry.

In contrast with the generally stagnant agriculture, forestry and fisheries industries and the mining industry, the manufacturing industry experienced dramatic growth. The manufacturing industry immediately after World War II was equipped with obsolete equipment and technologies and, consequentially, suffered from low productivity. It then succeeded,

however, in quickly improving productivity, upgrading technology, and creating a variety of new rapidly growing sectors. They have reached the most advanced levels of the world in many areas.

Japan's increasing economic success, particularly that of its manufacturing industry, has led the world to pay greater attention to Japan's industrial policies. Its economic ascension and industrial competitive edge in the global market sometimes have caused many observers in North America and Western Europe to view Japan's industrial policies with caution, criticisms, and malicious envy. Many from developing countries, including the newly industrializing economies (NIEs), the ASEAN members and China have showed strong interest in drawing lessons from Japan's experience. However, many of them appear incapable of fully understanding what Japan's industrial policies are.

Even the Japanese themselves, with the exception of those who are deeply involved in those policies, generally know little about them.

Take the once fashionable idea of "Japan Inc.," that Japan's industry is managed by a few top government officials and industry managers. Even now, some overseas observers unfamiliar with Japan believe the Ministry of International Trade and Industry (MITI) is an almighty entity that, through administrative guidance, can freely steer private companies at its will. All these views, however, are far from the truth and therefore need to be corrected by presenting a more accurate description of Japan's industrial policies.

Some of the misconceptions about industrial policies have apparently arisen from a failure to recognize the changes in the policies reflecting the

changing circumstances. Industrial policies[1] in postwar Japan, far from remaining always the same, have been constantly undergoing changes to meet the different needs of the times, bringing in adjustments and alterations in their contents and methods, as well as in the nature of their roles. Certain lines of industrial policy were often discontinued when, under new circumstances, they were perceived to have finished performing their role. For example, as is well known, a variety of export promotion policy measures were performed for a number of years since the 1950s under the slogan of "nation-building through exports." However, almost all of the measures subsidizing export were eventually abolished by the early 1970s. The main thrusts of Japan's foreign economic policy have since been directed towards increasing imports and promoting investment (both inward and outward) in order to open up the Japanese market and create closer economic interdependence with foreign countries.This illustrates a case where the policy emphasis was switched to a totally reverse direction in line with the change of the times.

In attempting to delineate Japan's postwar industrial policies, therefore, it would seem appropriate to distinguish between different stages or periods of the country's economic development, and consider the specific features and contents of industrial policies adopted corresponding to the characteristics of each of these periods. Among several possible ways of demarcating these periods, it is proposed here to follow the approach

[1]Definition of industrial Policy: Defining an "industrial policy" in terms of economic theory is not easy. The paper does not elaborate on this issue further but simply uses the term in the sense that they are "economic policies intended to affect inter-industrial resource allocation and to regulate, restrain or stimulate certain economic activities by private firms in response to 'market failures' or for other purposes." For example, a protective tariff to foster "infant industries" has been considered as a classic industrial policy measure since Friedrich Liszt. Regulations for environmental protection, pollution control and industrial safety constitute a case of industrial policies which have been given a high priority since the 1970s.

adopted by Prof. Ryutaro Komiya, Director General of the Research Institute of Internal Trade and Industry, viz. that of dividing the postwar development into the following three periods.

— The first is the "period of postwar reconstruction and consolidation of the basis for a self-sustaining economy," which ranges from 1945 (end of World War II) to the first half of the 1950s, when the Japanese economy nearly recovered to its prewar levels.

— The second period, extending from the mid-1950s to 1973 (the year of the first oil crisis), may be characterized as the "period of high economic growth."

— Finally comes the third period, from 1973 up to the present, which may be called the "period of maturing economy."

The contents and methods of international policies, as well as the nature of their roles, have undergone major changes as they progressed through these successive periods. It would not be possible within the limited pages of this paper to describe in full detail the entire process of the postwar history of Japanese industrial policies. Under the circumstances, it will be attempted to formulate the presentation under the following headings:

— Chapter 2, titled "Historical Overview of Japan's Industrial Policy," will describe (a) the process whereby the basic framework for the overall management of the Japanese economy and the key measures of industrial policy were developed during the first period mentioned above (i.e. the period of postwar reconstruction and consolidation of the basis for a self-sustaining economy); and then (b) how these policy measures went

through further evolution and changes during the second period of high economic growth.

— Chapter 3, titled "Some Features of Recent Industrial Policy," will consider, in addition to the subsequent development in the key policy measures described in the preceding chapter, the major shifts of emphasis in industrial policy in the third and latest phase of "maturing economy," with particular reference to a few specific policy tasks currently drawing attention.

— Finally, chapter 4 will focus on the methods, or tools, used in achieving the intended objectives of industrial policies, especially those actually applied in the more recent types of industrial policy measures.

2 Historical Overview of Japan's Industrial Policy

2.1 Industrial Policy in the Post-War Reconstruction Period

Following the war, the Japanese economy had lost much of its industrial production capacity due to war-caused damage, with the level of exports plunging to about one-ninth of the prewar level and the level of imports falling to about one-sixth of the prewar level. Production was at a low level owing to the closure of all or part of machinery plants and former arsenals or part of their facilities under reparation arrangements and to sluggish supply of raw materials such as iron ore and coal. On the price front, inflation that began surging late in the war developed into hyperinflation after the war, bringing the wholesale price index up to 48.2 in 1947, 127.9 in 1948 and 208.8 in 1949 against the base of 1 for 1934.

The first industrial policy carried out under these circumstances was the priority production program, which was aimed at revitalizing production amid a lack of imported materials and a failure in the function of a market economy due to economic regulations. The strategy of the program was to allocate resources and capital to the production of steel and coal, use the increased output of steel to repair productive facilities of coal mines, thereby increasing coal output, and to then allocate the increased outputs of steel and coal to other industries. The program did lead to a marked recovery in industrial production in 1948 and set the stage for deflationary measures taken under the Dodge line.

Secondly, on the macroeconomic front, of particular importance was the liquidation of the wartime structure. On this point, the Dodge line taken

in 1949 proved highly effective by successfully controlling post-war inflation and making it irrelevant to maintain price controls, thereby paving the way for the gradual abolition of these post-war controls. In addition, the introduction of the fixed foreign exchange rate of 360 yen to the dollar helped stabilize the economy and promote a recovery of the price mechanism, all while causing the need for the Japanese economy to rationalize industry and enhance its industrial competitiveness in international markets.

Following these measures stated above, industrial rationalization policies were implemented in order to help modernize production facilities worn out during the war and post-war periods and to improve management so as to increase industrial competitiveness in international markets. To that end, the government took a variety of measures, mainly taxation and financing, to promote this policy.

2.2 Abolition of Postwar Economic Controls

Japan's post-war economic regulations such as price and distribution controls were introduced from 1946 through 1947. They were continued in force with an aim to avert a flare-up of inflation and unfairness in national living owing to disparities in purchasing power. Of these controls, commodities controls were divided into those on consumer goods and those on capital goods. All were implemented under the Law on Temporary Measures for Commodity Supply and Demand Control(1946). In implementing such controls, the government set up a variety of pubic corporations to ensure fair distribution of badly needed commodities by having them purchase and sell such commodities exclusively and provided subsidies to

narrow the gap between producer and consumer prices. Price controls were enforced under the Price Regulatory Order enacted in 1946, and together with these price regulations, government subsidies were provided to increase production and narrow the price gap between goods sold in Japan and those sold abroad. These subsidies accounted for a large part of government spending at that time. For example, the total of funds set aside as subsidies and those used as subsidies accounted for an estimated 22.9 % (93.5 billion yen) of the fiscal 1948 general-account budget.

These post-war economic regulations were endorsed by the government, which at that time intended to first achieve a recovery in production through the priority production program and other measures before seeking overall economic stability. This concept was known as the interim stabilization theory. A marked surge in inflation, however, forced the government to revise official price systems [2] to reflect black market prices and revise regulated official prices on the basis of production costs, all while encouraging the government to hold wage increases in check as much as possible.

With the GHQ(General Headquarters)'s announcement of the 9-principles of economic stabilization in December 1948 and the implementation of the Dodge line the following year, Japan was urgently required to achieve foreign exchange stability, set a fixed foreign exchange rate, and keep inflation under control in order to attain economic independence. Under these programs, the government drafted an extremely tight budget for fiscal year 1949 which cut subsidies drastically as well as set a fixed for-

[2] For instance, in a new system of official prices announced in March 1946, producer's price of rice was raised from 150 yen a *koku* (180 liters or 5 bushels) to 300 yen, consumer's price of rice from 75 yen to 250 yen , consumer's price of coal from 85 yen per ton to 150 yen ; the standard daily wage was set at 20 yen, and the standard monthly cost of living of a household at 500 yen.

eign exchange rate of 360 yen to the dollar in April 1949 in an attempt to stabilize the economy. Under the Dodge line, effective demand shrank with a pile up of inventories and prices began to stabilize, resulting in a narrowing of the gap between official and black market prices The post-war price and distribution controls thus lost their significance. From 1948 to 1949, the government began to abolish controls on prices and on the production of designated commodities. The number of commodities subject to regulations fell to some 80 by the end of 1951 from some 63,000 at the end of 1948 on a narrowly defined classification table. The number of public corporations set up to implement these post-war controls such as Distribution Corp. and Trade Corp. reached 15 at its peak with a total of 150,000 employees, but about half of these corporations had been disbanded by the end of 1949 and the number of employees fell to some 8, 600 in fiscal 1950.

2.3 Development of a Base for Competition

When looking at post-war developments in Japan's industry, it is important not to overlook the large effect of fierce competition between firms. So fierce was this competition that it was in some cases called "excessive competition." The base or system of such competition was founded through a series of measures taken during the immediate postwar years under the economic democratization policy.

The Allied Occupation's primary objective was to demilitarize the Japanese economy. An economic democratization policy was indeed implemented soon after the war to get rid of the source of militarist activities. Various measures were taken in 1946 and 1947 such as the dissolution of the

zaibatsu, the enforcement of the Anti-monopoly Law modeled on U.S. antitrust laws, agrarian reforms, and the enforcement of the three major labor laws.

Regarding the dissolution of the zaibatsu as conducted under The Law on Exclusive Measures for the Excessive Concentration of Economic Power, the GHQ issued the Memorandum on Dissolution of Stock Holding Companies in November 1945 which ordered the government to dissolve the four major zaibatsus — Mitsui, Mitsubishi, Sumitomo, and Yasuda. In April 1946 the government enacted the Order for the Establishment of the Holding Company Liquidation Committee to set up an organization to supervise the dissolution of the zaibatsu. The committee designated a total of 83 companies as special concerns for a year or so and was authorized to take over, manage, and dispose of their securities holdings and other assets. Under the Law, the committee also named 325 companies as having excessively concentrated economic power.

With the focus of the Allied Occupation policy shifting away from complete demilitarization to the direction seeking Japan's economic independence, the committee dissolved only 10 zaibatsu and ordered only 18 firms to reorganize themselves. This division of enterprises did, however, result in the disappearance of family-controlled groups of companies. These cases were characterized by the two big trading houses, Mitsubishi Corp.and Mitsui Co., which were divided completely into some 120 and 170 companies respectively. Mitsubishi Heavy Industries Ltd., meanwhile, was divided into three companies with the dissolution of its former parent. In the dissolution of Zaibatsu, the stocks of Zaibatsu enterprises were sold to public investors through dealings mediated by the Securities Liquidation Coordinating Committee, a body established on the advice

of the GHQ.

The Anti-monopoly Law stipulated an unprecedented total ban on cartels and was harsher than any other country's antitrust laws. Accordingly, the law was later revised several times because it ran counter to traditional Japanese competitive business practices. The enforcement of the law, however, had a significant impact on the conditions for competition among Japanese enterprises.

It is noteworthy that a series of these economic democratization measures served to create vigorous competition among businesses, promote cooperative management-labor relations, and enhance public purchasing power as the source of domestic demand. They also played a role in setting the stage for aggressive corporate technical innovation and capital investment.

2.4 Conversion of Military Industries to Civilian Use

In reviewing the conversion of military industry into those for civilian use in Japan, nobody should miss the fact that it took a long period of time to implement this transition to the point where each company or industry became independently strong. This is despite the fact that the postwar conversion itself went smoothly under distribution controls.

In this sense, the liquidation of wartime debts was of particular importance because it was a prerequisite for this conversion. At the end of the war, the government was heavily in debt to the prewar and wartime mil-

itary industry as a result of its purchases of munitions and its obligation to pay for losses caused by the war, including the compulsory evacuation of plants from urban areas under wartime legislation. The government decided to stop payments of such debts by the end of 1945 by means of levying a special tax, all while implementing a set of measures to alleviate its impact on munition suppliers and financial institutions and to promote an industrial recovery on the accounting front. These measures helped the prewar and wartime military industry consolidate wartime financial accounts and secure the financial and accounting base for continued production. The dissolution of the zaibatsu (See 2.3), abolition of economic controls (See 2.2), and the implementation of the industrial rationalization policy (See 2.7) also provided support for the conversion.

On the other hand, more than 130 arsenals that produced shells, gunpowder, aircraft fuel, and warships were seized or managed under the Allied Occupation for some time during the post-war period. But part of these wartime arsenals were lent to the private sector for temporary use beginning around 1946. Following the Japan-U.S. Peace Treaty, wartime military plants designated as reparations were returned to Japan in April 1952 and were consequently sold to the private sector, forming an important industrial base.

In the case of a former naval arsenal in Maizuru, Iino Sangyo Co Ltd. borrowed its land and facilities from the government to open a shipyard in April 1946 by taking over 2,500 employees to repair commercial vessels and mine sweepers and offer services such as salvage and scrapping. The shipyard was later exempted from war reparations and resumed ship building, expanding its scope of business to include ship building for the Defense Agency. As for a former naval refinery in Yokkaichi, which

was a key production center for aircraft fuel, the government decided in 1955 to lend the refinery to the private sector. In 1957 it agreed to sell the refinery to a newly established company, Showa Yokkaichi Sekiyu Co. Ltd., paving the way for the refinery to develop into Japan's first major petrochemical complex. This took time, however, because of the necessary coordination between Japan's defense-use air-fuel procurement policy and its petrochemical industry promotion policy.

2.5 Capital Accumulation in Corporations

The government's postwar policy aimed at assisting corporations with capital-shortages can be categorized into the following three measures — (1) tax incentives, (2) corporate financing including aid from overseas, and (3) efficient use of individual capital.

Under the tax incentive policy, the government conducted a reevaluation of corporate assets and allowed special depreciation for streamlining plants and equipment. The asset reevaluation was conducted three times from 1949 to bring the book value of corporate assets, which had been considerably undervalued due to the postwar inflation, to appropriate levels. This made a substantial contribution to consolidating the financial basis of Japanese companies.

The special depreciation scheme was introduced in 1951 to spur moves to streamline outdated facilities and thus increase the international competitiveness of industry. The system allowed an additional depreciation of 50 % on machinery designated by the government. It was followed in 1952 by similar depreciation policies for streamlining machinery (addi-

tional depreciation of 50% in the first year) and for special short-term depreciation of R&D equipment(additional depreciation of 50% in the first year, 20% in the second and third year.) Those measures succeeded in substantially reducing costs involved in corporate rationalization and modernization of facilities.

With regard to industrial financing, the government established the Reconstruction Finance Bank in 1947 to supply funds, including long-term ones, for industrial recovery. The main borrowers were basic industries and industrial-infrastructure related sectors such as the coal (36 %), electricity (17 %), chemical (8 %), and steel (3 %) industries. (The figures in the parentheses represent the ratio of loan balance by the bank as of March 1949.) (It should be noted that the state-owned railway and telecommunications concerns were not qualified for such loans because the sectors were state-owned.)

The government, however, stopped the bank from issuing new loans in 1949 at the request of the GHQ, which blamed the loans for accelerating the inflation which was crippling Japan during the years immediately after the war. Its function was succeeded by the Japan Development Bank. Since the RFB's loans were funded by government financing and government debt issues, this kind of lending financed through the government budget was reduced under the Dodge line from 1949 and replaced by a special account funded by proceeds from the sale of American GARIOA(Government Account for Relief in Occupied Areas) EROA(Economic Rehabilitation in Occupied Areas) aid items. This account played a considerable role in the formation of Japan's industrial base and in the nurturing of key industries. The account was used to provide capital to private-sector financial institutions through govern-

ment bond redemptions and the purchase of government bonds (28 %), to finance government investment in telecommunication, railway, and other public works(33 %), and to fund private-sector investment in electricity, shipping and other industrial-linked infrastructure (34 %).

In view of the surging need for long-term financing in the subsequent period, the government reorganized Japan's long-term credit system and established the Long-Term Credit Bank of Japan in 1952, in addition to the Industrial Bank of Japan. The two long-term credit banks, which issued bank debentures to raise capital, served as financiers mainly for major companies in order to help their growth.

Such public financing, however, was not sufficient to make up for the massive capital shortage that jeopardized the Japanese economy. Accordingly, the government launched campaigns aimed at promoting stock investment (direct finance) and household savings(indirect finance) to make more use of individual capital in economic development. A securities democratization campaign, which included seminars on stock investment and financial incentives, was launched to lure individual investors into the stock market and thus ease the shortage of corporate capital. As a result of such efforts, the number of individual investors grew rapidly, and by 1949 this group accounted for as much as 68.5 % of all stock holders.

The government's savings-promotion campaign came at a time when the household savings rate dropped below zero. The policy was originally taken to control inflation just after the war, but its aim changed in 1952 to help accumulate capital for industrial growth and economic independence. In concrete terms, the government set targets for savings growth

every fiscal year, lowered tax rates on interest charged on savings(the tax was decreased in 1953 from 50% to 10% of income from interest, followed in 1954 with a further cut to 5% with respect to long-term savings), introduced the Post Saving and National Saving Corporate System(1941-63), and established tax exemptions for small-lot deposits("*maruyu*" 1963-). The program helped more than double Japan's personal savings to 893.5 billion yen in 1955 from 1950's 384.6 billion yen, which in turn boosted the government's pool of money for industrial financing under its fiscal investment and loan program.

2.6 Foundation and Rationalization of Business Management

Corporate stock ownership was introduced rapidly in Japan from the time of the Meiji Restoration in 1868 to promote a conversion from a feudal economy to a modern economy. The introduction of stock ownership at first threw the economy into confusion, causing a number of bankruptcies because of resulting problems. Corporate stock ownership, however, became well rooted in the Japanese economy and society as its problems were resolved gradually. The problems of this time are listed below, each followed with measures which brought about their solution :

* Capital Shortage — Accumulation of capital through improvement in productivity, development of financial institutions, introduction of foreign capital

* Poor transportation facilities — Development of railroad networks by private railroad companies

* Lack of legislation — Enforcement of commercial law and trademark rule

* Unskilled managers — Manpower development through experience and dismissal of inadequate managers

* Concern about modern economy — Strong earning performances at some shareholder-owned companies (ex., railroads, textiles, banks)

Firms under stock ownership that became rooted in the national economy continued to develop due to each company's self-reliant efforts to introduce management skills from the United States and Europe and to modernize production facilities in the post-war period. To support these efforts, the government took measures as stated below.

In promoting the introduction of U.S. and European management skills, the Japan Productivity Center, a private organization set up with government support, played an important role by initiating a campaign to increase productivity. The center's activities ranged over a variety of fields. Of particular importance were the dispatch of fact-finding missions consisting of leaders in the government, industry, academic, and labor circles and the organization of seminars on productivity. For a six year period from 1955 to 1960, the center sent a total of 306 missions involving 3,133 mission members. The dispatch of these missions provided leaders in each field with opportunities to recognize the gap between Japan and other countries in productivity, helped them set a level of productivity to aim for, and sparked consideration of what should be done to improve productivity. A variety of seminars and reports from these fact finding missions also contributed to the enlightenment of the

nation's people about what productivity is and ways of improving productivity. These seminars covered topics such as industrial engineering (a technical method to supervise production and management), quality control (a concept designed to improve product quality) , and consumer-oriented marketing (surveys of consumer needs, research, development and production of products based on survey results, and advertisement targeted at consumers, etc.). Businesses then proceeded with management reforms under the influence of these ideas.

In addition to these reforms of the "soft" side of the competitiveness equation, industrial rationalization policy played a particularly important role in helping to boost the "hard" side of the equation through such things as the improvement of production facilities (See 2.7 for details). The policy did so by helping to reduce the risks involved in private investment for rationalization by supplementing private financing.

2.7 Supporting Priority Industries

In restructuring the war-battered industry, the government first introduced the priority production system to boost output. It then took a number of sector-oriented approaches including the rationalization of the industries, nurturing of new industries, and promotion of heavy and chemical industries in order to make the industries independent and internationally competitive. In the early postwar period, priority was put on the coal industry to deal with Japan's serious shortage of raw materials. Most of the coal produced was used to make steel, which in turn led to a boost in overall industrial output. In this process, special measures were taken including financing from the Reconstruction Finance Bank(RFB),

direct price controls, and price-gap subsidies.

The priority production scheme continued until the Dodge line policy terminated the lending activities of the RFB in 1949. In 1948, the production increase in the two sectors began to have a positive effect on other sectors. The policy proved to be successful as industrial output recovered to about 70 % of prewar levels in Dec. 1948.

The success of the scheme demonstrated that production can be boosted even when the supply-demand balance collapses and resources available are extremely scarce.

In the early 1950s the government promoted the rationalization of Japanese industry by providing support to the steel, coal, shipping, electricity, synthetic fiber, and fertilizer sectors, all of which planned massive capital investment to reorganize themselves. The measures taken under this industry-rationalization policy differed from those of the priority production policy. The main tools in the latest policy were tax incentives and the government finance and investment program. Tax incentives include special depreciation for rationalization-related equipment, tax exemption for purchases of important items, and tariff exemption for imports of important machinery.

Those exemptions were equivalent to 5.7 % of corporate tax revenues in fiscal 1955. On the other hand, loans under the government's finance and investment program accounted for 28.3 % of the total industrial fund supplied during fiscal 1952-1955. Especially in the case of the shipping, electricity, steel, and coal industries, the proportion was as high as 37.2 % of the fund supply.

In the latter part of 1950's, as a next step the government promoted new but promising industries such as the synthetic fiber, petrochemical, machinery part, ordinary machine, and electronics engineering sectors. Special 5 year nurturing plans and laws for each industry were introduced, under which the designated sectors could receive loans from the Japan Development Bank, tax incentives, and special allotments of foreign currencies. In the case of the petrochemical industry, the government and the industry jointly worked out demand outlooks so that companies would not overspend on plant and equipment due to their excessive competition. Thanks to the outlooks, the companies were able to invest in well organized way.

It is also noteworthy that the growth of the machinery parts and electronics sectors resulting from government promotion measures contributed much to the subsequent development of the Japanese auto and other processing and assembling industries. Under the Law on Extraordinary Measures for Promotion of Machinery Industries (June. 1956), the government implemented extraordinary tax treatment and financial support for machinery part makers to upgrade their facilities and promoted a cartel concerning quality and output in the industry to curb production costs. For the electronics industries, government support focused on research and development activities corresponding to the developmental stages of each sector. This support was carried out under "The Law on Extraordinary Measures for Promotion of Electronics Industry" (May. 1957).

Japan's policy of heavy petrochemical industrialization is the most typical of all the Japanese industrial policies in the high-growth period. To achieve high economic growth while reshaping the industries into their

best structure, MITI announced two basic standards — income elasticity and productivity. MITI decided to give special assistance to industries which satisfied these requirements, such as the steel, shipbuilding, petrochemicals, automobiles, machinery, machinery part, electrical, and electronics sectors [3].

The biggest goal of the scheme was to increase their international competitiveness. For this purpose, the ministry carried out a package of special measures including low-interest loans, favorable tax treatments, import curbs, export promotion and other border measures, and encouragement of mergers, tie-ups, coordinating capital investment and cartels.

The border measures of import curbs and restrictions on direct investments by foreign companies and the tax exemption for income from exports were gradually scrapped after Japan joined the General Agreement on Tariffs and Trade (GATT) and the Organization for Economic Cooperation and Development (OECD). The introduction of border measures for limited terms urged and promoted the effort of the private sector to modernize and rationalize in order to avoid the probable negative impact from economic decontrols. It is widely believed that setting certain time limits eventually led to quicker adjustment and independence of those chosen industries.

Meanwhile, the government's energy policy at that time was based on a principle established in December 1963 that economic security is best ensured by stable supplies of inexpensive energy through establishing

[3] By heavy and chemical industries we mean industries which meet MITI's two standards as previously stated. These should be promising sectors expected to show remarkable growth in the future. Accordingly not every heavy and chemical industry was supposed to qualify for MITI's support. The policy also aimed to enhance the move to value-added production in the light industries.

comprehensive energy policy. Particular emphasis was put on bringing about the early independence of the domestic oil industry from international oil capital. According to these principles, oil policy stood at the core of Japan's energy policy while great attention was also paid to the future possibility of nuclear energy. Five months before oil imports were liberalized in October 1962, the government introduced the Oil Industry Law which aimed to speed up the rationalization of Japanese oil refiners and provide coordination of production levels under MITI's supervision.

More concretely, the Minister of International Trade and Industry was given by the Law the authority to draw up oil supply programs, set up a license system for oil refiners, allow permission for construction and expansion of specific facilities, fix sales prices, etc. These measures, which were originally intended to nurture "national" oil companies, were subsequently transformed into more multi-faceted and flexible sets of measures, as called for by the further development of the Japanese economy, as well as by the drastic changes that happened in the international energy situation.

2.8 Policies Concerning Small and Medium Enterprises

In the postwar reconstruction period, small and medium enterprises, or those with less than 200 employees, predominated in Japan's private sector. In 1947, they accounted for 99.8 % of the total number of businesses and 76.3 % of total employment. In the light of the importance of small and medium enterprises in the national economy, the Small and Medium Enterprise Agency was established in 1948 with the primary aims of correcting social and economic restrictions on these enterprises and promot-

ing their self-reliant efforts. The agency's objective was to promote and coordinate the following government policies regarding small and medium enterprises.

2.8.1 Key Policies

Modernization and Upgrading

For the modernization of small and medium enterprises, it is not only important to modernize each enterprise's facilities and management but it is also vital to modernize cross-corporate and cross-industrial relations alike. Upgrading is accomplished by changing the size of each small and medium enterprise into an appropriate one, promoting business cooperation, organizing plants and shops collectively, changing the type of business, and modernizing management in the retail and wholesale industry.

Under these modernization and upgrading policies, The Law on Extraordinary Measures for Sector Oriented Promotion was enacted in 1960 to modernize small and medium enterprises on an industry-by-industry basis. The law aimed to modernize these enterprises in a wide range of industries in a case-by-case manner by clarifying and then meeting actual difficulties facing these enterprises in each industry. The law developed into The Small and Medium Enterprise Modernization Promotion Law which was enacted in 1963.

Organization

For the promotion of vigorous enterprises and the activation of a market economy, it is effective to convert businesses which are too small into those of an appropriate size, or where each unit of production achieves maximum labor productivity with given production technology while meeting demand. Small and medium enterprises which are poor in accumulated management resources can transform themselves into such ones through mergers and business associations.

The primary objective of small and medium enterprise organization policies at that time was the establishment of cooperative systems as a preparatory step toward full-scale organization. In this effort the government enacted the Smaller Enterprise Cooperative Association Law in 1949 to promote these policies with an aim to change regulation-colored commerce and industry cooperatives formed under distribution controls into democratic cooperatives under the Rochdale principles[4].

Technological Improvement

It is generally difficult for small and medium enterprises to employ engineers and train and promote engineers through in-house job-training programs. Without the necessary human know-how, they will find it difficult to make full use of new facilities which are introduced to increase productivity through the modernization of existing facilities. So it is necessary for the government to help small and medium enterprises improve their technology through the promotion of research and development as well as training of engineers and skilled workers.

[4]The standard of organization that a corporative association should have: 1) The association should be formed voluntary and each member of it can join and quit freely, 2) Each member have a voting right equally, 3) The limit of the profit sharing is specified in the laws or the articles of association.

In the early 1950s, measures for technological improvement were limited to seminars on technology, on-the-job training and other information services. But the scope of these programs began to expand in the mid-1950s. These measures were followed by the introduction in 1961 of a program designed to enhance the function of those public research institutes responsible for technical assistance aimed at small and medium enterprises. This action set the stage for such institutes to implement technology-related policy measures. In the same year the government also began to issue pamphlets on practical technology in cooperation with The National Federation of Small Business Associations with the goal of improving the quality of plant managers at small and medium enterprises.

2.8.2 Primary Policy Measures

Financing

Small and medium enterprises are inferior to large enterprises in terms of their credit-worthiness, making it generally difficult for them to secure capital whenever they need it for their business and business expansion by borrowing funds from financial institutions. It is thus necessary for the government to provide financial assistance as a supplement to private financing in order to secure stable supply of funds necessary for small and medium enterprises to do their business. It is also important that the government set up a system to enhance the credit of small and medium enterprises to make it easier for them to raise funds through private financial institutions.

In addition to the Shoko Chukin Bank set up in 1936, several special lend-

ing institutes were established in the postwar period to provide public capital to small and medium enterprises. These include the People's Finance Corporation established in 1949 to extend loans to small businesses and the Small Business Finance Corporation established in 1953 to extend long-term funds. Concerning credit guaranties for small and medium enterprises, Small Business Credit Insurance Corporation of Japan was established in 1950 to re-guarantee debt payments by the Credit Guarantee Corporation, which itself guarantees debt payments by small and medium enterprises to private financial institutions. In a related development, the government enacted the Law Concerning the Organization of Small and Medium Enterprises Organizations in 1949 to promote credit cooperatives, the Cooperative Credit Union Law in 1951 to promote credit associations, and the Mutual Loan and Savings Bank Law in 1951 to promote mutual loan and savings banks, all as a part of its effort to develop small and medium enterprise-oriented financial institutions.

Taxation

A set of tax measures have been taken to help small and medium enterprises enhance their own capital and modernize production facilities. Among them are taxation on deemed corporations, a preferential tax system for small businesses, and a special tax allowance for the remuneration of family employees. These measures were intended to help alleviate the income tax burdens of small and medium enterprises. These tax measures also included a preferential corporate tax rate for small and medium enterprises (35 % in 1952 against a base rate of 42 %) and a special tax allowance for reserve funds at family-owned small businesses. Special depreciation allowances, tax deductions, and preferential taxation on reserves were granted by the Law on Special Tax Treatment with an aim to

help promote investment of plant and equipment and construction of laboratories and structural reforms. Among the measures taken under this law was a special depreciation allowance system for machinery installed to rationalize facilities in small and medium enterprises in 1961. On the local tax front, special measures were taken to ease tax burdens through preferential taxation standards.

Management Consultation

It is necessary to rationalize management through promoting the modernization of management methods and improving in the quality of entrepreneurs themselves as well as in all areas of management manufacturing, wage and employment planning. This needs to be done in order to make effective use of facilities and increase labor productivity. But there are few opportunities for managers of small and medium enterprises to study know-how and the methods necessary for management controls since these enterprises do not have well-organized in-house training programs. The government therefore needs to set up systems for management analysis and consultation.

In 1948 the government founded the Small and Medium Enterprise Agency and consequently enacted basic guidelines on the implementation of business consultations for small and medium enterprises. It also launched management analysis and consultation services at local bureaus of MITI as well as in local prefectures and five major cities. These services at first centered on plant operations, but later the scope of these services expanded to analyze enterprises in a group. These administrative services were put into legislation in 1953 and a registration system for consulting experts was established. This was followed in 1956 by the establishment

of the Law on Financial Assistance for Small and Medium Enterprise Promotion, which started analysis and consultation services for those small and medium entrepreneur who were eligible to borrow public funds used in the modernization of their production facilities. In addition, local governments and five major cities and other organizations in charge of guidance services for small and medium enterprises formed a Comprehensive Guidance Center for Small and Medium Enterprises in 1962. This center has since played a central role in promoting these services.

2.9 From Export Promotion Policy to the Liberalization of Trade and Capital Flows

2.9.1 Export Promotion Policy

The spectacular growth of Japanese exports in the postwar era was primarily brought about by Japanese companies' efforts to survive competition both in the domestic and international market place. The government's export-promotion policy, however, to some extent helped improve the export-related environment and supplemented the private sector's efforts.

The following are the concrete efforts taken by Japanese companies.

i) boosting their corporate image and the public trust in them (e.g. promotion of brands)

ii) entry into new markets and market diversification (research into for-

eign customs, ways of thinking, consumer trends, rival products, and demand movements in addition to market development through the cultivation of consumer incentives)

iii) establishment of sales routes and boosting after-sales services (use of foreign bases of trading companies)

iv) product development in line with consumer needs and the development of necessary technology.

The government, for its part, helped maintain a competitive environment, contributed to boosting the international competitiveness of Japanese companies through heavy and chemical industrialization, and implemented industrial adjustment and industrial organization policies which encouraged smooth withdrawal of companies which lost their international competitiveness. It should be evaluated that these policies maintained and developed the vitality of the corporate world.

Below are the government's main export-promotion measures. They can be divided into those aimed at smoother trade and those designed to subsidize Japanese companies. Most of the latter type of measures, except those for smaller firms, were abolished by the early 1970s after capital liberalization was completed.

(Reference) Main Policies for Export Promotion

1. Export-Promotion Organizations and Policies

(1) The Export Board (1954-)
an intra-government forum for information exchanges and coordination relating to export

policies or targets
(2) The Japan External Trade Organization (1954-)
carried out overseas research and established and operated trade mediation offices

2. Export-related Financing
(1) pre-loading finance (1946-72)
short-term loans to finance exporters' production and cargo collecting
(2) after-loading finance (1953-72)
discount by the Bank of Japan of exporters' bills with a deadline
(3) The Export-Import Bank of Japan (1951-)
providing medium to long-term lending aimed at promoting plant and machinery exports

3. Export-Promoting Tax System
(1) the export income deduction system (1953-64)
deduction system for part of income from exports
(2) the reserve system for export-related losses (1953-62)
treating part of export income as reserves for possible losses

4. Trade Insurance System
(1) export insurance (1950-)
compensation for exporters' losses resulting from risks accompanying exports and foreign investments

5. Export Inspection System
(1) the export inspection system (1959-)
inspection by designated institutes on specific export items aimed at improving quality of export products.

6. Design Protection Policy
(1) The Export Transaction Law (1952-)

regulations on export items which might infringe on the industrial property rights of importing nations
(2) The Export Goods Design Law (1959-)
required approval according to design law for specific export items

2.9.2 Liberalization of Trade and Capital Flows

Meanwhile, trade in the post-war period in Japan was under state control even after the resumption of private trade in 1947. From 1958 through 1959, almost all 17 major West European countries successfully restored their currencies' convertibility with foreign currencies and made steady progress in foreign exchange and trade liberalization. But at that time a cautious view of liberalization was dominant in Japan.

Because of a continued improvement in the balance of payments and rapidly increasing international competitiveness of Japanese products, however, the Cabinet adopted "The Trade and Foreign Exchange Liberalization Program " in 1960 on the basis of debate at a general meeting of GATT held in Tokyo in 1959. In principle, the program called for raising the trade liberalization rate to 80 % in three years from 40 % at that time, liberalizing transactions on the current account within two years in principle, and lifting regulations gradually on capital flows. The schedule of this program was later sped up to raise the rate to 90 % by 1962 (the actual figure was 88 %) and to 93 % by 1964.

By becoming an Article 8 nation of the IMF and joining the OECD, Japan could no longer use any reason to impose import restrictions and invisible trade regulations for balance-of-payment reasons, and instead

became obliged to promote liberalization of capital transactions. Japan therefore adopted a step-by-step approach to liberalizing capital transactions, mainly direct foreign investment. Its first step was taken in 1967 with a decision on the first liberalization program. The scope of regulation-free industries was expanded until 1973 when the fifth liberalization program was adopted. During this period, the government took a series of measures as a part of its effort to prepare for the liberalization of capital transactions to strengthen business and industrial structures in order to make them competitive with foreign firms

2.10 Industrial Technology Policy

Enhancing industrial technology is vital for a country's economic and industrial development and at the same time forms the common basis for its industrial, energy, and other individual policies.

Japan's first industrial technology policy in modern times was a personnel training program including university education after the Meiji Restoration in 1868 aimed at narrowing the technology gap between Japan and Western nations. Because of this, Japan's science universities have been traditionally stronger in engineering than in science, and the faculty of engineering has been a center of R&D rather than just a training school for engineers.

However, the technology gap widened again as a result of massive losses of personnel in the Second World War and war-time curbs on research activities under Japan's controlled economic system. In order to catch up with technologically advanced Western nations, the government in-

troduced subsidies for research and development (R&D) activities (subsidies, favorable tax treatment, and low-interest loans) and established research institutes, a public-private research corporation, and various awards. These financial measures included Conditional Loans for R&D of Mining and Industrial Technology Program(1950) and The Express Commission System for R&D of Mining and Industrial Technology Program(1964). These provided a sizable stimulus for private-sector research activities.

The government undertook its own research activities with the aid of private engineers and facilities in advanced fields of study which involved high risk and cost burdens that private companies alone could not afford (ex. National Research and Development Program (Large-Scale project)). The creation of the public-private research group in 1961 contributed to effective use of research resources via closer cooperation between the government and the private sector. It might be of some concern that such a system could work against competition, but this approach never became anti-competitive because research in those days was mostly basic and conducted only for a short-term. The award system also proved to be an effective public relations tool by providing a big incentive for research activities.

In addition to these direct industrial technology policy measures, the Foreign Exchange and Foreign Trade Control Law and the Foreign Capital Law also played an important role in developing Japan's industrial technology.

Both laws made it possible to make effective use of the limited foreign exchange available by allotting it to top priority industries chosen from

the viewpoint of industrial technology development. The government leadership also helped check increases in royalties which usually result from too much competition among companies for technologies. It is true that some industries lagged behind in technological development because of these policies, but the restrictive effect seemed minimal because of the success of those companies which attained a certain level of technology through the introduction of foreign technology.

Industrial technology policy in the 1970s and early 1980s focused on environmental and energy-saving areas. Examples include the 1974 Sunshine Project, the 1978 Moonlight Project, and the development of a de-sulfurization technology in a Large-Scale Project in 1966. The government, having some long-term vision, has been and will continue to pursue industrial technology policy in accordance with the greatest need of the time. The government's recent policy to bear Japan's burden of international R&D efforts and its shift to promote more basic R&D research are examples of this intention.

2.11 The "Soft" Infrastructure of the Economy

2.11.1 Introduction and Maintenance of Statistics

The introduction of economic statistics was a critical part of Japan's postwar economic policy because they served as tools for economic policy making at some times and as gauges for the effect of actual policy measures at other times. In 1947 the government introduced the Current Survey of Production to survey output, shipments, and inventories

of important products each week, each month, or every four months at 180,000 offices covering 228 industrial sectors. The Census of Manufactures launched in 1948 was intended to measure the input of production elements and the value-based effect of production activities at manufacturing plants nationwide. This was done in order to grasp the structure of the manufacturing sector and its employment ability. Thus, the government first created statistics related to output and then introduced from around 1948 a series of surveys on supply, demand, and sales movements for major items in order to establish a sound distribution system in Japan which is essential for the shift to a market-based economy (in 1948: textiles, coal, steel. autos; in 1952: non-ferrous metals, petroleum products etc.).

The government formed no special agency to administer statistics. Instead, each government ministry and agency was in charge of compiling the data they needed. The adoption of this dispersed system made it possible that every agency closely monitored its related sector and that economic and industrial changes were more readily reflected in data, making the government's economic policy more flexible. Also important in compiling statistics and surveys was the cooperation gained from local governments which formed statistic staffs.

To secure the credibility of statistics and improve the statistics system, the government enacted the Statistics Law in 1947, which required that people, if requested, report designated statistics and obliged survey-takers to publish them.

In the following high-growth period, the government refined its statistics methods further by creating indexes for output, inventories, and ship-

ments, and working out input-output tables. These macroeconomic indexes played a significant role in helping the government grasp economic trends and structures as well as make forecasts of the future.

The government has responded to the need of each period. For example, in view of the widening performance gap between big enterprises and small and medium sized firms, the government also launched a basic survey of medium and small enterprises in 1957.

2.11.2 Promotion of Industrial Standards

Another critical "soft"-infrastructure for the industrial development of a country is a system of unified industrial standards for rationalizing and standardizing output, consumption, and transactions. In the standardization process, the Japanese government carefully followed the principles of unification, the democratic process, maintaining objectivity adequacy, and ensuring public accessibility. Thanks to these principles, Japan's industrial standardization has been objective, rational, and valid for private firms.

The Japanese Industrial Standard(JIS), introduced in line with the 1949 Industrial Standardization Law, set standards for screws and other basic industrial products (currently covering about 8,200 items) to match their quality and performance with user needs and boost production efficiency. The system also provides consumers with accurate information about the quality and capacity of products as well as encourages producers to introduce a mind and method for quality control. To spread JIS, the government sponsored seminars, lectures, and training programs for both

producers and consumers. It was also publicized through posters and in the mass media.

2.11.3 Creation of Laws on Measurement, Industrial Property (Patent, Trademark, etc.) and Mining

The government revised Japan's outdated measurement law in 1951 with a view to improving productivity and the quality of Japanese products through accurate measurement. The highlight of the revised law was the standardization of the metric system effective from 1959.

Other measures taken to help develop the infrastructure of the economy include the revised industrial property laws such as Patent Law(revised several times after the Temporary Act of Monopoly for Invention in 1871) and Trademark Law (revised several times after the Temporary Act of Trademark), which aimed to protect inventions, trademarks and other industrial properties. Additionally, the revised Mining Law(enacted in 1905, revised in 1950) was designed to help rationalize the mining industry.

3 Some Features of Recent Industrial Policy

Many of the policy measures sketched in the preceding chapter, while undergoing modifications and changes in response to the changing requirements of the times, still continue to play important roles at the present moment. However, since the onset of the aforementioned "third period" beginning with the first oil crisis of 1973, marked transformation has been taking place in Japan's industrial policies, especially with respect to the main areas where industrial policy measures are applied. As Japan has reached a position of a major world economic power, increasingly tending toward a mature society, the tasks for industrial policy have also tended to diversify to a high degree of sophistication.

Tremendous progress has meanwhile been achieved in the international competitive strength of Japanese industrial products. Japan's production and export of products such as automobiles, electric equipment and numerically controlled machine tools have come to dominate world markets, its balance of trade consequently showing huge annual surpluses. Thus the Japanese economy has up till now continued its quantitative expansion and, at the same time, is moving toward further maturity.

On the other hand, however, rapidly increasing competitiveness of Japanese products brought about problems of trade and economic friction between Japan and the United States(and between Japan and the Western Europe), which indeed had begun already in the late 1960's. Measures for export adjustment had to be taken in a number of Japanese industries to deal with the problems of trade friction.

The new tasks for Japanese industry that emerged in this recent stage range over a very wide variety of areas. To mention some examples, these include:

— Coping with the sudden increase in prices triggered by the rise in oil price and the tightening of supply-demand situation in the oil market;

— Promoting energy conservation and development of alternate sources of energy;

— Devising measures for adjustment and conversion of structurally depressed industries;

— Providing relief assistance and promotional measures for small and medium enterprises;

— Accelerating industrial location policies to rectify regional economic imbalances;

— Coping with environmental pollution problems;

— Promoting technological research and development, paying particular attention to international cooperation aspects;

— Coping with the trade friction issues.

In view of the limitations of this paper, just a few of the above items are discussed below.

3.1 Promotion of Research and Development

Promotion of research and development activities for industrial development constitutes one of the important areas of Japan's industrial policy. Generally speaking, large risks are inherent in R&D for developing new basic technologies with wide industrial applicability. Moreover, social benefits from successful R&D carried out by firms often exceed the benefits which accrue to themselves. Thus, it is desirable that the government play a leading role in R&D and help such efforts in the private sector, especially where private firms alone cannot carry out sufficient R&D, where a very long lead time and large risks would be required, and where high public policy priority and urgency are required, such as energy and environmental protection.

Among many governmental policies for the promotion of R&D, those related to scientific and academic research and purely basic research on technological development fall within the jurisdictions of either the Education and Culture Ministry, including the universities and research institutes under its jurisdiction, or the Science and Technology Agency. MITI is responsible for basic and applied research in sciences and technologies for mining and manufacturing. These policies grasped together are generally called the "Technology Development Policy."

"Technology Development Policy," namely MITI's R&D policies, contains the following four areas:

(a) Presentation of possible future directions of industries and technologies, such as "visions" which could serve as a reference for private firms' planning of their own R&D activities;

(b) Encouragement and inducement of private R&D activities in specific fields through tax incentives, "policy financing," subsidies and other schemes. This includes encouragement of the formation of joint research associations among firms on specific research objectives under MITI's initiative. The best-known successful example of joint research associations in the 1970s is the one established to develop VLSI (very-large scale integrated circuits) technology;

(c) The R&D conducted at research institutes attached to MITI;

(d) Provision of information, and playing a coordinating and intermediary role for international programs on technological development. For example, a joint international R&D project, named the "Human Frontier Science Program," was initially proposed by Japan at the Economic Summit meeting held in Toronto in 1988, and is now coordinated by MITI on Japan's side.

3.2 Industrial Adjustment Policy

"Industrial adjustment assistance" or "structural adjustment policy" is defined as those policies pertinent to industries in decline or depression with excessive resources allocated to the industries, such as excess production capacity or redundant labor, arising from decreased demand for their products or loss of comparative advantage in international markets. The policy of "industrial adjustment assistance" or "structural adjustment" aims at facilitating the transfer of resources from such sectors to others, and to help firms in the industry in question diversify into new

relevant fields or other promising areas.

(i) Industrial Adjustment Policy in Japan

"The General Guidelines of Positive Adjustment Policy (PAP)," adopted by the Ministerial Council of the Organization for Economic Cooperation and Development (OECD) in June 1978, made it a principle that industrial adjustment be generally left to the market mechanism. The PAP guidelines called for adjustment policies in this area to be temporary and progressively phased out, to facilitate efficient management and to prevent product prices from exceeding the level allowing appropriate profit margins by maintaining competition in the market. They also urged that the social cost and the means and processes associated with such policies be transparent.

Japan's industrial adjustment policy basically follows the principles of the OECD guidelines. Japan's industrial policy authorities believe that industrial adjustments and structural changes should in general take place within the framework of the market mechanism. Only when a very drastic and large scale change occurs in the business environment can adjustment assistance policy be justified as a temporary measure to alleviate sudden impacts.

(ii) Governmental Assistance for Industrial Adjustment

Japan's industrial adjustment policy in the 1980s primarily dealt with industries where Japan's international comparative advantage was lost. There were two forms of support. One was aimed at helping firms in the industry in question to shift their lines of business to new fields within

the industry. The other was aimed at promoting the smooth transfer of resources to other industries. As an example of the former, the government helped firms in the textile industry to convert or diversify into more fashion-oriented apparel. Small businesses which were considered especially vulnerable to sudden changes in business environment were assisted by low interest loans from government-affiliated banks to develop new products or markets, were encouraged to set up joint ventures or to develop new markets through co-operation with firms in different fields. These actions were intended to assist the initiative of small businesses in the adversely affected textile industry. The total government outlay of assistance to the textile industry was rather small: it amounted to at most around one billion yen per year, on a subsidy (grant element) basis.

Structural adjustments in the steel industry presents an example of policies in an area dominated by large firms, to assist their diversification into new lines of businesses. The Japanese iron and steel industry has attained the highest level of technological efficiency in the world, but has run into depression because of worldwide excess supply and competition from lower wage countries. It now endeavors to increase the proportion of its production of special steels such as high tensile steel and stainless steel, and high quality steel such as surface processed steel, for which the demand is expected to grow in the future. They also try to develop "new high-tech materials" such as carbon fibers and titanium by making use of existing technological capabilities and human resources. Governmental support includes tax measures such as accelerated depreciations for the equipment acquired for new lines of business or prolonged deferments of losses caused by scrapping existing equipment. In these cases too, the "information" effects of the industrial adjustment policies would perhaps be larger than direct "cost" impacts of the subsidy elements in

such measures as subsidies or tax incentives.

The other pattern of industrial adjustment policy pertains to the encouraged transfer of resources from industries with excess capacity and redundant labor due either to loss of international comparative advantage or to the sharp decline in demand for their products. Such endangered industries include nonferrous metal mining, aluminum smelting, and shipbuilding. The "Temporary Measures Law for the Structural Adjustment of Specific Industries," enacted in 1983, played a central role. In accordance with this law the government designated specific industries, which eventually turned out to be altogether 26 industries, including electric furnace steel making, aluminum smelting, viscose short fibers, ammonia, urea, ferrosilicon, ethylene, cement, and electric wires and cables, as industries where "structural improvement" policies were implemented. The Law required MITI to make a "structural improvement basic plan" for each designated industry in consultation with the firms in the industry. These industries were eligible for low interest loans and special depreciation for scrapping obsolete facilities. The exemption from the Anti-Monopoly Law was granted when the intended reduction of excess capacity could not be made by voluntary efforts by the individual companies alone and a joint action (cartel) to carry out scrapping was deemed necessary. Where necessary, the government can direct such joint actions. Actual scrapped capacity amounted to an average of 98.4% of the initial targets in 26 sectors before the law was abolished in 1988.

(iii) The Characteristics of the Japan's Adjustment Policies

In Japan's industrial adjustment policy for declining or depressed industries, generally speaking, no protectionist border measures, which would

have industry-wide, uniform impacts such as import restrictions or higher tariffs, are employed. Only in a very small number of cases were direct protectionist measures taken to curb imports such as virtual restriction of textiles from China and South Korea. The protection of declining domestic industries from imports often tends to become permanent, to spread to other related industries and often to generate vested interests in the protected industries.

In Japan, industrial adjustment policy has focused on diversification of products and transfer of resources. The measures were taken within specific time limits and managed to achieve their intended results in relatively short time.

3.3 Coping with Trade Friction

The term "trade friction" in Japanese means the situation of bilateral trade in which the interests of the trading partners have been conflicting with each other for some time, and that the negotiations to solve the conflict have been prolonged. A sudden and sharp increase in Japan's exports of a specific item could cause or could be expected to cause damage to the industries within the importing country that compete with those imports. This may invite the importing country to limit the imports by raising tariffs, erecting import quotas, imposing anti-dumping duties, or seeking voluntary export restraints from Japan. Or, there could be domestic political pressure toward such directions in the importing country. These conditions constitute what is termed as "trade friction." On the side of imports, "trade friction" includes cases where a trading partner calls on Japan to liberalize or enhance access for imports, and

the negotiations over such issues are prolonged. Similar conflicts can take place in fields other than merchandise trade, such as financial and service sector, intellectual property right and the distribution system. The term "economic friction" embraces all of these.

In the 1980s, Japan enhanced its comparative advantage in manufacturing industries with medium- to high-level technologies, especially mass-production type fabricating and assembling manufacturing industries, such as machinery, automobiles, electric machinery, and electronics. In these industries, the technologies, such as mass production technologies and quality controls, and the productivity often advance swiftly, lowering production costs rapidly. Together with intensive competition among the firms within an industry, the prices of products decline sharply, and production and exports rapidly expand. If Japan's trading partners have no domestic competing industries with imports, they would enjoy only the benefit of lower import prices, and, thus, there would be no "trade friction," as evidenced in high-quality cameras and VCRs exported to the United States.

But if domestic industries competing with Japanese exports exist or if such industries are being created in importing countries, the industries in Japan's trade partner countries lose competitiveness and are forced to curtail production and employment and face financial difficulties. This would trigger complaints and criticisms against Japanese products and industries. For Japanese manufacturers, a large portion of accusations against alleged dumping in other countries appear to reflect merely complaints of a normal change in trade flows resulting from rapid technological progress and divergent industrial development.

In anticipation of such circumstances, Article 19 of the General Agreement on Tariffs and Trade (GATT) provides for the "safeguards," that is, emergency measures to restrict import. But the safeguard clause has rarely been used by importing countries for several reasons. Most countries tend to resort to ad hoc arrangements such as bilateral agreements restricting imports and unilateral quantitative import restrictions unauthorized by GATT, or what is called voluntary export restraints, under which the exporting country (for example, Japan) restrict export at the request of the importing country.

In order to meet this requirement, Japan has been conducting voluntary export restraints in some fields such as automobiles and other specific products. However, now Japan prefers multilateral negotiations rather than this kind of bilateral agreement, which is not authorized internationally, and participates in rule-making negotiations such as GATT-Uruguay Round.

4 Industrial Policy Measures

This last chapter focuses on the aspect of methods or tools used in achieving industrial policy objectives, relating them to the various measures mentioned in the two preceding chapters. As already indicated policy tools include a wide variety of methods, ranging from direct legal control and regulations to inducement by means of financial and fiscal incentives and further to orientation and guidance through consultation and persuasion.

Generally speaking, it may be pointed out that as industrial policies have undergone changes over time from the aforementioned first and second stages to the third, the methods and tools used have tended to shift from direct intervention to more indirect approaches, and from those of compulsory nature to those based on inducement and orientation. Some examples of the more recent "soft" approaches and methods are presented below.

4.1 Providing Information

Information provided by MITI consists of (a) various statistical data concerning trade and industry, (b) analyses of the current situations of trade and industry, and (c) issue raising and presentations of outlooks concerning trade and industry.

(a) MITI periodically compiles and publishes statistical data, including a

Current Production Statistics Survey of MITI, a Census of Manufactures and a Census of Commerce.

(b) MITI regularly (roughly annually) publishes its analyses on the current state of trade and industry in White Papers such as the White Paper on International Trade, the White Paper on International Economic Cooperation, and the White Paper on Small and Medium Enterprises. These papers are designed to analyze a number of issues related to trade and industry and to highlight key policy themes. They also process and analyze economic statistical data compiled by MITI such as the Analysis of Industrial Production Activities.

(c) MITI also highlights issues and presents outlooks about trade and industry in the form of "visions." Recently, these have been given increased importance as a measure of industrial policies. Further elaborations will be given in the next subsection.

4.2 "Visions" on Industrial Development

Presenting "visions" on industrial development has been considered to carry great importance in the whole system of industrial policies. The word "vision" is a special term used by the government, particularly MITI, about certain types of economic, especially industrial, policy related activities. A "vision" means a presentation of a total picture, or a scenario, of medium to long-term industry development considered desirable by the government authorities. By drawing up a vision, and presenting it to concerned parties, industrial policy authorities aim to steer an industry or industries in question in a certain direction or stimulate cer-

tain types of economic activity. What distinguishes such "visions" from the "plans" of planned economies most is that the "visions" contain no binding power.

For example, the Economic Planning Agency (EPA) compiles the "National Economic Plan." This is basically intended to show projections reflecting expectations for the economy over the medium term (5 to 10 years) by the policy planners (in this case the EPA) and should not be viewed as a mandatory centralized plan.

By the same token, "visions" about industrial development present projections or future scenarios reflecting expectations over the entire industrial spectrum, — primarily manufacturing —, or a specific industry or policy area in question. They are, however, more detailed than the EPA's "National Economic Plan."

Many of them were presented as reports submitted by the Industrial Structure Council (and its forerunner, the Industrial Structure Research Council) and other councils, which are all advisory bodies reporting to the Minister of International Trade and Industry. They received no formal decision or endorsement (such as a Cabinet decision or approval) by the government. They were merely proposals concerning the basic direction of future MITI policies and do not commit the ministry on specific policies in any formal way. Implementation of many of the concrete policies would require budgetary and other governmental commitments. The Japanese Government budget is formulated on a year-to-year basis and requires Parliamentary deliberation and decisions every year. It is not possible to prescribe industrial policy measures many years in advance.

Nevertheless, the presentation of "visions" are considered to constitute one of the most powerful policy tools for implementing MITI industrial plans for the following reasons:

(a) They represent the future projections of the Japanese economy and industry shown to businessmen and consumers.

(b) Close exchanges of information and views take place among MITI, business, consumers and academics during the formulation process.

(c) They provide a general framework for MITI's future policy.

These points are elaborated below.

(a) Industrial policy "visions" describe the future direction of Japan's industrial policy that is deemed desirable for the Japanese economy as a whole, on the basis of the best information currently available. Such information is gathered from experts in industry and other wide areas of expertise and presented to the people concerned. Private firms are generally familiar with areas related to their own business, but they tend to lack a broader perspective on the economy and industry. Therefore, they tend to accept the projections which gather judgments of experts both in the government and in the private sectors concerned as one of the most reliable forecasts about the economy and respect them as useful clues for their own policy formulation unless there exist positive reasons to expect a different course. However, this does not mean that they are bound by either MITI "visions" or EPA "economic plans." This is evident in the fact that the Japanese economy grew from 1950 to the first oil crisis much faster than predicted by the government's "National

Economic Plans."

(b) As stated above, major "visions" covering Japan's entire spectrum of industrial structure are often compiled by the Industrial Structure Council. This MITI's advisory panel consists of 130 or less members nominated by the Minister of International Trade and Industry. They are chosen among prominent people in many industries, including both producers and users, scholars, journalists, and trade union and consumer group representatives.

Visions result from deliberations, over a period which spans six months to a year. Meetings are held at various levels of the Council, i.e. in a plenary council or subcommittees to discuss basic policy issues or subsections on sectional issues. Drafts are prepared by the Ministry's relevant Bureaus or Divisions, acting as a secretariat, to reflect views presented during these deliberations and are subsequently reviewed and amended by further discussions for half or one year. Projections for specific industries are often jointly prepared by the representatives of the industries concerned, scholars, journalists and the Ministry officials in charge so as to reflect views held in the industry by knowledgeable scholars and experts. They are also made to ensure consistency with forecasts over the macroeconomic conditions and demand and supply situations in other industries.

One of the major strengths of "visions" presented as a measure of industrial policy, however, lies in providing a forum for information exchanges and mutual persuasion among the participants and interest groups represented in the process. The process of industrial policies in Japan could be conceived as a kind of a system of information exchange. Exchanges of

information and views including those of industrial representatives concerned take place in preparing and presenting "visions." Perhaps they have a larger impact than the direct impact which specific MITI industrial policy measures have on the private sector.

(c) "Visions" play a significant role in forming the general framework of MITI industrial policy as a whole. Unless any major changes in economic environment take place, the policy direction indicated by the "visions" gives basic guidelines for specific MITI policy formulations. This is especially true on policy issues having a long-term effect, such as the recent, import promotion campaign, or having a long-term policy duration, such as energy conservation, research and development of basic technologies, or measures to cope with "trade friction."

As seen below, the Ministry uses specific policy measures such as fiscal, financial and tax incentives. Each fiscal year the ministry examines how to apply these concrete policy measures to specific policy goals. The Industrial Structural Council reviews and deliberates for each measure such policy goals. In this way, "visions" function as common guidelines for the Ministry's medium to long-term policies, help enhance consistency of entire policies, and ensure that these policies are implemented in a rational and systematic way.

4.3 Restraint and Encouragement Based on Laws and Administrative Guidance

It is needless to say that generally specific administrative measures taken to pursue objectives of economic policy must originate from laws. Indi-

vidual concrete administrative actions, however, include not only formal measures specifically stipulated in the provisions of laws and regulations but also "administrative guidance." The latter includes informal consultation, persuasion and encouragement based upon the laws establishing respective government ministries and agencies and some other laws. Formal measures include various authorizations and licences. In cases of industrial policy, they include approval of electric power tariffs and other matters related to utilities, authorizations of coordinative actions (cartels) under the Export and Import Transaction Law and the Law on the Organization of Small Business Associations.

Administrative guidance is defined as "actions which have no legally binding power to limit the right of or to impose obligations on citizens and with which administrative agencies, within their limits of tasks and competence given by the respective laws establishing themselves, and with cooperation of addressees concerned, induce and encourage their certain actions or inactions to achieve a specific administrative purpose." In industrial policy, "administrative guidance" is an action encouraging, through consultation and persuasion, related industries and specific firms to cooperate in achieving certain policy objectives. "Administrative guidance," of course, relies on the voluntary will of private firms: they follow it only if they are convinced of its rationality. There are cases where they do not. Thus, the success of "administrative guidance" depends on the persuasiveness on the part of the government, which can be enforced by its fairness and transparency.

Some people in Western Europe and North America tend to consider "administrative guidance" peculiar to Japan and foreign to them, but this is not true. In fact, in these countries, more or less similar guidance

has been pursued on economic policy issues.

4.4 Fiscal, Financial and Tax Incentives

Regulations and directions through legal measures and administrative guidance are effective in restraining activities of private enterprises or in constraining them within certain limits, e.g. to abide by certain standards. They are generally ineffective in encouraging firms to actively carry out production, R&D, investment or trade and other activities which are deemed desirable from the viewpoint of industrial policy. Fiscal, financial, and tax incentives are necessary for such purposes. Taxation, as a means of internalizing external costs, also represents a useful disincentive.

Among these, government expenditures for the purpose of industrial policy in recent years are surprisingly small. For fiscal 1992, MITI's budgetary appropriations, including personnel and office expenses, amounted to 850.8 billion yen in the general account, 1052.2 billion yen in the Energy-Related Special Accounts (including a transfer of 472.0 billion yen from the general account) and 72.1 billion yen in the Patent Special Account. With overlapping amounts subtracted, the overall appropriations under MITI were 1.50 trillion yen.

Financial incentives are generally called "policy financing." "Policy financing" provides loans with preferential conditions compared with prevailing market conditions to private-sector projects which meet the government's policy aims.

Tax incentives include provisions for special and accelerated depreciation for certain types of investment on plant and equipment and for certain kinds of reserves. The special and accelerated depreciation provisions allow depreciation rates higher than normal to be applied on investments in designated areas in order to promote investment in certain sectors for certain policy objectives. Special and accelerated depreciation provisions to foster specific industries (e.g. iron and steel, machinery and electronics) and to promote R&D in particular areas were widely employed in the early stage of the "high-growth period," but they have largely been eliminated since then, and at present they are used on very limited occasions such as investment for preventing pollution and industrial structural adjustment.

Other tax incentives include tax credits for incremental research and development; expenditures to promote R&D, and reserves against capital losses on overseas investment.

Appendix

Table 1. Japan's Major Economic Indicators during Post-War Reconstruction

	prewar period	1945	1946	1947	1948	1949	1950
Real-term gross national product (GNP)	100.0	N.A.	69.3	75.1	84.9	86.8	96.3
Industrial output index	100.0	60.2	30.7	38.3	58.5	78.2	93.8
Farm output index	100.0	59.7	77.3	74.7	86.0	92.5	98.9
Investment index	100.0	N.A.	87.4	83.7	92.1	85.3	94.4
Consumer price index			100.0	214.6	392.7	518.0	482.6
Trade balance			− 238	− 267	− 284	− 195	34
Trade balance-to-GNP ratio (%)			− 18.1	− 7.3	− 3.8	− 2.1	0.3

Note 1: GNP and industrial output are represented by indexes against 100 in the base year of 1934-36.
The base years of Farm output indexes are 1933-35.
The consumer price indexes are against 100 in 1946.
Trade balance figures are actual numbers in millions of dollars.

Note 2: The trade balance-to GNP ratio is the trade gap divided by nominal GNP.
It is calculated with the exchange rate of a dollar at 360 yen.

Source: The Bank of Japan (BOJ)'s "Honpo Keizai Tokei (Japan's Economic Statistics)," the Economic Planning Agency (EPA)'s "Showa Zaisei-shi — Toukei hen (Fiscal History of the Showa Era — Statistics)"

Chart 1. Japan's Major Economic Indicators during Post-War Reconstruction

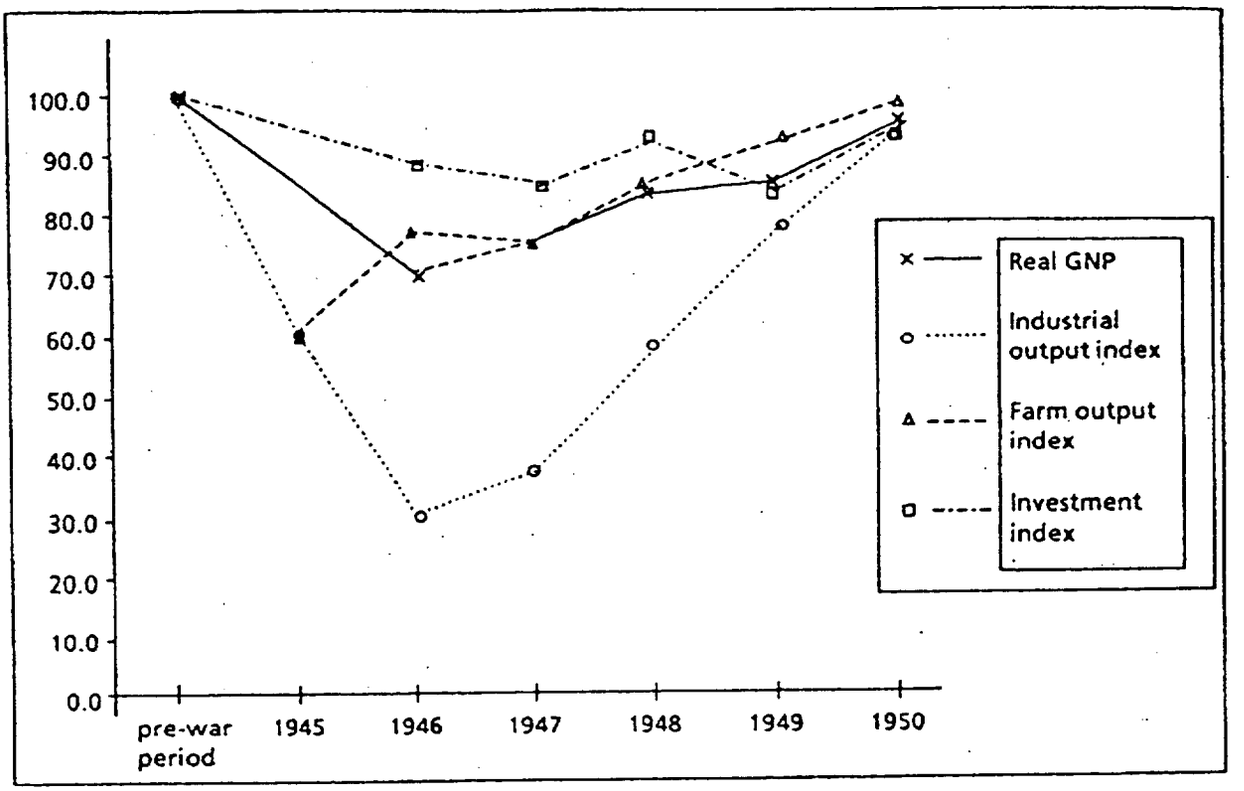


Table 2. Trends of Japan's Economic Development

	GNP		Exports	Car			Color TV (**)			(Reference)	
	Total value	Per capita	Total value	Units produced	Units exported	Units owned	Units produced	Units exported	Units owned	Popu-lation	Exchange rate
	In $1 bil.	In $	In $1 mil.	In 1000 units	In 1000 units (*)	units per 1000 people	in 1000 units	In 1000 units	units per 1000 people	In mil.	$1 = ¥ ?
1950	10,963	131	825	1.6	(7)	0.5	-	-	-	83.6	360.00
1955	22,696	253	2,011	20.3	(2)	1.7	-	-	-	89.8	360.00
1960	44,300	470	4,055	165.1	7.0	5	-	-	-	94.1	360.00
1965	90,900	919	8,451	696.2	100.7	22	98	43	N.A.	98.9	360.00
1970	202,800	1,943	19,317	3,178.7	725.6	64	6,399	1,008	N.A.	104.3	360.00
1975	498,569	4,471	55,819	4,567.9	1,827.3	154	7,473	2,756	340	111.6	296.79
1980	1,066,963	9,137	130,441	7,038.1	3,947.2	203	11,661	4,652	445	116.8	226.74
1985	1,367,696	11,322	177,164	7,646.8	4,426.8	230	17,897	13,425	549	120.8	238.54
1990	2,974,957	24,081	287,581	9,948.0	4,482.2	283	19,243	6,946	679	123.5	144.79

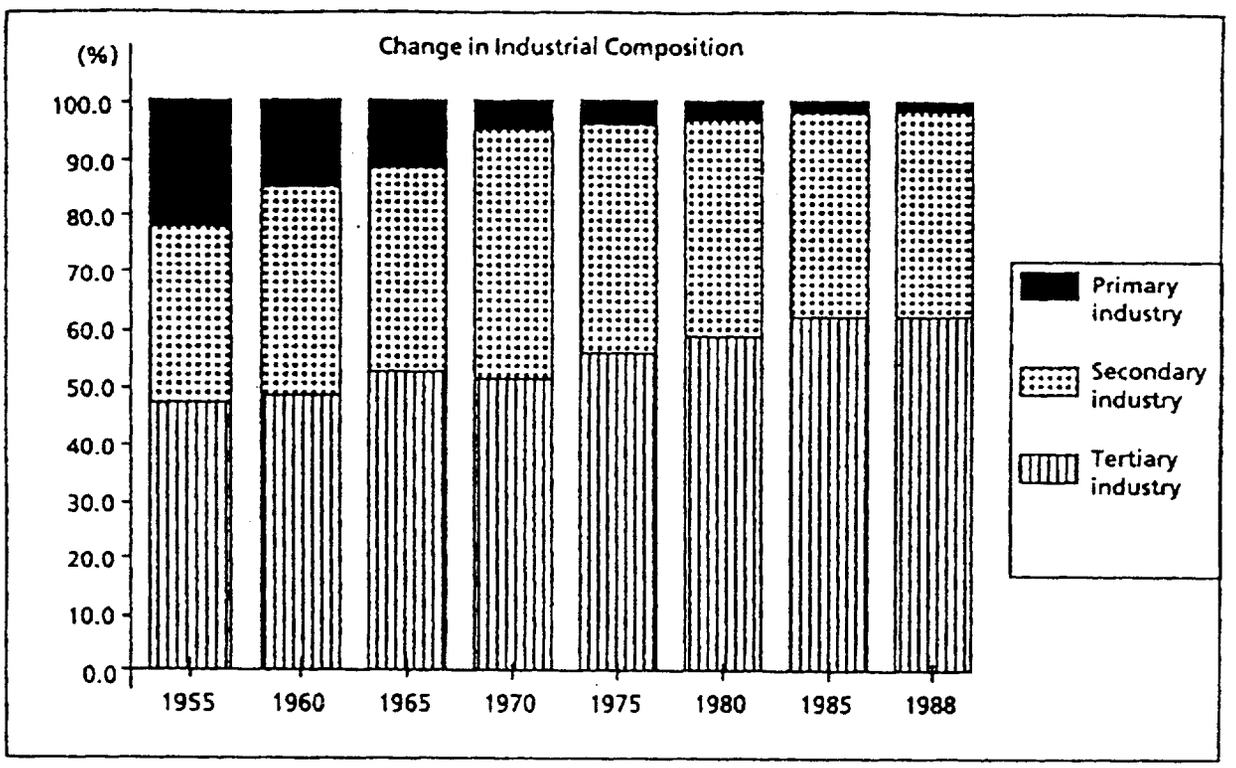
(*) 1950, 1955 figures in single unit.
(**) Color TV production began in 1864.

Table 3. Overseas Inspection Missions

Units: No. of times & persons

Fis. year	Number of missions	Partici-pants	Missions sent by smaller businesses		Number of meetings held to report on overseas inspection tours	Partici-pants in such meetings
			Number of missions	Partici-pants		
1955	15	174	5	58	33	10,020
1956	27	307	0	0	130	33,960
1957	43	430	4	46	180	27,420
1958	62	652	12	141	98	12,177
1959	75	749	13	137	74	7,894
1960	84	821	15	154	11	1,740
total	306	3133	49	536	526	93,211

Chart 2. Change in Industrial Composition and Growth of Industries



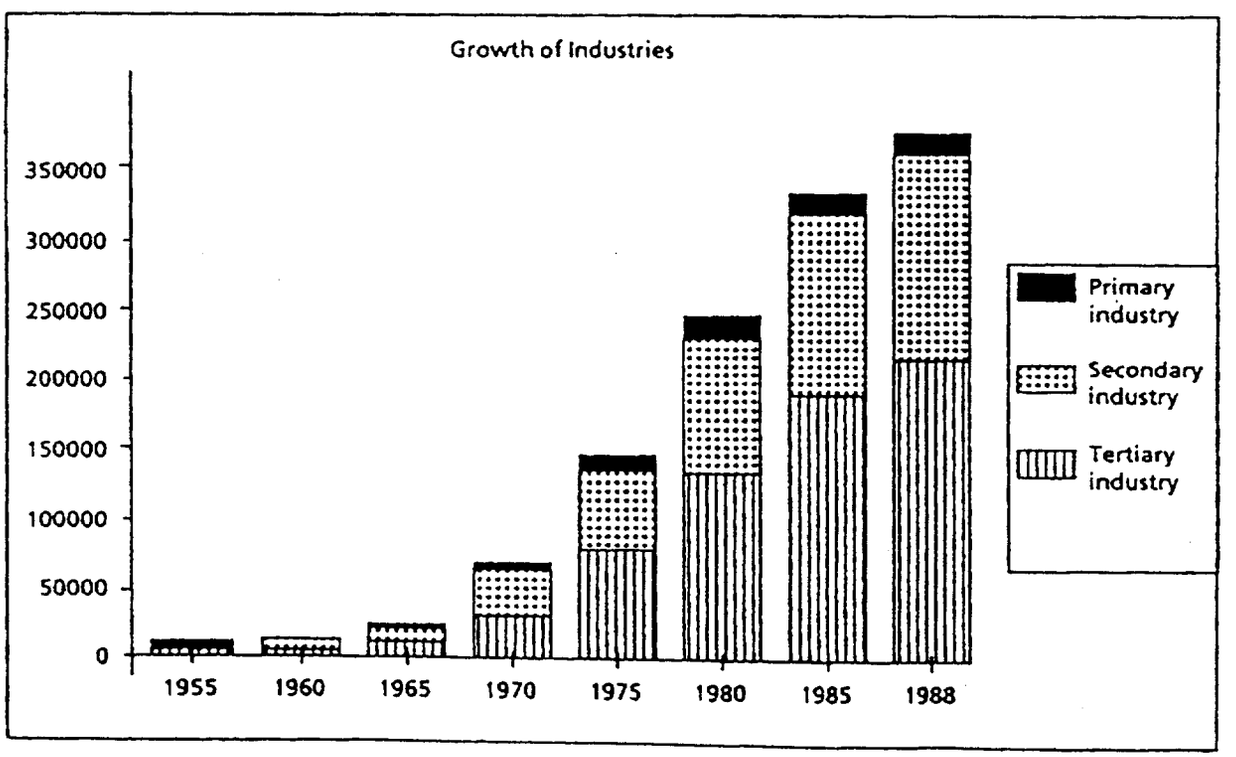


Table 4. Japan Development Bank Loans and Their Shares in Various Industries' Plant and Equipment Investments (1951 - 1953)

unit: ¥ 1 mil.

	1951		1952		1953		Total	
	Amount of loans Distribution ratio	Ratio	Amount of loans Distribution ratio	Ratio	Amount of loans Distribution ratio	Ratio	Amount of loans Distribution ratio	Ratio
Electric power	2,457 11.9%	4.4%	14,767 34.6%	14.0%	43,963 52.9%	30.0%	61,187 41.8%	19.9%
Shipping	4,707 22.9%	7.3%	5,740 13.4%	9.3%	21,461 25.8%	46.1%	31,908 21.8%	18.5%
Steel	3,609 17.5%	9.7%	5,778 13.5%	15.2%	3,915 4.7%	9.8%	13,298 9.1%	11.6%
Coal	3,116 15.1%	14.9%	3,521 8.2%	17.4%	4,376 5.3%	21.2%	11,013 7.5%	17.8%
Subtotal	13,885 67.4%	7.8%	29,806 69.8%	13.2%	73,715 88.7%	29.1%	117,406 80.2%	17.9%
Other industries	6,711 32.6%	2.6%	12,905 30.2%	4.8%	9,412 11.3%	2.6%	29,028 19.8%	3.2%
Total	20,596 100.0%	4.7%	42,711 100.0%	8.6%	83,127 100.0%	13.5%	146,434 100.0%	9.4%

Note: Ratio means Japan Development Bank loans' shares in respective industries' plant and equipment investments.

Table 5. Main Industrial Categories Designated by Machinery Industry Promotion Law

(FY 1955-60)

1. High grade cast iron	
2. Die casting	Al alloy Zn alloy
3. Power metallurgy	Copper group Iron group Contact materials
4. Metal patterns	
5. Gears	
6. Valves	Elevated temperature high pressure valve Automatic regulating valve
7. Testers	
8. Industrial length measuring instrument	Calipers Block gauges Gauges
9. Machine tools	Mass production Multiple commodity
10. Sewing machine parts	
11. Automobile parts	
12. Clock parts	
13. Electric welders	
14. Grinding stones having the diameter more than 560 mm. Grinding stones having the diameter more than 560 mm.	

15. Electric tools	
16. Screws	
17. Bearings	Finished goods Balls Retainers
18. Tools	Special steel Cemented carbide Diamond
19. Mechanical press Hydraulic press	
20. Gas cutting machine	
21. Wind and hydraulic power machinery	
22. Railway vehicle parts	

Table 6. Trade Liberalization Trend

Year	No. of items liberalized	No. of items yet to be liberalized	liberalized rate (%)
1960 April	586	-	41
July	61	-	42
Oct.	481	-	44
1961 April	660	-	62
July	112	-	65
Oct.	500	-	68
Dec.	170	-	70
1962 April	8	492	73
Oct.	230	262	88
Nov.	8	254	88
1963 April	25	229	89
June.	2	227	89
Aug.	35	192	92
1964 Jan.	3	189	92
Feb.	7	182	92
April	8	174	93
May	-	174	93
Oct.	12	162	93