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THREE STAGES OF JAPAN'S INDUSTRIAL POLICY
AFTER THE WORLD WAR II

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ABSTRACT

Japan's industrial policy has not been an unchanging entity over the forty-five years since the end of WWII up to the present, but has been changing a great deal in its tasks, contents and tools to meet the changing needs of the times. As time passed, new approaches to industrial policy were adopted, and older ones altered or abandoned.

In the period of reconstruction and economic independence immediately after the WWII (Stage 1), the main task of industrial policy were to establish basic economic and social framework for Japan's economic growth as a free market economy. Wartime economic controls were liquidated, and industrial rationalization policy was pursued. In order to achieve international balance-of-payments equilibrium various measures to promote export and restrict import were taken. These promotive and restrictive measures for the balance of payments reasons would have been unnecessary, if a more realistic yen exchange rate rather than the overvalued rate of 360 yen to one U.S. dollar had been adopted.

In the "high-growth" period (Stage 2: 1955-1973), two "Leitmotifs" or two currents of industrial policy were running: the current of free enterprise and market mechanism (the westerly wind) and the current of the "industrial structure" policy (the easterly wind). The industrial structure policy, which was influenced by the easterly thoughts, intended to establish a desirable industrial structure in Japan, by giving heavy- and chemical-industries preferential treatments such as protective border measures, priority in allocation of funds and foreign exchanges, and expansion of domestic demand. What actually happened, however, was that the westerly wind gradually overwhelmed the easterly wind towards the end of this period, because of the economic rationale, strong vitality of Japanese private enterprises and the phasing out of policy leverages.

In the period beginning after the first oil crisis (1973-1974) up to the present (Stage 3), Japan has become a major, mature industrial and economic power, and its economy has been increasingly integrated with the rest of the world. Most of the issues of Japan's industrial policy in this period corresponded to situations of what is called "market failures" in economic theory, and the policy measures were deployed for the purpose of "problem solving" in such situations. Although industrial policy authorities lost most of their leverage toward individual enterprises, the expected roles of industrial policy have become more numerous and complex and its contents and measures more diversified and sophisticated.

THREE STAGES OF JAPAN'S INDUSTRIAL POLICY AFTER THE WORLD WAR II*

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March 1992

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I. Three Stages of Japan's Industrial Policy in Post War Years

When looking back at Japan's industrial policy in the post-World-War-II (WWII) period, it is important to pay due attention to its development over time. This is because Japan's industrial policy has not been an unchanging entity over the forty-five years since the end of WWII, but has been changing a great deal in its tasks, contents and tools to meet the changing needs of the times. As time passed, new approaches to industrial policy were adopted, and older ones altered or abandoned.

In reviewing Japan's post-war industrial policy, it is best to start by dividing the whole period into three stages or periods in relation to Japan's economic development.

The Japanese economy has shown striking development over about half a century since the end of WWII, with its per capita Gross National Products (GNP) at a very low level in the decade immediately after the war but now exceeding that of the United States and most European countries in recent years. In the process of this remarkable development, the Japanese economy passed through several evolutionary stages or periods. Industrial policy also went through several stages or phases corresponding to these stages. Obviously it is difficult to divide this 45-year process into clearly distinct periods according to some precise criteria. Any division is bound to be arbitrary. In the following I will examine post-war Japan's industrial policy in three stages as in the below.¹⁾

Stage 1. 1945 - the First Half of the 1950's

This period may be described, in short, as a time of devastation, disorder, reconstruction, groping for the future, and "independence." Having lost more than 30 percent of its national wealth in World War II, Japan started pursuing economic recovery amid destruction, devastation and disorder due to the defeat. It was grappling with the near collapse of its industrial infrastructure, a large number of repatriates, sluggish industrial production, hyperinflation, and severe hardships among its people.

As Japan was occupied by the Allied Forces during most of this period, the nation's economic policy was supervised by the General Headquarters of the Allied Forces, which generally meant the United States. The United States occupation policies changed with bewildering rapidity, due both to the changing international environment in those years and policy changes within the United States, often causing confusion for the Japanese authorities. Japan nevertheless achieved "economic independence", which meant bringing its balance of international payments on current account into balance without American aids and the Korean War "special procurement" and generating self-sustained growth, during this period. Industrial production recovered by and large to the pre-war level by the end of this period, thanks to the United States aids, the economic stabilization policy and the favorable economic effects of the Korean War. By fiscal 1951, both real GNP and the industrial production index surpassed the levels recorded in 1934-1936.

The tasks for Japan's industrial policy in this immediate post-war decade, were economic reconstruction and "economic independence" in the above sense.

Stage 2. The Latter Half of the 1950's - the First Oil Crisis (1973-1974)

The most striking economic event in this period is the so-called "high growth". Under Prime Minister Hayato Ikeda's national-income-doubling plan announced in 1960, following the relatively high rate of economic growth of the late 1950's, the Japanese economy experienced an average annual growth rate of slightly above 10 percent in terms of national income until the early 1970's, although there were cyclical fluctuations in the growth rate. Another feature of this period was the transition to an open economy of liberalized international trade (import) and "capital" movement (primarily inward direct investment). Under pressure from the United States and European countries that began in the middle of the 1950's and increased in the late 1950's, in 1960 the Japanese government announced a "Basic Plan to Liberalize International Trade and Foreign Exchange Transactions", and

subsequently enacted related legislation according to the plan. As a result the ratio of liberalized to total import trade went up to over 90 percent by the end of 1965. In addition, Japan became an Article 8 member of the International Monetary Fund (IMF) in 1964 and joined the Organization for Economic Cooperation and Development (OECD) the same year. Liberalization of "capital" movement lagged somewhat behind, with the first step taken in 1967 and the fifth in 1973.

During this period, the aim of Japan's industrial policy was to overcome the two billows -- liberalization of import trade and liberalization of "capital" flows --, by steadily raising the "level of sophistication" of the nation's industrial structure, which mainly meant the strengthening of "modern", high-productivity sectors, and by enhancing "industrial competitiveness" of Japan's industries in the world market. Thus one might describe this period as "the heyday of Japan's industrial policy". New troublesome developments such as industrial pollution, the first of a series of Japan-U.S. trade disputes (1968-1972), and the issue of industrial location occurred toward the end of this period. These problems represented a new challenge to Japan's industrial policy in the third period.

Stage 3. Since the First Oil Crisis to the Present

The salient features of this period could best be described as Japan's rise to a major and mature economic power and further diversification of the tasks and contents of industrial policy. The Japanese economy already ranked second in 1968 in GNP in the world after the United States. During this period, Japan's competitiveness in sophisticated manufactures has increased remarkably, and Japan has become the world's leader in production and export of automobiles, electronic products, numerically controlled machine tools and semiconductors. At the same time, Japan has recorded huge trade surpluses and the corresponding capital outflows. All these are signs of Japan's rise into a major economic power. The improved industrial competitiveness brought trade and economic disputes --trade and economic "frictions", in Japanese language-- with the United States and Euro-

pean countries, and some Japanese industries were forced to control their export.

Tasks for industrial policy have become more and more diversified in this period and included environment pollution, containment of high inflation caused by sharp increases in oil prices, energy conservation, development of alternative energy sources, restructuring of depressed industries, adjustment assistance to adversely affected small and medium enterprises, industrial location policy to ameliorate regional differences in industrial development and income levels, and "trade frictions" as stated above.

II. The First Stage : 1945 - The First Half of the 1950's

A. Continuation and Liquidation of Wartime Economic Controls : 1945-1950

At the outset of this First Stage, it was of paramount importance to get the nation's economy off its wartime setting as quickly as possible. It was in this period that the basic framework was established for later economic growth of the Japanese economy as a free market economy in which private enterprises compete with each other to survive and prosper. Such framework for fostering private economic activity was laid down by ending inflation and government budget deficits and removing wartime economic controls during this period.

In the years immediately after WWII, however, the strictly regulatory economic system during the wartime was continued until around 1949, since it was quite difficult to pursue economic reforms at once amid the devastation and confusion caused by the defeat. The wartime economy involved a rationing system and price controls for a wide range of commodities to mobilize resources for the military purpose and to sustain people's living standards, who were then very poor. After the defeat economic regulations were for some time strengthened by expanding rationing and price controls to a larger number of commodities.

Measures taken to keep prices of important goods low through

"price-gap adjustment subsidies" for price-cost differences and the repayment of wartime debts resulted in huge government deficits and fueled vicious inflation with serious detrimental effects on production. As a result the gap between the official and black market prices widened, forcing the government to frequently raise official prices. Hyperinflation also induced a vicious wage-price spiral which only worsened the plight of the people while leaving production stagnant.

During this period, a large part of imports of raw materials were GARIOA-EROA aids granted by the United States. These grants-in-aid and the price-gap adjustment subsidies supported by the huge budget deficits were criticized as "the two legs of bamboo stilts" by Mr. Joseph Dodge, an American banker who visited Japan in February 1949 as the head of a special delegation in charge of designing the basic fiscal and monetary policy lines consistent with Japan's noninflationary growth. The Japanese economy during this period was far from recovery and "economic independence".

The shadows of that wartime economy, however, rapidly disappeared from 1948 through 1949 as a result of the so-called Dodge line, a strict guideline prescribed by Mr. Dodge, which cut off the bamboo legs. At that time, there was an influential opinion in the Japanese government in favor of pursuing mildly inflationary policies by providing subsidies or funds to some industries for raising production to certain levels. However, through the adoption in December 1948 of "the Nine Principles for Economic Stabilization" and because of Mr. Dodge's recommendations in the following year the Japanese government chose a more drastic approach to economic stabilization: namely, to adopt austere and "ultra-balanced" fiscal policies. Price-gap adjustment subsidies were abolished altogether, financing by the Reconstruction Finance Bank was discontinued, and a fixed, uniform exchange rate of 360 yen to a dollar was adopted.

The effects of this so-called "Dodge line" were remarkable. The money supply, after peaking in January 1949, stabilized in the 1950's, and the wage-price spiral was brought to a halt. These deflationary policies brought severe depression to many

industries. But the Dodge line served to bring down inflation and enabled to remove a large number of price controls and other regulations speedily. Thus the Japanese economy succeeded in wrenching itself away from its wartime regime and overcame chaos and disorder induced by the destructive war, and the groundwork was laid for a free market economic system.

B. The "Priority Production Scheme" for Industrial Reconstruction : 1946-1948

This is a very special industrial policy adopted for a short period under rather extreme conditions immediately after WWII. In 1946, industrial production was severely depressed by a shortage of energy and raw materials. Strict restrictions on import trade were imposed by the Allied Occupation Forces, and a severe shortage of both fuel and electric power was caused by sluggish coal output. Hyperinflation and an uncertain outlook for the war reparation problem led to a nation-wide production crisis in 1946-1947. To cope with the great difficulties, the government attempted to increase production of coal, electric power and steel under the so-called "Priority Production Scheme". This policy aimed at improving the shortage of coal and steel, which was then thought to be the most serious obstacles to economic recovery, and boosting their production and increasing the supply of electric power, which would spread expanding benefits to other industries.

For this purpose, available resources including imported oil meagerly allowed by the Allied Forces and increases in coal production were allocated to the steel industry on a special priority basis, and then a large part of the increased steel output was allocated to the coal industry to repair coal-producing facilities. The increased output of coal was then used by electric power plants and industries, again on a priority basis. Funds from the Reconstruction Finance Bank were channeled to the steel and coal industries. This was thought to start the destructed, war-damaged economy moving, gradually spreading the expansionary effects to other industries. The effects of the Priority Production Scheme began appearing in late 1947, and production of steel

and coal regained half its pre-war level by March 1948. With increased supplies of coal and electric power, industrial production recovered to 70 percent of its pre-war level by December 1948, with signs of improvement seen in the supply of a number of products.

As stated above, "the Priority Production Scheme" as industrial policy was successful in increasing production under the special circumstances prevailing in the Japanese economy immediately after WWII. This is because although a considerable part of Japan's plants and equipment were destructed by the bombing of the Allied Forces, yet probably more than 70% still remained, and the Japanese economy then was stagnant primarily because of the shortage of energy supplies, that is coal and coal-burning electricity.

But the Priority Production Scheme was not an unqualified success, for it was financed by an inflationary method : It relied on funds from the Reconstruction Finance Bank, which raised money by selling Reconstruction Finance Bonds to the Bank of Japan.

C. "Industrial Rationalization" Policy: First Half of 1950's

During this period, the Japanese industries had redundant, but much old-fashioned stocks of machine tools and equipment with low technological levels, left by the wartime economy. Japan had been isolated from technological advances in the United States and Europe since the late 1930's. As a result, quite a few Japanese industries were unable to compete with imports under the new exchange rate of 360 yen to a dollar. What was called as the "industrial rationalization" policy in this period can be interpreted as a series of policies adopted with the aim of removing bottlenecks and raising the technological levels in a number of Japan's "key industries", so as to "quickly bring domestic prices close to international prices".

The core of the "industrial rationalization" policy was the designation of "key industries" eligible for government support such as low-interest financing, preferential tax treatments, and protection from import competition. For designated industries,

measures were taken to help promote:

1. "Rationalization" at the individual firm level: modernization of plant and equipment, and improvement of technology.
2. "Rationalization of industrial organization": coordination of the kinds of products among firms, use of common facilities, standardization, mergers, etc.
3. "Rationalization of industrial structures": promotion of heavy- and chemical-industries.

At the same time, measures were taken to develop industry-related infrastructure and to better organize small and medium enterprises.

Under the "industrial rationalization" policy, more than 30 industries in various fields were designated as "key industries", eligible for government support. Among them the steel, coal, marine transportation/shipbuilding, and electric power industries were considered as the four top priority industries, essential to the nation's basic industrial structure.

Next, a second tier of priority industries judged critical to national economic welfare were: chemical fertilizers chosen in order to increase domestic food production, and the synthetic fiber chosen to reduce Japan's dependence on raw cotton and wool imports, to be used for clothing of the people, and at the same time to upgrade the nation's textile industries.

Specific measures taken under the "industrial rationalization" policy are as follows:

1. Low-interest financing by the Japan Development Bank, established in 1951, and by the Export-Import Bank of Japan, established in 1950.
2. Special tax treatments (accelerated depreciation, tax exemptions for important new products, preferential treatment in fixed asset (property) tax, exemption of customs tariffs on imported machinery).
3. Subsidies for interest payments, for ships built in Japan and operated by Japanese marine transportation companies.
4. Preferential import quotas under the general import quota system.

5. Foreign exchange lending by the Bank of Japan.
6. Borrowings from the World Bank (International Bank for Reconstruction and Development) through the Japan Development Bank under the government guaranty.

These measures were implemented as follows. Low-interest financing by the Japan Development Bank contributed to plant and equipment investment in "key industries". The coal and electric power industries were the largest recipients of such financing with 40-50 percent of their investment funds coming from the Japan Development Bank. The accelerated depreciation provision on new investment provided for designated types of plant and equipment in designated industries was not tax exemption, but essentially a postponement of tax payments. Thus the direct financial benefits to beneficiary enterprises were limited. But it contributed to increasing the supply of "internal funds" within the firm, especially when the firm was growing rapidly and investing heavily. Also it had some "information effect", since the fact that the government was favoring a particular industry or investment in a particular type of plant and equipment enabled the firms concerned to borrow funds from private banks and other sources more easily than otherwise.

The role of the industrial rationalization was taken over by the "industrial structure" policy in the second period.

D. Need for Economic Independence

As already noted the term "economic independence" in this period meant achieving international balance-of-payments equilibrium and sustained economic growth without relying on the economic aids from the United States and the "special procurements" by the United States Forces related to the Korean War. But the fixed exchange rate of 360 yen to a dollar introduced by the Dodge line in 1949 proved to be an overvaluation of the yen, as it became clear soon that it was difficult for many industries to be competitive with foreign producers not only in overseas markets but in domestic markets as well, and that for Japan as a whole it was difficult to keep the balance of payments on current

account more or less in balance. Under these circumstances import restrictions since the beginning of WWII or even earlier were continued and a variety of policies to promote export were implemented.

A strict import licensing system was established under the Foreign Exchange and Foreign Trade Control Law and related ordinances, after the resumption of private foreign trade, and foreign exchanges available for imports were rationed. By doing so, the government attempted to maintain the balance of payments, and at the same time protect certain domestic industries with poor international competitiveness. Simultaneously, measures were taken to promote export, such as preferential tax treatments for export earnings, the establishment of the Japan External Trade Organization (JETRO) in 1951 for collecting and disseminating export-related information and holding export exhibitions to develop overseas markets, the establishment of the Export Insurance Scheme in 1950, and that of the Export-Import Bank of Japan in 1950, mentioned earlier. Also, the "industry rationalization policy" as stated above was pursued in order to enhance international competitiveness of Japanese industries.

Balance-of-payments constraints were quite acute during this period and the overvaluation of the yen was apparent, since various policies were necessary to promote export and to restrict import for the balance of payment reason. It would have been better to adopt a more realistic exchange rate rather than to promote export by offering various kinds of "hidden export subsidies" for export (i.e. tax-exemption on export earnings) and to restrict import through explicit or implicit tariffs (an import quota system is largely equivalent to an import tariff). Offering a flat, 10-percent export subsidy and imposing a flat, 10-percent import duty is largely equivalent to a devaluation of the yen exchange rate by 10 percent.²⁾

E. Return to the International Economic Community

Another important development in this period is Japan's return to the international economic community. After WWII Japan had been wishing earnestly to return to the international econom-

ic community, and that was by and large realized toward the end of this period. Immediately after Japan's defeat in WWII, there was a debate in Japan as to the choice between "the domestic developmental policy" advocated by the late Dr. Hiromi Arisawa and Dr. Shigeto Tsuru, on the one hand, and the "priority on international trade" advocated by the late Dr. Ichiro Nakayama. Eventually the latter was more widely accepted than the other.

Before the war, especially in the 1930's, a number of major trading nations discriminated against Japan in world trade, as Japan's exports of manufactures increased rapidly in the condition of world-wide depression. Accordingly, wishing to develop as a peaceful trading nation Japan had long sought to be accepted as a normal member of the international economic community with the most favored nation status as other major trading nations. Since the Allied Occupation period, Japan had tried to sound out the possibility of its entry into GATT through the United States. In the beginning Britain, France, Australia and other countries blocked Japan's move for GATT membership because of Japan's alleged dumping of textiles and other manufactures in the 1930's. In 1953 Japan was accepted as a provisional member of GATT, and became a regular member of GATT in 1955. Until 1963-1970, however, a large number of GATT member countries including Britain, France, Australia and most other West European and British Commonwealth countries applied Article 35 of GATT against Japan, and did not establish the normal GATT relationships with Japan.

Japan joined IMF in 1952, and concluded a bilateral commerce and navigation treaty with the United States in 1953. The treaty includes, among others, a clause under which the two countries mutually extend a most favored nation treatment in merchandise trade, and another under which the two countries extend a "national treatment" to each other's firms, that is the same treatment as the treatment given to their own nationals.

It appears that at the time of Japan's entry into the IMF the Japanese government was not sufficiently aware of the trade and foreign exchange liberalization obligations accompanying the entry. Also, both the Japanese and United States governments seem to have not been paying enough attention to the national

treatment clause in the Japan-U.S. commercial treaty, since both governments have tried from time to time to treat the other country's firms less favorably than their own nationals in the matter of direct investment, taxation, or mergers and acquisitions.

III. The Second Stage : The Second Half of the 1950's - The First Oil Crisis

A. Two "Leitmotifs" on industrial policy

Two "Leitmotifs", or two main currents, were intertwined in Japan's industrial policy in this Second Stage. The first is "the current of free enterprise system and market mechanism", which I would call "the westerly wind". According to the economic thought underlying this "westerly wind" the market mechanism under the global free and multilateral trade, finance and investment system, driven by independent and voluntary actions of private enterprises and individuals, results in a more or less desirable pattern of resource allocation and industrial structure of each country. Basically the government does not need to intervene in industrial and economic affairs except in a limited types of situations, nor to determine a country's overall industrial structure. Over the long run the industries which should thrive in each country would thrive. The second current is "the current of industrial structure policy", which I would call the "easterly wind". It aims at establishing a certain pattern of a country's "industrial structure", or at modifying it in a particular direction, such as the "heavy- and chemical-industrialization" or "sophistication of the industrial structure". This is based upon the idea that it is necessary to work out basic principles of a country's industrial structure policy, and to reorganize industries according such principles under the guidance of the government. I call the first current "the westerly", since it is basically the Anglosaxon (and Northwest European) economic policy thought, underlying OECD, IMF and GATT. The second is called "the easterly", since its sources are (1) the German (or

Prussian) economic policy thought of "rationalization" and cartelization in the 1920's and 1930's, and (2) Karl Marx's two sector model of reproduction of a national economy, with the first sector producing producers' and capital goods, corresponding roughly to heavy-industries --and chemical-industries--, and the second producing consumers' goods and all the rest.³⁾ Another reason for calling the second current as "the easterly" is that it represented the mainstream of patriotic industrial policy-makers of Japan, an easternmost country "where the sun rises first", earlier than any other country. The second current is often a dominant economic policy thought in a late-comer, less developed country, such as the 19th century Germany, Japan since the time of the Meiji Restoration (1868) until around 1965, the Soviet Union and China until very recently.

Japan ascended to an Article 8 member of IMF in 1964, became an Article 11 member of GATT in 1963 and joined OECD in 1964. Hence as a full member of IMF, GATT and OECD, in the 1960's Japan was requested to liberalize import trade, foreign exchange controls, and inward foreign direct investment. In 1960 the Japanese government announced, as already stated, the "Basic Plan to Liberalize Import Trade and Foreign Exchange Transactions" and from then on steadily shifted to a free trade (and investment) system. Japan gradually became a major trading nation in the global free trade regime based upon the principles of GATT, IMF and OECD.

Japan around 1960 was a poor, late-comer industrializing country, however, and its industrial policy-makers felt it difficult to quickly accept the status of a full-fledged member of this global trading system by fully committing itself to free market principles. "Industrial structure policy" was thought, therefore, as a supplementary measure to help the Japanese economy industrialize itself more quickly and efficiently. The "industrial structure policy" was designed primarily to allocate resources to certain sectors with high growth potential, to minimize losses in the process of trials and errors inherent in free market mechanism, and to achieve integration of the Japanese economy into the global free trade regime within a limited time

period. For this reason, most measures under the industrial structure policy were implemented as temporary ones with specified time limits. Also they consisted mainly of incentives operating through the price mechanism such as government financing (loans and investments), and special tax treatments. Besides those preferential measures --and after their time limits expired--, private enterprises had to stand on their own feet. The need for such "industrial structure policy" and government interventions embodying it gradually diminished, as most Japanese industries achieved steady growth. In this context, the "easterly wind" and "the westerly wind" may be said to have been complementary to each other, but the former dominated the latter in the beginning of this period and gradually gave in to the latter toward the end.

Not only the "industrial structure policy", which had an ambitious goal of working out "the basic principles as to how Japan's industrial structure should be", but also "National Economic Plans" and various "national regional plans" drafted by the Economic Planning Agency were originally thought of as some sort of "economic planning" based upon "the easterly wind" policy thought in the beginning of this period. But the "westerly wind" gradually gained its strength and steadily became dominant over the "easterly wind" toward the end of this period as Japan achieved a high and continual rate of economic and industrial growth, and became more and more closely integrated into the global free trading system as a major industrial and trading nation. As a result the industrial structural policy, the national economic plan, and the national regional plan became a sort of projection or forecast, rather than a plan or planning, during the 1960's and 1970's.

B. Industries Given Preferential Treatments under Industrial Structure Policy

The leading slogans of "industrial structure policy" of early 1960's were "heavy- and chemical-industrialization" or "sophistication of the industrial structure". The meaning of these expressions is not quite clear to me since the industrial

structure policy at that time did not intend to eliminate industries other than the heavy- and chemical-industries and even called for "sophistication of light industries".

To illustrate difference between the "westerly" and "easterly" economic policy thoughts, the Research Committee on Industrial Structure, MITI's main advisory body on industrial policy, announced in 1963 the following two criteria as the characteristics of industries which were thought desirable for Japan to expand:

1. The "income elasticity" criterion: industries for the products of which the income elasticity of demand is high.
2. The "productivity increase" criterion: industries expected to have a high rate of increase in productivity.⁴⁾

Thus the argument in favor of industrial structure policy based upon the "easterly" thought proposed preferential treatments for industries characterized by the high income elasticity and/or the high rate of increase in productivity. But according to the "westerly" thought such industries will naturally grow faster than others as a result of the function of the free enterprise and market mechanism, and there would be no reason for government intervention in favor of them.

Under the industrial structure policy of the early 1960's, the following of industries received preferential treatments.

Steel, coal, marine transportation / shipbuilding and electric power, which were the "four priority industries" in the previous period, and synthetic fibers and chemical fertilizers continued to receive preferential treatments. In addition, automobiles, petrochemicals, machinery parts, general machinery, electronic engineering, synthetic rubber, resin, color films, computer and semiconductor were considered as the new growth industries satisfying the two criteria, and received preferential treatments. Oil refining, under the policy of "refining within the country", was also protected.

C. The "Temporary Measures Laws" for the Machinery and Electronic Industries

The machinery industry of Japan during this period tended to have pyramid or dualistic structure with finished product manufacturers on top and suppliers of raw materials and parts forming a wide bottom. The bottom was comprised mainly of small and medium enterprises which produced "a large number of different types of products (raw materials, machinery parts and subassemblies) each in small quantity" with low productivity and obsolete facilities. The Law on Temporary Measures for the Promotion of Machinery Industry was enacted first in 1956 with a time limit of five years, but later revised and extended several times until 1985, with substantial changes each time. Earlier "industrial rationalization" programs were worked out to help improve technologies of parts suppliers in the machinery industry, "rationalize" or modernize their obsolete facilities and reorganize their industrial organization. Industrial reorganization aimed at improving the situation of "each producer producing" a wide variety of products each in small quantity", by promoting cooperation, specialization and mergers among numerous producers in an industry, and by encouraging standardization. Under the programs MITI assisted to organize "rationalization cartels" for standardizing parts and materials, reducing the variety of products, and preventing "excessive competition among small producers", while the Japan Development Bank the Small Business Finance Public Corporation provided funds for investment.

The purpose of the Law on Temporary Measures for the Promotion of Electronic Industry, which was initially enacted in 1957 for a seven-year period, but extended several times until 1985 similarly to the machinery industry law, was to modernize the materials, parts and subassemblies subsectors of the electronic industry. Japan then lagged far behind the United States and Western Europe in this area. Under the Law, rationalization targets for each type of products were set, subsidies for research and development provided, and tax and financial incentives given to promote modernizing investment on plant and equipment.

The two "temporary measures laws" gave priority on 20 to 30 subsectors each, within the machinery and electronic industries including in the latter case transistor radio, color television,

magnetic tape, acoustic equipment, video cassette (or tape) recorder (VCR or VTR), and communication equipment. The two laws were combined in 1971 into a single law, which was finally abolished in 1985.

D. Tools of Industrial Policy

Tools or instruments of industrial policy which were used during this period were basically the same as those in the previous period, of which the principal ones are described below. In view of the membership of GATT and OECD, however, it became increasingly difficult for Japan to restrict imports and inward foreign direct investment, or give tax incentives on export earnings.

1. Priority in Resource Allocation:

Loans from the Japan Development Bank, Export-Import Bank of Japan and the Small Business Finance Public Corporation; special tax measures such as accelerated depreciation, tax exemptions on "new important products", and subsidy for interest payments for making available low-interest funds to shipping companies, for the purchase of ships and tanks built in Japanese shipyards.

2. Border Measures:

Import restrictions and tariffs⁵⁾ to protect domestic industries,⁶⁾ and loans from the Export-Import Bank and preferential tax measures to promote exports (special deduction from export incomes, reserves for exploration of overseas markets, reserves for losses from overseas investment), etc.

3. Industrial Reorganization:

There was an argument within MITI in favor of "a New Industrial Order" in the 1961-1964, to the effect that the larger the enterprise, the better the chance of becoming competitive with large foreign enterprises, and that "excessive competition" among firms should be restrained as much as possible. Hence, it was argued, industrial reorganization was urgent. Specific measures to this end included promotion of mergers and acquisitions, formation of "rationalization cartels", industry-wide deliberation to restrict in-

vestment on plant and equipment or to divide the spheres of production among firms, and government licensing system for production or investment (oil refining, shipbuilding, etc.).

4. Measures to Promote Sales of Japanese Made Computers:

In 1961 under MITI's leadership the Japan Electronic Computer Corp (JECC) was established by seven domestic (indigenous) computer manufactures to develop the computer industry in its infancy, cope with formidable competition from International Business Machine Corp. (IBM). JECC received loans from the Japan Development Bank, private banks and life insurance companies, and provided leasing funds for Japanese computer manufactures to enable them to offer the same leasing terms on their computers as IBM.

E. Assessment of Industrial Structure Policy

It is always difficult to assess the usefulness and effectiveness of a country's industrial policy. In the case of "industrial structure" policy, there are two questions : (1) whether the choice of industries given preferential treatments was appropriate, and (2) whether the preferential measures to promote such industries were really effective. Both of these questions are difficult to answer.

Protective policies in the early (infant) stages of development perhaps helped the development of the machinery, electrical machinery and electronics industries in general, and contributed to the national welfare. In the case of automobiles, when the ban on import of passenger cars enforced under the Allied occupations were lifted and foreign exchanges were began to be allocated in 1952, European cars were not only superior in quality but also less expensive than domestic cars even after paying shipping costs and the 40% tariffs. The Japanese automobile manufacturers apparently felt that they faced a crisis. Moreover, the Ministry of Transport, responding to requests from taxi operating companies, proposed to cut tariffs and liberalize imports. For the automobile industry in the great straits, the protective policy including import quotas and tariffs was highly effective in protecting the "infant" domestic automobile industry, in which

Japan proved to have strong comparative advantage later.

The protective policy was effective for developing Japan's color film industry, which challenged Kodak's near-monopoly over the world markets. The synthetic rubber industry became independent soon after starting production with substantial government assistance. The computer and semiconductor industries benefited from import restrictions, government procurement, government subsidies for research and development, and other preferential treatments. Japan's computer industry successfully shattered IBM's monopolistic position in the world markets. It may be noted that Britain, France and West Germany tried to develop respective national computer industries but by and large failed. Until today in Europe there is no companies effectively competing with IBM or Kodak.

On the other hands, a number of industries in Japan could not attain enough "international competitiveness" despite the government's heavily protective policy. The coal industry and marine transportation are such examples. It might be argued that Japan was known to have had no comparative advantage in these industries, yet had to protect these industries, because of the shortage of foreign exchange earnings. But foreign exchanges could have been earned by channeling funds and resources into industries where Japan had comparative advantage rather than into these industries. The oil refining, petrochemicals, and more generally most chemical industries perhaps fall into the same category. Furthermore, the aircraft industry failed to stand on its own feet despite substantial government assistance and protective measures. As these examples indicate, Japan's industrial structure policy did not necessarily succeed everywhere.

Whether the industrial reorganization policy aimed at the economies of scale by reducing the number of independent firms and curbing "excessive competition" was successful, or even whether it was necessary, may be open for discussion. Generally, I would think the policy was not much successful. Economically rational reorganization of an industry, specialization and modernization of productive facilities would take place sooner or

later by the working of market forces, without much of government interventions.

Moreover, Japanese firms are willing to merge or be acquired only when they suffer serious financial difficulties or foresee business downturn, but otherwise, they try hard to remain and thrive on their own. This tendency may be considered as a source of vitality and dynamism of Japanese industries.⁷

F. Relationship between the "Westerly Wind" and the "Easterly Wind"

I described the development of the Japanese industry and industrial policy in this period (Stage 2) as a process in which the "westerly wind" gradually overwhelmed the "easterly wind". The "westerly" steadily dominated the "easterly" for several reasons. First, there was economic rationale, and also international constraints under GATT, IMF and OECD. These were the basic reasons for the existence of the "westerly wind". Second, Japanese private enterprises had strong vitality, and the business circle, together with some politicians in the ruling Liberal Democratic Party and the Ministry of Finance officials, did not like the bureaucratic controls. Third, there were a number of corporations which achieved remarkable development and became giant corporations well known all over the world, without much help of industrial policy: such as Sony, Honda, Kyocera, Yamazaki (machine tools), Funac, Epson, Pioneer, etc. In addition, there were corporations which resisted MITI's administrative guidance at one time or another (Idemitsu Kosan, Kawasaki Steel, Sumitomo Metal, etc.). After all, postwar Japan has been "a country of free enterprise".

Finally, it is important to see that the effective "leverage" toward individual firms which the industrial policy authorities had at hand in earlier periods were mostly phased out during this period. The import quota system was steadily eliminated through the process of trade (import) liberalization, and tariff rates were reduced through multilateral negotiations of GATT, while export subsidies (both explicit and implicit ones) were abolished in view of the GATT rules.⁸⁾ The government screening

system for licensing of foreign technologies was abolished as a result of the liberalization of service trade, since Japan became an Article 8 nation of IMF and joined OECD which instituted the liberalization code for service trade. The government approval system for establishing joint ventures of Japanese and foreign firms was also dismantled because of OECD's liberalization code for capital movement. Loans from the Japan Development Bank progressively lost their appeal as capital markets developed and financial markets liberalized.

Under these circumstances, the remaining "leverage" towards individual firms which are readily available for the purpose of "industrial structure policy" was primarily fiscal appropriations, allocation of funds under the fiscal loans and investment program, and special tax measures. But those measures were also constrained by the tight government budget.

IV. The Third Stage : After the Oil Crisis up to the Present

A. The General Trend of Industrial Policy

Japan's industrial policy of this period may be characterized shortly as diversification of the policy issues and "policy deployment for problem solving". In other words, this period saw a shift away from "industrial structure policy" and "industrial reorganization" which were dominant in the previous period, especially in its early part, towards resource allocation through the private enterprise and market mechanisms. In this period, Japan's international trade has become more and more based on free trade principles, and Japan's industrial policy has been changing to a problem-solving type one, to deal with those individual issues related to industries which cannot be solved simply by depending on the functions of market mechanisms and private enterprises.

Most of the issues taken up Japan's industrial policy in this period correspond to what is called the situations of "market failure" in economic theory. The policy shift started gradually from the early 1970's and became clear as Japan has

become a major economic power and as the world economy has become more and more integrated.

B. Diversification of Issues and Development of Industrial Policy

The following are some typical examples of diversified issues and tasks for industrial policy, and major policy developments in Stage 3.⁹⁾

1. Energy Policy

During the first oil crisis (1973-74), the Japanese government implemented emergency measures including administrative guidance on conservation of oil and electricity which later became law. In addition, since 1975 Japan introduced a series of long-term comprehensive energy conservation programs. The "Law Concerning the Rationalized Use of Energy" was enacted in 1979, setting standards of judgment for economized use of energy and requiring each firm to set up an internal organ to oversee its own energy conservation program. The so-called "Moonlight Project" was started to promote research and development on energy conservation technologies, and special tax incentives and financial subsidies were granted for research, development and investment in energy conservation projects. The "Law Concerning the Promotion of Development and Implementation of Alternative Energy Sources" enacted in 1980 aimed at reducing dependency on oil, and set targets for alternative energy supply sources. The "Sunshine Project" was also started to promote new, alternative energy technologies, and to develop diversified sources of electric power supply such as nuclear, coal and natural gas power generation. The "Petroleum Stockpiling Law", designed to promote stockpiling by both public and private sectors, was enacted in 1975 to stabilize supply of oil. In addition diversification of overseas oil supply sources was sought through encouragement of oil exploration projects.

2. Adjustment and Assistance to Declining Industries

Industries in Japan such as textile, aluminum refining, synthetic fiber, alloy steel, chemical fertilizer, petrochemicals, and shipbuilding lost comparative advantage due to sharp rises in energy prices and wages, declining world demand for their out-

puts, and/or industrial development in neighboring Asian countries. The Temporary Measures Law for Stabilization of Specific Depressed Industries (for five years from 1978) and the Temporary Measures Law for the Structural Adjustment for Specific Industries (for five years from 1983) were enacted to facilitate the adjustment in those depressed industries. Under the laws firms in the industries reduced their excess capacity, allowed or encouraged to form cartels to restrict new investment, and received government guarantees for borrowing funds to deal with their excess capacity and to move out of the depressed industries to other more promising areas.

3. Promotion of Research and Development on Advanced Technology

In The Vision for International Trade and Industrial Policies for the 1980's published by MITI in 1980, which is generally referred to as "the industrial policy 'vision' for the 1980's", MITI advocated industrial policy toward a "technology-oriented economy", in addition to the orientation toward free, multilateral trade. In line with this new "vision" for the 1980's, MITI promoted research and development (R&D) of basic technologies for future industries. This was in addition to promotion of "large-scale R&D projects" which began in the 1970's. A well known example of the latter is the technologies for very large-scale integrated circuit (VLSI) project, of which the total cost was thought so large that it could not be borne by individual manufacturers. To tackle the problem, MITI launched an R&D program for VLSI related technologies as a national project and centralized R&D activities on a specialized R&D association. The government granted 29 billion yen in subsidies to this association for four years from 1976. The R&D association conducted research on technologies necessary for the production of VLSI, and contributed substantially to strengthening Japan's semiconductor industry.

4. Anti-Pollution Policy

The problem of environmental pollution worsened substantially in the latter part of the Second Stage, and became a serious social problem. When the Diet took up the pollution issue in 1970, outcries against pollution and against the industries caus-

ing it prevailed all over Japan. As pollution was closely connected with industrial activity anti-pollution measures carried a major weight in industrial policies. MITI and the Environment Agency took various measures to prevent pollution. The Pollution Prevention Corporation was established, R&D to prevent pollution was promoted, and low interest loans or special tax incentives were provided to encourage pollution preventing investment. Recently the protection of global environment and the recycling of resources have become increasingly important issues, and are now considered as among the major tasks to be resolved by the industrial policy authorities.

5. Industrial Location Policy

Since the First Stage up to the present the government has continued its efforts to improve industrial infrastructure such as roads, harbors, industrial land and water supplies. To overcome constraints of limited space, and water and labor force availability in already congested urban areas, and to achieve balanced regional development throughout the country, the Law to Promote Industrial Relocation (1972) and the Law for Accelerating Development of High-Technology Industrial Complexes (1983) were legislated. The policies under the latter was called as the "technopolis" development program.

6. International Trade Policy

Unlike the passive and gradual process of liberalization during the previous period, Stage 3 witnessed development of active trade liberalization policy in response to Japan's rising trade surplus and requests of trade liberalization by foreign governments. First, Japan took initiatives in the Tokyo Round and the Uruguay Round of multilateral trade negotiations under GATT. In the bilateral trade relations, "trade frictions" with the United States and Europe were important trade policy issues, and Japan had often to restrict "voluntarily" its export of certain commodities such as steel, automobiles, color television sets, video-cassette recorders (VCR), and machine tools. Under the positive trade liberalization policy, Japan lowered or abolished tariffs and non-tariff barriers. Furthermore, in a sharp contrast to the policy to promote export, which the Japanese

government long pursued in earlier periods since the end of WWII, from the early 1980's it made strenuous efforts to increase import in an attempt to reduce its huge annual trade surpluses. Steps to this end included special tax measures for Japanese firms increasing imports and supports to trade fairs for foreign manufactures and exporters. Finally, with the advancement of Japan's industrial technology, it became increasingly important --and difficult-- to strictly comply with the rules of the coordinating committee for multilateral export controls (COCOM).

7. Policy to Assist Small and Medium Enterprises

Against the backdrop of a series of events such as the adoption of the generalized preference scheme (GSP) of lower tariffs on developing countries' products, the sharp rise of the wage levels in Japan, a shift to the floating exchange rate system and the resulting large appreciations of the yen, and the globalization of business activities, Japan's small and medium enterprises often experienced great difficulties in coping with new and rapidly changing economic environments. The industrial policy towards small and medium enterprises in this period included industrial adjustment assistance, "promotion centers" for local industries and some protective measures for small and medium enterprises from the competition of larger enterprises.

8. Provision of Information and Promotion of Distribution of Information

Provision and distribution of information was facilitated by the preparation and announcement of a large number of industrial policy "visions". "The Vision for the 1980's" and "The Vision for the 1990's" are "visions" for Japan's industry as a whole, while there have been many "visions" for a particular industry or for a subsection of an industry. While the reports published by the Industrial Structure Council or similar advisory bodies in earlier periods used to connote some sort of "blueprint" of Japan's industrial structure or a program for a particular industry, the visions in this period especially in recent year gradually changed their character, and became more and more a sort of "long-term outlook" or "prospect".

D. Changing Role of Industrial Policy

As already mentioned, the industrial policy authorities lost most of their "leverage" instruments towards individual enterprises, and the "divine power" which had once accompanied MITI's administrative guidance was almost entirely gone in the 1980's. Yet, in reality, there were more roles in the 1980's industrial policy was expected to play actively, than someone unknowledgeable about Japan's industrial policy might think. Specific needs for industrial policy had changed significantly from Stage 2 to Stage 3. Economic and social life has become more complex, the standard of living has risen, technology has advanced rapidly, and environmental destruction on a global scale has become more serious. Under these circumstances, expected roles of industrial policy have become more numerous and complex, and its contents and measures have become more diversified and sophisticated. Some of the examples are:

1. In the past, industrial policy was expected to protect and develop the automobile industry, while at present, it is expected to control exhaustion, set safety standards, restrict export, and assist automobile manufacturers' direct investment overseas (when solicited by host countries).
2. In the past, export promotion was called for, whereas today import promotion is called for, and on the export side there is a need to restrict export of weaponry and of high-technology products under the COCOM regulations.
3. In the past, there were import quotas and the governmental screening and approval system for imports of foreign technologies, while today there is often a need to implement "voluntary export restraint" and proper country-by-country application of the trade insurance scheme.
4. How to help industries attain self-sustaining growth was the major theme of industrial policy in earlier years, but recently it has become an important task for industrial policy to lead some secularly depressed industries towards "euthanasia" without too much pains for people and areas concerned, and to transfer resources from such industries to more promising ones.

5. The primary target of industrial policy towards small and medium enterprises was to rectify the disadvantages for such firms which were considered as forming the bottom of Japan's "dualistic" economic structure. But now the small and medium-size firms are recognized as a "vital majority" which can prosper progressively and rationally. Thus, emphasis is now being placed more on policies to help improve their managerial capabilities for adjustments to changing economic, technological and labor-market environments.

E. Administrative Structure for Industrial Policy and Its Process

Finally, the process of drafting and implementing industrial policy, which is more or less common in the Stages 1, 2 and 3, may be briefly described.¹⁰⁾

In Japan, an industry or a sector of the national economy falls under the "jurisdiction" (or administrative responsibility) of a particular bureau or division ("supervising bureau" or "supervising division") of a government ministry or agency. A similar system seems to prevail in France and some other European countries, but not countries with Anglosaxon traditions. Although MITI has the administrative responsibility over most industries in the manufacturing sector, some of its subsectors are under the jurisdiction of other ministries: the Ministry of Agriculture, Forestry and Fishery has jurisdiction over food processing and non-alcoholic beverages, the Ministry of Finance over alcoholic beverages, the Ministry of Transport over ship-building and rolling stock, and the Ministry of Health and Welfare over pharmaceuticals.

The planning process of industrial policy begins when individual industries or area have specific "policy issues". From time to time producers, industries concerned, consumers, foreign governments, or international organizations raise "policy issues". When there is an issue, generally the "supervising bureau" or "supervising department" (under the "vertical division") in charge of the industry or products first discusses how to deal with the issue. At the same time, the issue is also referred to a certain office or offices in the "horizontal divi-

sion", such as Industrial Policy Bureau, Trade Policy Bureau, or Minister's Secretariat, in the case of MITI. However, depending on the issue, there are also other possible cases as follows:

1. At first, some issue (import promotion, policies towards the Uruguay Round, promotion of energy conservation, etc.) is first discussed at one of the "horizontal" divisions or departments, and then passed onto several "vertical" divisions or departments.
2. There are cases where issues in connection with industrial policy need to be dealt with by more than one government ministries or agencies. The final decision is made after a consensus of those concerned is established. The examples are policy on labor shortage, or policy on the promotion of private participation in public activities, etc.
3. There are cases where the "Council" or "Research Committee", which is an advisory organ of ministries composed of members mostly outside of the government, plays an important role in initiating the discussion and making decision on an important policy issue. Sometimes the Council or "Research Committee is quite powerful, especially when the influence of the politicians is strong, and the ministry or agency in charge may not be able to control its conclusions.

One of the points in the process of planning and implementation of industrial policy is that when industrial or economic issues are raised very often firms in the industry concerned, consumers, or politicians representing the general public request introduction of a new measure or measures of government intervention of one kind or another, rather than the removal of existing measures. Such a request is taken up and examined by the government office having "jurisdiction" over an industry or a sector of the private business. The system of the "supervising bureaus and divisions" took root in the process of historical development of the Japanese economy since the Meiji Restoration, and also through the experience during the wartime controlled economy from the 1930's until the end of WWII.

It should be noted that in the process of planning and

implementing industrial policy, interests of producers in the particular industry (or powerful groups within the industry) tend to outweigh other influences. This may be true in most countries. Producers' interests are densely and narrowly concentrated and tend to exert disproportionately strong political pressure, compared with the interests of consumers and users of products which usually are widely but thinly spread and are weak in exerting political pressure. As a general rule, the politically powerful interest group tends to pay little attention to the "national interests", whatever they are. It is more or less the case in Japan. In reality, it is not easy for industrial policy authorities to stand against demands for protection by industries in difficulties and by politicians who represent the interests of industries in their constituencies, and especially those of small producers. In Japan, however, coordination among "horizontally divided" departments and other ministries or agencies often acts to counterbalance political influences of vested interests of particular industries. As a matter of fact, the strength of producers (industries) interests has declined after peaking out sometime in the 1960's. Also, the pressure from foreign governments or consumer groups¹¹⁾ often exert considerable influence.

V. Conclusion

Japan's post-war industrial policy has undergone substantial changes in its purpose, content and technique with the change of the times. As a natural consequence, certain lines of the industrial policy, which have lost their significance with the change of the times, end their role and cease to exist, while a new policy line comes up to cater to the needs of the time. Although there are various views in assessing industrial policy, in my view the miraculous recovery and high growth during Stages 1 and 2 are mainly attributable to economic rationality of the "western wind", Japan's return to the international economic community, and vitality of private enterprises, while Japan's industrial policy was important in setting up economic and social infrastructure for the Japanese industries and in protecting a number

of promising "infant" industries. The "leverage" and the "divine power" of "administrative guidance" exercised by industrial policy authorities in Stage 1 and the earlier part of Stage 2 were by and large lost in later periods, but it did not mean the end of Japan's industrial policy.

The "golden age" of Japan's industrial policy, when MITI was active in designing Japan's "industrial structure" and trying to allocate the funds and other resources among industries so as to enhance Japan's "national interests", was over long ago. It is now the age of industrial development led by private enterprise, free trade and market mechanism, under the dominance of the "westerly wind".

Yet, Japan's industrial policy is still expected to play an important role in the Japanese economy. It copes with more diversified and sophisticated policy issues, arising in a mature, industrialized economy, increasingly integrated with other economies of the world. Japan's industrial policy makers will continue to enjoy high prestige in the Japanese society as experts in these complex industrial issues.

Notes

1) For detailed description of Japan's industrial policy after WWII until around 1980, see Tsusho Sangyo Seisaku-Shi (The History of Japan's International Trade and Industrial Policies), 17 vols., Tokyo:Tsusho Chosakai, which is now being edited under the direction of Professor Mikio Sumiya. 10 volumes out of the total of 17 have already been published. For an overview and economic analysis of Japan's industrial policy, see R.Komiya, M.Okuno and K.Suzumura (eds.), Industrial Policy of Japan, San Diego and Tokyo, Academic Press, 1988.

2) In this regard it is apparently contradictory to apply tax exemption measures to export earnings even when quantitative restrictions --the so-called "voluntary export restraints"-- are imposed on export on certain items in view of the request for such restrictions by importing countries.

3) Very few if any of the MITI high officials and experts who were active in the Industrial Structure Council (or the earlier Industrial Structure Research Committee had been exposed much to the contemporary economics and the liberal economic thought prevalent in Northwest Europe and North America. They were mostly graduates of the Schools of Law. Some of them who were graduates of the Schools of Economics studied economics in the 1920's or 1930's when Japanese economics was under the strong influences of the German Historical School and later of Marxian economics.

Almost all MITI officials at that time and even now would deny --and be unconscious of-- the connection between the economic policy thought underlying MITI's industrial structure policy in Stage 2 and the Marxian economics, especially Marx's two-sector reproduction model. But the Soviet Russian and Chinese policy of keeping the prices of energy, iron and steel, some chemicals, and transportation services at artificial, very low levels is quite similar to MITI's early postwar policy. It reminds me a remark made by John M.Keynes that the economic policy

makers' thinking were often much influenced, without their recognizing it, by old economic theories of defunct economists many decades ago.

4) In 1970 the Industrial Structure Council, which was established in 1964, succeeding the Research Committee on Industrial Structure proposed following two additional criteria.

3. The overcrowding and environment criterion : Aimed at reducing dependence on scarce resources such as land, water, environment.

4. The working condition criterion : To cope with labor shortage and the changing emphasis of the desire of the public.

5) There was an extensive reform of the tariff rates in 1961.

6) Also, exemption or reduction of tariffs on certain imports was granted to preferred importers: for example, machine tools used by the automobile industry.

7) In Japan, most of the mergers of large corporations were one of the following patterns: when the industry or the corporation declined considerably or was expected to see such a trend (shipping, shipbuilding etc.); a declining corporation merged by a thriving one in the same industry or different industry (Nissan and Prince, Kyocera and Yashika etc.); a merger of corporations which were previously a single corporation, or of closely affiliated corporations (Mitsubishi Heavy Industries, Nippon Steel and Mitsui Toatsu Chemicals).

8) Multilateral talks were held on the terms of export credit because many of the major industrialized countries provided low-interest export credit.

9) For a more detailed description of Japan's industrial policy in this period, see Ryutaro Komiya and Keiichi Yokobori, Japan's Industrial Policy in the 1980's, Studies in International Trade and Industry, No.5, Tokyo: Research Institute of International

Trade and Industry, 1991.

10) For more details, see R.Komiya, M.Okuno and K.Suzumura (eds.) Industrial Policy of Japan, op. cit., and R.Komiya, The Japanese Economy: Trade Industry and Government, Tokyo: University of Tokyo Press, 1990, esp. Chap.7 (Economic Planning and Industrial Plan).

11) For example, consumers' pressure in resisting a rise in electricity fare or kerosene prices has considerable influence.