JAPANESE INDUSTRIAL POLICY*

Shoji Nishijima**

This article analyzes the rapid growth of Japan started at the end of the Second World War, from the industrial policy implemented. The Japanese industrial policy has been changing over the years, in such a way that it can be summarized in five stages. Firstly, we present the evolution of each of these stages and some consequences for the Japanese economy. Then, we discuss briefly the issue of its symbolic automobile industry. Finally, we present some implications of the Japanese lesson to the economies of Latin America, bringing to light important differences in the context in each case.

Keywords: Japanese industrial policy; Japanese miracle; automobile industry.

POLÍTICAS INDUSTRIAIS JAPONESAS

Este artigo analisa o acelerado crescimento japonês iniciado ao término da Segunda Guerra Mundial, a partir da política industrial implementada. A política industrial japonesa passou por transformações ao longo dos anos, de tal feita que é possível subdividi-la em cinco etapas. Apresentam-se a evolução de cada uma destas etapas e algumas consequências para a economia japonesa. Em seguida, discute-se brevemente a questão emblemática de sua indústria automobilística. Ao fim, são apresentadas algumas implicações da trajetória japonesa para as economias da América Latina, trazendo a lume diferenças importantes de contexto em cada um dos casos.

Palavras-chave: política industrial japonesa; milagre japonês; indústria automobilística.

JEL: O25, O53.

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1 INTRODUCTION

At the end of World War II, the Japanese economy was burned in ruins. It did not take long, however, for Japan to begin the rapid economic growth which is called the "Japanese miracle" and the Japanese economy today has become a superpower in terms of its impacts on the world economy. Once Japanese products were regarded as cheap and of poor quality, but they are now high-technology intensive and exported to every region of the world. At the same time, not only large enterprises but also small and medium-size enterprises have been increasing their FDI (Foreign Direct Investment) to host countries all over the world. In recent years this Japanese experience is becoming a strong interest for many developing nations,

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particularly the ones that are facing difficulties caused by policy reforms based on the "Washington Consensus" and are struggling for obtaining economic growth with dynamism and equity.

Needless to say, since Japanese economic development has been a complicated result of various causes, it is not possible to mention in detail all of these factors in a limited space. Special attention will be paid to the Japanese industrial polices, which have been regarded as one of the most essential factors for the successful economic achievement. Section 2 provides a brief overview of basic factors of Japanese economic development. In Section 3 the evolution and consequences of the Japanese industrial policies are discussed. Section 4 discusses the case of automobile industry. Finally in Section 5 some implications for Latin American economies are given and a conclusion is provided in Section 6.

2 BASIC FACTORS OF JAPANESE ECONOMIC DEVELOPMENT[1]

Since the end of war, Japan has maintained a high economic growth with some oscillations, with an average real growth rates around 7.0% in the past forty years (1950-1990), which achieved dramatic increase in real gross domestic product (GDP) per capita.[2]

There are various explanations for this remarkable economic development in the post-war period. However, since the Japan economy has been progressed through a long historical process, it would be useful to discuss some historical aspects before turning into the specific factors that explain the development process after the war. For instance, regarding the role of education, it will be necessary to trace back to the *Edo Era*. Even in that era, the educational level was thought to be very high owing to *Terakoya* (temple schooling) which was available in towns and villages (according to an estimate, more than 15,000 existed at the end of the era) where children learned reading, writing and calculation by abacus. In 1879, just after the *Meiji Restoration* (1868), a compulsory education system was introduced, and the percentage of children in school increased drastically. In 1905, about 95.6% of children enrolled in primary school (grades 1-6) and 8.8% in secondary school (grades 7-11). Of course, such a disciplined and literate work force was essential as a basic condition for economic development.

Adding to education, it will be necessary to list many other factors. Reforms and policies under the new Meiji government with the slogans of *Syokusan-Kogyo* (industrialization) and *Fukoku-Kyohei* (a wealthy nation and strong army) should be remembered first as an important factor for starting the development process.

1. This paper is greatly owed to Ito (1992).

2. But due to the burst of the bubble economy Japanese economy entered into a stagnated growth period with the real GDP growth rates of 1.3% in average from 1991 to 2005.

Active import of Western technology and high productivity in the agricultural sector played fundamental roles in development. Thus, we should remember that the modernization process of the Japanese economy had started in the *Meiji Era* and the basic conditions for economic development had already been satisfied in this era.

Japan, however, had tremendous devastation during the World War II, and its economic system underwent drastic changes conducted by the Allied Powers, such as *Zaibatsu Dissolution* and *Nouchi-kaikaku* (agrarian reform), etc. Taking into consideration these changes, it would not be misleading if we focus on the development process after the war to answer the question "why did Japan succeed?" In the remaining part of this section, we discuss various elements which can explain the high growth process in Japan after the war.

2.1 High saving rates

Japan achieved real growth rates higher than 10% for more than ten years in so-called *Kodo Seichoki* (high growth period) from the mid-1950s to 1972. It is the high national savings that financed the very high investment demands in this period without resorting to external borrowing. There are various reasons to explain this high savings in Japan: non-inflationary economy, pro-saving mentality, poor social security system, widespread postal saving system, etc. Among all, the postal saving system, which allows people to deposit and withdraw money at numerous post offices all over the country, can be suggested for developing countries as a way to mobilize saving resources at a lower cost. The postal savings account for 20% ~ 30% of the total saving accounts in Japan.

2.2 Japanese style management[3, 4]

Whereas there is a controversy in the academic circle with respect to whether there exist a unique management style in Japan, so-called "Japanese style management", it would not be deniable that there have been prominent defining features in Japanese management. The following are often cited as elements of Japanese style management:

1) Lifetime employment (*Shusin-Koyo*)

It is commonly known that Japanese workers, particularly those of large firms, are hired under a lifetime employment commitment. Firms agree not to layoff or fire workers, and workers pledge an almost unlimited degree of loyalty

3. Ito (1992, p. 210-212).

4. Reviewer Comment: Since the appraisal of a country´s success is ex post, it may be related to a specific economic moment. For example, the management of Japanese firms, often classified as success factors, could now, after years of stagnation, be actually pointed out as the origin of their lack of competitiveness.

to their firms. Workers neither quit nor refuse any job assignment. Thus, a firm-worker relationship continues for the occupational lifetime of the worker. This relationship is generally all implicit and understood, without written contracts.

2) Seniority-based wage and promotion (*Nenko Jyoretsu*)

Basically promotions and wage increases in Japanese firms depend on length of service to the company rather than on individual merits and specialties. It is very unusual for middle-management job openings in large companies to be filled with persons from other firms. This system is closely related to the customs of on-the-job (in-house) training and frequent job rotation in the firm.

3) Enterprise unions (In-house unions)

Japanese labor unions are typically organized within each firm across different job specifications – in particular, across blue-collar and white-collar workers. It is sometimes argued that enterprise unions are more cooperative with management than are trade unions.

It is generally said that these systems have secured the stable employment for workers (low unemployment rates) and thus loyalty to the firms, which has contributed to the long-term investment strategies of the firms. It should be noted, however, that there is a revisionist view which emphasizes that lifetime employment, seniority-based wages, and enterprise unions are not in fact unique to Japan, and these systems are collapsing in recent years under globalization.

2.3 *Keiretsu* (enterprise groups)[5]

Many Japanese firms have been organized into *Keiretsu*. There are two types of *Keiretsu*. First, it denotes a financial grouping that effects horizontal integration among a set of firms in different industries through "cross-holding of stocks" and lending from a "main bank". The largest six groups of this kind were famous: *Mitsui, Mitsubishi, Sumitomo, Fuyo, Sanwa, and Ikkan*.[6] Of course there are many large firms that are independent of these *Keiretsu*, such as *Sony* and *Shin Nippon Steel*, etc. Second, *Keiretsu* means a vertical network for product distribution composed of assembling makers, subcontractors who provide parts and components, and wholesalers and retailers who sell their products. Large manufacturing companies like *Toyota*, *Hitachi*, and *Matsushita* have numerous parts suppliers and sales companies that are closely tied to them by long-term business relationships.

5. Ito (1992, p. 178).

6. Today the relations among Keiretsu or among firms are becoming complicated due to dissolution or reorganization of enterprise groups. For instance, the banking sectors today in Japan have been reorganized into three main groups: Mitsubishi-Tokyo-UFJ, Mizuho, and Mitsui-Sumitomo.

It is widely recognized that the main purpose of forming *Keiretsu* (of the first definition) is to prevent takeover. Since a major part of the shares are held by group-member firms who are "friendly" and will not sell them to "outsiders," this behavior makes it much more difficult for foreign companies to acquire enough shares to gain control over the *Keiretsu* firms. This aspect enables managers to concentrate on long-term investment strategies.

Adding to this, it is expected that a group can take advantages of "externalities" within *Keiretsu* firms (of both definition). By sharing technological information, or by coordinating a project requiring the services of transportation and banking, a *Keiretsu* group might internalize externalities in the project. A *Keiretsu* group might also more easily shift capital and workers from a depressed sector to a booming sector within it. In addition, an interlocked group might provide its members with product diversification and hence with mutual implicit insurance against a downturn in the company. Of course, we should recognize a critical argument against *Keiretsu*, emphasizing that exclusive trading within a group presents a barrier that keeps non-group-affiliated firms from entering the market, and thus the possibility of non-competitive aspects of *Keiretsu*.[7]

2.4 Small and medium-size firms[8]

In Japan, there is a distinct "dual structure" in the industrial organization, that is, the division between "large" and "small and medium-size" enterprises. Many small manufacturing firms are typically "affiliated" with larger companies and work as subcontractors in a vertical *Keiretsu*. For instance, *Toyota* purchases thousands of auto parts from subcontractors, many of which are small firms with fewer than a hundred workers. The traditional view is that small firms hire low-skill temporary and seasonal workers, pay low wages, and offer meager benefits. When an economic downturn comes, the large companies order less from their subcontractors, who then fire some of their temporary workers. According to this view, small subcontractors are a "buffer" for a large company's work force.

However, the negative aspects of small and medium-size firms should not be emphasized too much. For example, whether small firms are less efficient than large firms is a matter of controversy. Some contend that the quality of workers in small firms is very high. A large company, like *Toyota*, checks the quality of the parts which are delivered to its auto plant. *Toyota* engineers then work with small suppliers to improve the quality of their parts. Thus, the long-term relationship between *Toyota* and its subcontractors is more cooperative than dominant, and

7. Reviewer Comment: Another crucial argument on the Keiretsus states that the mentioned gains are non-linear. This means that over a certain size the costs related to the management of this kind of organization are bigger than the benefits.

8. Ito (1992, p. 195-6).

it can be said that this high efficiency of small and medium-size firms is one of the basic foundations for the high competitiveness of large firms. Thus, small and medium-size firms have been playing a key role for large firms as supporting industries. In addition, it is well known that some small firms such as venture business are very vital and aggressive. Furthermore, in a macroeconomic sense, low wage and labor intensive technology of small firms have contributed to absorb the growing labor forces in the Japanese economy during the post-war period that could be one of the bases for social stability.[9]

2.5 General trading companies (*Sogo Shosha*)[10]

A general trading company is a uniquely Japanese kind of company that specializes in exporting and importing. The top ten general trading companies handle more than the half of total Japan's exports and imports. General trading companies trade every kind of commodities – everything from cup noodle to missiles, as a well-known expression. When they serve as intermediaries for foreign trade, they often provide the credit and short-term loans associated with the export-import business. General trading companies have worldwide networks of branches and stations in all over the world through which they gather information relevant to the export-import trade. It would be proper here to stress the crucial role of trading company for promoting export-import trade in the experience of Japanese growth trade.

2.6 Bureaucratic system[11]

In Japan, the bureaucratic system is relatively independent of the political situation, so that policy decision are less politically motivated and more economically oriented. For instance, there are only three political appointees in the Japanese Finance Ministry. The Minister and the two "parliamentary vice-ministers", one of them traditionally comes from the ranks of the career bureaucrats. Furthermore, career bureaucrats generally stay in the same ministry until their retirement. This ensures stability, consistency and continuity in strategic decision making and economic policies. These two aspects together make Japanese bureaucrats able to form and implement strategic planning and legislation related to industrial policy.

However, in recent years the Japanese bureaucratic system has been criticized for its excessive influence on the economy, its factionalism, and vertically-segmented administration. In a sense, at least until the 1980s, it could be said

9. Reviewer Comment: If we associate efficiency with productivity, than the relation presented in this phrase (between small firms and low wages and/or labor intensive technologies) weakens the hypothesis previously adopted in the paragraph, because it represents the recognition that small firms are less efficient than large firms.

10. Ito (1992, p. 190).

11. Ito (1992, p. 203).

that the Japanese economy had developed through a consolidated trinity system, combining "private sector", "bureaucratic sector" and "government." This firm tri-polar system seems, however, to be ineffective under the new economic and political circumstances, which seem to require a change in the role of bureaucratic system. However, due to inflexibility and reluctance of the bureaucratic system, the administrative reforms in Japan seem to be at a standstill.

Next we will discuss the role of "industrial policy" as one of the key factors for the Japanese development process in the post war period.

3 JAPANESE INDUSTRIAL POLICY

The term meaning industrial policy, *Sangyo Seisaku* in Japanese, was not popular until about 1970 even in Japan, but the Japanese government has, in fact, implemented policies of this sort since the end of the Second World War. For these Japanese policies, there are two opposing views in the world. Many Asian countries have some admiration for them as an effective development strategy. By contrast, many developed countries, typically the United States, regard Japanese industrial policy as measures that make the Japanese economy unfair and protectionist. There are images caused by a mix of exaggerations and misunderstandings regarding Japanese industrial policy. In this sense we need to start with a definition of industrial policy.

3.1. Definition and objectives of industrial policy

Industrial policy can be interpreted as intervention by a government in order to change the market's allocation of resources, most often in favor of manufacturing industries. From standard microeconomics, intervention by government is justified in a case of "market failure," which may arise from various factors; scale economies, externalities, public goods, monopolies, uncertainties problems, imperfect information, "infant industries" and the income distribution problems, etc. If an economy has these factors, the market mechanism does not necessarily realize an efficient resource allocation, and thus intervention may be justified. Typical policies by this definition are seen in antitrust law, pollution control, public utilities and construction of infrastructure. Justification of intervention as a market response to failure could be called as a strict definition of appropriate industrial policy.

It is general, however, for government intervention through industrial policy to be justified in a wider sense. A typical definition is:

> When some adverse phenomena affects resource allocation or income distribution due to market failures, industrial policies break in to increase the level of welfare in the economy concerned. In addition, this includes all policy measures implemented

> to achieve these objectives by way of intervening in resource allocation among sectors or in the industrial organization of a specific industry (Itoh *et al.*, 1988, p. 8).

According to this wide definition, the government can intervene in the economy by various policy measures and with various policy objectives.

As to these policy objectives, the Ministry of International Trade and Industry (MITI) has played the major leadership role in executing industrial policies. MITI implemented various policy measures to protect certain targeted industries from foreign competition and promote exports as the essential elements of industrial policy. In this sense, industrial policy in Japan could be defined most practically as "policies which are implemented by MITI" (Kaizuka, 1973). Though the Japanese government has also implemented industrial policies through other Ministries, we focus on the MITI's case as the most influential industrial policy.

Japanese industrial policies conducted by MITI throughout the post-war period can be divided into five major categories (Itoh *et al.*,1988, p. 3-4).

1) Policies that exert an influence on the industrial structure of a country by nurturing and protecting developing industries through interventions and incentives and adjusting and assisting the "exit process" of declining industries.

2) Policies that correct market failures resulting from factors such as imperfect market and asymmetric information. That is, policies that correct market failures and guide resource allocation in desirable directions by providing accurate information, and by using policy methods that utilize subsidies and the tax system.

3) Policies aimed at intervening officially in the individual industrial organizations, and raising economic welfare. Specifically, policies that seek to intervene directly in the competitive structure and resource allocation within industries, through such means as recession cartels and capital-investment cartels.

4) Policies adopted not on economic grounds, but based primarily on political requirements. Examples of these are policies for voluntary export restraints and multilateral agreements aimed at addressing matters such as trade friction.

5) Also falling within the category of industrial policy are macroeconomic policies, policies for standardizing income distribution, policies for controlling pollution, regional policies, policies for promotion of R&D, and policies for small and medium enterprises.

This classification encompasses a very wide range of policies. Item 2 is explicitly for complementing markets in the event of market failures, and corresponds to the strictest definition of industrial policy; 1 and 3, which entail the targeting of, and intervention in, specific industries, correspond with the definition of industrial policy as it is most widely understood in Japan;[12] and 4 and 5 correspond with the broadest definition, including political factors, macroeconomic policy, support for small and medium enterprises, and distribution policies.

Irrespective of the definition, problems relating to industrial policy in reality lie in the fact that it should normally be premised upon the following government capabilities. That is, among other things a government's ability to design industrial policy correctly (e.g. correctly selecting target industries, having knowledge of appropriate investment coordination, and discovering inter-corporate networks etc.), to implement correct policy measures (official financing, subsidies, tariff protection, provision of accurate information etc.), and to prevent rent-seeking that causes policy distortions. It is not necessarily that governments have much more correct and sufficient information than the private sector, and are superior in the ability to conduct economic coordination.[13]

Moreover, to implement successful industrial policy, the some stringent prerequisites for private sector should be satisfied. World Bank (1997, p. 72-73) argues the following points from Japanese experience.

1) A domestic private sector capable of efficiently managing complex, large-scale project.
2) A private sector willing to cooperate with government in pursuit of the shared goal of competitive industrial development.
3) Strong technical capabilities in public agencies for evaluating private investment plan.

Additionally industrial policy requires strong institutional capability, particularly, which can complement the market mechanism and maintain a good public-private partnership: consisting regulatory framework to economic activities, commitment mechanism that credibly restrain arbitrary actions by

12. Theoretically these cases correspond to the cases of information externality or coordination externality called by Rodrik (2004), which leads to such industrial policies as investment coordination or crating information network among firms.

13. According to Rodrik (2004, p. 36), counter-arguments for industrial policy can be listed as follows:
a) governments cannot pick winners;
b) developing countries lack the competent bureaucracies to render it effective;
c) industrial interventions are prone to political capture and corruption;
d) there is little evidence that industrial policies work;
e) what is needed is not industrial policy, but across-the-board support for R&D and intellectual property; and
f) in any case international rules no longer leave scope for industrial policy interventions.

government or private sector, institutions that support entrepreneurs to start new business (e.g. longer term and risk form financial intermediation), an effective scheme for information sharing and consensus building among government and private agents.

3.2 Brief History of Japanese Industrial Policy

The Japanese economy in the postwar period is divided into five stages, and the development of actual industrial policies has changed along with these stages (Komiya, Okuno and Suzumura, 1984):

1) Reconstruction period – 1945 to 1950.
2) Catch-up and set-up period – 1951 to 1960.
3) High growth period – 1961 to 1972.
4) Oil-shock period – 1973 to 1982.
5) Trade imbalance period – 1983 to present.

1) *Reconstruction period (1945 to 1950)*

In this period, Japan tried to recover from the devastation of the war. There were an extreme shortage of goods and foreign reserves. We were almost starving, with high inflation around 100 to 200%. One of the salient policies in this period was *The Preferential Production Plan* (*Keisha Seisan Hoshiki*, 1946-1948), by which the government preferentially allocated raw materials and financial resources to steel and coal industries. The steel industry received more coal and the coal industry received more steel. This priority treatment contributed to resolve the shortage in production capacity and provided a successful preparation for heavy and chemical industrialization in the next stage. Furthermore, the government intervened in the market directly by price controls combined with subsidies, loan rationing, and allocation of restricted imported materials.

In 1948, a stabilization policy, called *Dodge Plan*, was introduced, by which many government controls, new loans and subsidies were abolished and the budget was strictly controlled. Inflation disappeared quickly. In 1949, the uniform exchange rate of $1=¥360 was established. Industrial policy in this stage should be regarded as exceptional. Many direct interventions resembled socialist economic planning. But we should evaluate this stage as a foundation for high growth in the following period.

2) *Catch-up and set-up period (1951 to 1960)*

In the 1950s, "targeting policy" became the center of policy. Some industries were targeted for "rationalization" (*Gorika*) to "catch-up" to international level (to attain international competitiveness), such as steel, coal, shipbuilding, electric power, synthetic fibers, and chemical fertilizer, and in the late 1950s, petrochemicals, machine tool and parts, and electronics. On the other hand, some industries were targeted to "set-up" (to create new industry) in this period, namely automobile, heavy electric machinery, computer, and petrochemical industries. These industries were considered as "growing industries" that have high growth potential or increasing returns to scale, which were thought to need investment coordination by government.

For these objectives the government adopted various policy measures: special tax provisions, tariffs and import quotas, accelerated depreciation, tariff exemptions for imported machines, etc. To finance these policy measures, the government utilized *the Fiscal Investment and Loans Program* (*Zaisei Touyushi*) to which post-office savings and social insurance accounts were channeled. In fact, these industries were highly protected and given special incentives at this stage, but these policy tools were understood to be temporary among the entrepreneurs. In fact, the policies at this stage were conducted within the framework of temporary measures and abolished according to a firm schedule. In this sense, there is a distinct difference from Latin American countries, where protection was excessive and prolonged for a longer time.

3) *High growth period (1961 to 1972)*

In the 1960s, Japan experienced a dramatic economic growth with an averaged rate more than 12%, led by the virtuous cycle of private investment. Along with these developments, Japan was gradually integrated into the international economic system and understood the need to be a member of GATT and OECD. To do this, Japan was required to liberalize its trade and capital market according to a liberalization schedule. The objective of industrial policy, therefore, shifted from nurturing industry to setting it on its feet within the time frame for trade and capital liberalization. Actually, the restrictions on buses and trucks started to be lifted from 1961, those on color TV in 1964, those on passenger automobiles in 1965, those on color film in 1971, those on cash registers in 1973, those on large-memory integrated circuits in 1974, and those on computers in 1975. Liberalization of the capital market (FDI) started in 1967 and was completed in 1973. It must be emphasized here that this firm commitment to and realization of liberalization gave strong incentives for entrepreneurs to prepare for international competition in the coming stages.

Facing tough foreign competition, however, MITI attempted to organize the mergers of some industries through "Grouping Plan" aiming at achieving scale economy and increasing competitiveness, but had mixed results: the merger of *Fuji Steel* and *Yahata Steel* into *Nippon Steel* was succeeded, but that of automobile industry was a failure. Another attempt by MITI in this period was the promotion and modernization of small and medium-size firms in order to strengthen these firms against international competition, and large firms as well by promotion of these supporting firms. Anti-monopoly regulation also deserves mention.

One of the salient features in this stage is that *the Council for Industrial Structure* (1964) played a vital role in formulating and conducting industrial policy. This Council consisted of members from government, private business, scholars and journalists to form a consensus on industrial policy and to report the results to the Minister of MITI. The Council was very useful for reflecting the views of the private sector in the industrial policy and controlling the government's power. MITI had 27 councils in 1970. According to the reports submitted by the councils, MITI guided the private sectors through so-called *Guide Line Policy* (*Gyosei Shido*). This means that MITI only showed guide lines and oriented the private sector without legal power. Therefore, we should emphasize here that the main measures of industrial policy were less interventionist and less distortive to market mechanism than those of the previous periods. In this period, we enjoyed a high growth rate, but paying too much attention to growth meant that we neglected social welfare.

4) *Oil-shock period (1973 to 1982)*

In this period, Japan was confronted with various economic problems both inside and outside the country: *i*) oil price hike, yen appreciation, and adoption of the flexible exchange rate system made heavy and energy-intensive industries structurally less competitive. Chemical, aluminum, steel, and ship building industries were called "Structurally Depressed Industries." Adding to this, increasing competition from Asian NIEs made some industries less profitable; *ii*) social problems such as environmental destruction provoked by the rapid industrialization became serious. *The Minamata Mercury Pollution* was a typical case. The government was forced to acknowledge and address such negative externalities; *iii*) the rapid increase in the international activities in term of trade and FDI created such new problems as trade friction and trade imbalances that generated serious conflicts with the U.S., particularly in the areas of textile, iron and steel.

By such changes in circumstances, the role of industrial policy changed to pursue objectives other than growth, from "industrial promotion" to "structural adjustment" mainly through *The Temporary Measures Law for the Stabilization of Specific Depressed Industries* (1978) that allowed special credit lines and depression cartels to promote rationalization (streamlining the business) or to accelerate adjustment process (shift in business line or exit from the business) of these industries. At the same time, "social welfare" was emphasized through the introduction of various measures to prevent pollution and increase social expenditures.

However, turning into the second half of the 1970s, industries with international competition started to complain about too much government intervention, and thus deregulation and stricter application of anti-trust policies were accelerated. Anti-monopoly rulings also limited the MITI's power to conduct "intra-industry" industrial policies, such as the arrangement of depression cartels that were criticized from *The Fair Trade Commission* (*Kousei Torihiki-iinkai*). In sum, we can say basically that Japanese industrial policy began to move toward the use of the market mechanism and deregulation.

5) *Trade imbalance period (1983 to present)*

During this period, the trade imbalance became huge and trade conflicts more frequent and more intense. Thus Japanese industrial policy shifted to international issues, in particular, to deregulation for opening the market. In this sense, the main objective of Japanese industrial policy today is to foster the workings of the market mechanism, not to intervene the market.

4 A CASE STUDY: JAPANESE AUTOMOBILE INDUSTRY

While Japanese cars are overwhelming the world market today, the Japanese automobile industry started from almost zero after the war. The number of automobiles produced in 1946 was merely 15,000. Even in the end of the 1940s, there was a discord in the government about the future of the automobile industry. Although MITI asserted its plan for promotion, the Bank of Japan insisted on liberalization. But after the Korean War, the Japanese government decided to nurture automobile industry. In 1990, the number of the automobile production (passenger car, bus and truck) reached 13,487,000.

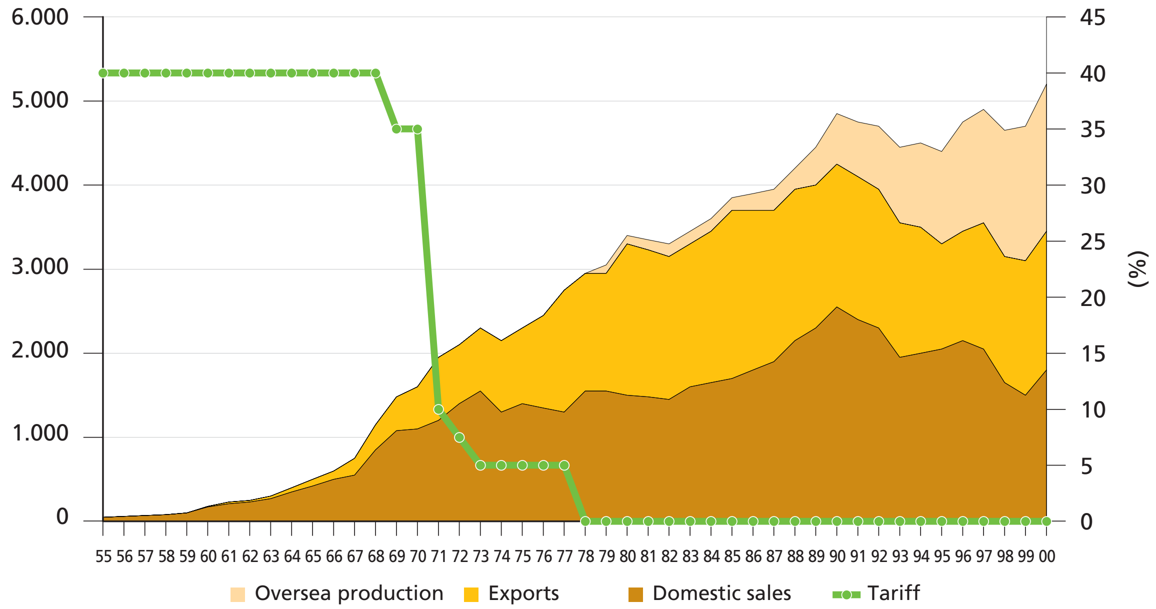
In the initial period, MITI provided high (but not prohibitive) protection to the automobile industry, through import quotas, tariffs, and restrictions to FDI. Subsidies were also provided mainly through *Japan Development Bank* loans, not only to assembly makers but also to subcontracting firms. In this period, it is obvious that industrial policy helped the infant automobile industry to grow up, protecting it from foreign competition.

It is also apparent, however, that the Japanese automobile industry has not grown up only through industrial policy. There are many countries where the government gave greater support than Japan, but failed to develop a competitive automobile industry. There are several points that can explain the Japanese case.

1) *Time limited protection*

In 1958, the Japanese government announced a general program for trade liberalization, which caused auto-makers to realize the path of future liberalization in the automobile market. Although many forms of protection to the automobile industry remained for nearly twenty years, an uncompromising liberalization was carried out almost on schedule. MITI started to lift import quotas in 1960 for buses and trucks, in 1965 for passenger cars, and in 1972 for engines. The tariff was reduced from 40% to 10% in 1971, to 5% in 1973, and 0% in 1978. FDI was liberalized in 1971. It must be noted, however, that the export/production ratio in the case of *Toyota* had already reached at 16% in 1965 and 31% in 1970. When the tariff reduction was completed to zero in 1978, *Toyota*'s export/production ratio had reached to almost 50%. This means that Japanese automobile market was opened after the attainment of international competitiveness of Japanese car. But, it is not clear whether this is an intended result of MITI or not.

GRAPH 1
Toyota's production and tariffs on passenger car



2) *Competition among auto-makers*

The strict process of liberalization significantly affected the corporate strategies of auto-makers. Since quality and other characteristics at the initial stage were quite less competitive than American and European cars, they feared liberalization. Under such circumstances, Japanese automobile companies developed the so-called "investment competition" rather than "price competition." One of the reasons which explains such an investment race is that, in an oligopoly market with "high growth potential" like automobile industries, oligopolistic competition with respect to investment in plant and equipment, and R&D becomes dominant in order to capture the "first mover's advantage" (Spence, 1979). Needless to say, high investment contributed to realizing future competitiveness. In addition, we should mention the important fact that the auto-makers made numerous efforts to increase productivity and quality, like *Toyota*'s *just-in-time system* and robotization, which made Japanese cars the most competitive internationally.

3) *Role of subcontracting firms*

As is well known, a car is composed with more than 20,000 parts and components, thus its quality is exclusively dependent on that of parts and components. If you have trouble with your car, some parts of your car must have a failure. In Japan, the subcontracting system is playing a key role for the automobile industry to produce high quality cars. In general, Japanese automobile companies are assembling parts and materials which are provided by *Keiretsu* subcontractors. Thus, the development of subcontracting system helps in improving parts quality and reducing assembling costs through "Marshallian externalities". It is widely known that the efficiency of Japanese subcontractors is very high. To promote the development of these "supporting" industries, MITI gave a great amount of subsidies to these small and medium-size firms (there is an estimate that subsidies to small and medium-size firms were greater than those to assembly makers).

In sum, the industrial policy for the automobile industry in the initial period had played a significant role as a policy for an "infant industry", but the main driving force in the following periods was the dynamic development process of the automobile industry itself through oligopolistic competition, and the industrial policy played a more limited role, in the sense that it provided support for market competition and promoted supporting industries. Here we should pay special attention on the considerably undervalued exchange rates to stimulate car exports in the 1960s and the early 1970s.

5 SOME IMPLICATIONS FOR DEVELOPING COUNTRIES

5.1 Some reminders

When we discuss the implications for industrial policy in developing economies from the Japanese experience, a careful consideration is needed with respect to the differences in the initial conditions.

1) The international economic environment today is not the same to the forty years ago, when the extent of economic globalization was not profound and international goods and factor movements were limited. Japan was able to enjoy growing and favorable world economic conditions. And today export subsidy is not allowed except for least developed countries under WTO regime.
2) There are considerable differences in social and institutional conditions. Among all, government capabilities play important roles for planning and implementing correct industrial policies. In this regards, it should be emphasized that Japanese bureaucratic system was highly qualified and well disciplined due to severe meritocracy and tough recruit examination.

3) Particular attention should be paid to the difference in political situation. Political instability, caused by class conflict for instance, tends to disrupt the desirable implementation of industrial policy. Japan maintained a long period of political stability under *LDP* (*Liberal Democratic Party*) during the period 1955 to 1993, and has a peculiar strong and independent bureaucratic system insulated from political pressures.

4) In the period following the end of war, Japan completed some indispensable reforms imposed by GHQ (General Headquarters of Allied Power), among which "demilitarization", "*Zaibatsu* Dissolution" and "land reform" were specially important. Military expenditure of less than 1% of GDP helped Japan to use its scarce resources for economic purposes. Although the effect of the *Zaibatsu* dissolution is a controversial issue, it is obvious that the extreme concentration of capital was avoided. Land reform also contributed to income equity and political stability.

5) There are some peculiarities of Japanese economy: Japanese style management, huge economic scale and population, the subcontracting system, and relatively small dependence on multinational corporations and foreign borrowing.

In addition, we should pay attention to the criticisms against industrial policy, as another side of Japanese industrial policy.[14]

1) There are many industries that became successful (that is, grew and began to export) without government assistance: sewing machines, cameras, bicycles, motorcycles, pianos, and radios during 1950s and 1960, and color TV, tape recorders, magnetic tapes, audio components, watches, pocket calculators, machine tools, textile machines, ceramics, and robotics from the late 1960s to the present. It is well understood that those who most strongly criticize the effectiveness of the industrial policy are the entrepreneurs in these industries.

2) Industrial policy was not always implemented as MITI envisioned. One frequently cited example is the so-called *Specialization and Grouping Plan* for the automobile industry. MITI attempted to "group" the automobile industry in 1950s and the early 1960s, on the notion that only one or two auto companies were need for a tiny country like Japan. The automobile industry fought against MITI's pressure. Actually one merger (*Nissan* and *Prince*) resulted, but other attempts failed. Rather, new companies (*Honda*, for instance) entered the market despite the

14. Ito (1992, p. 201).

> MITI's grouping plan, and today we find numerous Japanese auto-makers not only surviving but prospering with operations throughout the world. But this does not deny the effectiveness of industrial policy at the initial period of the automobile industry.

Despite the above reservations, some aspects of Japanese industrial policies seem to hold worthy implications for developing countries.

5.2 Basic features of Japanese industrial policy and implications to developing countries

Although the rapid economic growth in the post-war period in Japan was primarily based on the dynamic private sector and the market mechanism, it is indisputable that industrial policy has played an important role to some extent (to a greater extent in certain industries). When we remark on the experiences of the Japanese industrial policy, the following points are derived as possible implications to developing economies.

1) *Picking the winner*

MITI selected targeted industries strategically, based on the criteria of "growth potential (high income elasticity)" and "productivity increase", such industries as steel, machinery, electronics, ship-building, petrochemicals, computers, integrated circuit, etc. The fact that MITI protected and promoted not all the industries implies that the principle of "comparative advantage" or "potential exportable" was respected.[15] In contrast to this, almost all the manufacturing industries were protected in most of developing economies in the import substituting periods (Latin American countries, in particular) and thus misallocation of resources was widespread. Also, in some cases where the targeted industry failed to mature, it also faced a phase-out of protection.

However picking the winner per se may not be practical to developing countries in today's context. From the theoretical point of view, targeting or picking the winner is justified when private incentives to create new industry is limited due to decreasing costs, externalities or imperfect information, where investments coordination by government intervention is needed. However government may not have adequate knowledge and information to pick the winners correctly, and even if the targeted industry is appropriately selected, the industry may face drastic

15. Reviewer Comment: The fact that the MITI strategically selected industries based on their growth potential and productivity does not mean that those industries had static comparative advantages at the moment that choice was made. Possibly such advantages had to be built. In other words, the choice criterion considered their "dynamic comparative advantages".

changes in economic conditions as to demand, technology and competition in the future. Changes in world economic environments are uncertain and much faster today under the globalization than that of the 1960s and the 1970s.[16]

2) *Market friendly approach*

It is true that MITI introduced highly protective policies at the initial stage of industrialization, but generally these measures were not prohibitive and more importantly these protection were firmly lifted according to the time schedule of liberalization. MITI did not have any compromises in completing the liberalization process even when it had political pressures if any. On private sector's side, in response to trade and capital liberalization schedule, they have made enormous efforts to strengthen its competitiveness, instead of lobbying the government to prolong the protection. Along with the trade and capital market liberalization, "anti-trust law" was strengthened as well. Comparing to the case of many developing countries, it must be emphasized that industrialization in Japan was more market friendly than developing countries where industrialization was based on more immense interventions such as deep and prolonged protection and the creation of government (state) enterprises. Thus, the various policy reforms under way in developing countries today should be completed to enhance market mechanism and institutional building (that can complement market) as a prerequisite for an effective and efficient industrial policy.

3) *Promotion of small and medium-size firms*

One of the major purposes of Japanese industrial policy was the promotion of small and medium-size firms. Due to the existence of a distinct dual structure between "large" and "small and medium-size" firms, many small firms have been in a weaker and disadvantageous situation. Small and medium-size firms are often expressed with such words as low wage rates, unstable employment, low technology, difficulty of financing, meager profit rates and vulnerability to economic cycle. MITI's industrial policy for modernizing and strengthen small and medium-size firms helped alleviate these harmful effects and develop regional economies, and most importantly maintain social stability. Adding to this, the promotion of small and medium-size firms contributed to the development of the industrial network between large and small and medium-size firms, through which industrial sectors could reduce "transaction costs" and enjoy "Marshallian externalities." It is obvious that this sort of network is one of the reasons of efficiency in Japanese manufacturing sectors. In contrast to this, most of developing nations have not developed numerous efficient small and medium-size firms and

16. Reviewer Comment: his speculation about the inefficiency of selecting national winners policy does not seem to be corroborated in practice, if we observe the rise of some large Chinese firms elected by the State, many of them of state property.

their relations with large firms are weak. In this context policy measures to promote small and medium size firms should have the highest priority in industrial policy in developing countries, not only for creating supporting industries but also for stabilizing the society.

4) *Consensus-based decision making*

In the 1960s and 1970s, the importance of many "deliberation councils" increased in forming and implementing industrial policies. Based on the discussions of the councils, MITI set "guide lines" (*Gyousei Shido*) on business activities and investment, by which the private sector was guided without legislative power. Council-based policy making had advantages in forming a "consensus" between government and the private sector, checking government's excessive control and mistakes in decision making, and exchanging information regarding technology, markets, and other future prospects. But it must be noted that, since the "guide lines" are not based on legislation, the private sector sometimes rejected it. This means that council-based policy making retained flexibility and some degrees of freedom for the private sector. In many developing countries, disagreements regarding economic policies among "private", "government" and "bureaucrat" sectors are often observed, mainly due to the sector and class conflicts, and it should be noted that these disagreements often induce inconsistent and discontinuous economic policies.

Rodrik (2006, p. 24) says, "industrial policy is not an effort by the government to select particular sectors and subsidize them. It simply requires building the public-private institutional arrangements whereby information on profitable activities and useful instruments of intervention can be elicited."

6 CONCLUSION

Since the mid-1980s many Latin American countries have embarked on economic reforms that envision a drastic change from "interventionist" to "market oriented" economic strategy. Various efforts such as market liberalization, deregulation and privatization have been made to pursue a successful structural adjustment.

It seems, however, that the economic reforms under way in Latin America are quite rapid and drastic. We must not forget the fact that economic reforms and structural adjustments inevitably bring about social adjustment costs, and the costs will be serious in case that there are social conflicts, poverty problems and a concentrated distribution of income. Thus, Latin American economies should seek the optimal three "s" (speed, sequence and scope) for structural adjustment in terms of the effects on social welfare.

Basically there are lots of difference between Japan and Latin America. For instance, although the most popular sport in Japan is "baseball", it is "soccer" or "football" in Latin America. To make a team more powerful and stronger in the field (market), each sport requires a different way of training and tactics. It is obvious, however, that both baseball and football are sports and have a common basis that requires, for instance, high physical ability of players, coordinated team play, and the most importantly a competent coach or manager (a good government). In this context, we may derive some useful hints from the experience of the Japanese industrial policy.

Of course, both "government" and "market" are not omnipotent or perfect. "Government" often makes mistakes and too much dependence on government tends to bring about misallocation of resources. Industrial policy is a double-edged sword. On the other hand, too much dependence on the "market" can not resolve the social equity problem. It is obvious that the same industrial policy as Japan is not the best for most of Latin American economies. A country must have its own optimal industrial policy based on its best combination of "government" and "market" taking account of its peculiar conditions.

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