

Factors of Japan's Successful Economic Development and Their Applicability to Developing Countries*

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Japan's successful economic development has long been seen as a kind of model for the third world. In an attempt to identify its secrets and their usefulness to the development, quite substantial efforts have been made by academics and practitioners at large. However, we have not necessarily succeeded in doing so. This paper does try to find some answer to this question by reviewing the long-term economic development of Japan. But one should not expect to identify all the concrete secrets and their applicability to the developing world. One can only expect to learn certain highlighted factors that have influenced the Japan's successful economic development particularly in terms of economic and, to a lesser degree, social policies, and policy measures.

1. Pre-conditions for Japan's Modern Economic Development

It is believed that the Japanese economic development in its modern sense started in 1886. In other words, one may argue that every country should fulfill certain crucial pre-conditions for the modern economic development. It is, therefore, worthwhile finding out what are the pre-conditions (what have been developed prior to 1886) in case of Japan to define the modern economic development.

(1) Prerequisite Elements for Modern Economic Development

① Political and Economic Institutions

Prior to 1886, the Class System (the Knight -Peasant -Industrialist/Manufacturer -Merchant Classes) was dissolved in 1869, which must have changed peoples' mind set. The democratic central government (Meiji Government) was established after such a long feudal era of Edo and introduced a new tax system from "rice paid as tax" to "money paid as tax." The government experienced in maneuvering inflation and succeeded in practicing the deflation policy, which laid a foundation for managing the monetary policy as well as the fiscal policy.

And as a result, the government established the Central Bank, the Bank of Japan, in 1885.

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② Human Resources

Relatively good quality human resources were handed over from the Edo feudal era (~1867). It is said that the literacy rate in 1868 was 45% for male and 15% for female. The public education started in 1872, and the enrollment ratio moved up swiftly from 28% (Male 40%, Female 15%) in 1873 to 80% in 1900 which was as high as the case in UK. In addition, political leaders and entrepreneurs were born from the Knight Class, who had had high moral foundation based on Confucianism. One may argue that the corruption-free leadership did exist and had been since then until mid 1980s.

③ Social/Economic Indirect Capital

The road network was well-developed during the Edo Era by 1867. During the Edo feudal period, 200 clans had to secure road network between the Tokugawa (the paramount chief clan that formed the central government) in Edo (Tokyo) and the 200 local clans. The sea transportation network was even more developed in both routes of the Japan Sea coast line and the Pacific Ocean coast. The irrigation system, too, was well-developed since rice was the only food crop as well as cash crop. The new age of Meiji (1868~) began in 1868 and the government quickly introduced Telecommunication Services between Tokyo and Yokohama in 1870, Postal Services between Tokyo, Kyoto and Osaka in 1871, and Railway Services between Shinbashi (Tokyo) and Yokohama over 25km in 1872.

(2) State of Core Sector Development

The agricultural sector, the manufacturing sector as well as the commercial and financial sector were fairly developed by 1886 as follows.

① Agriculture

In 1872, the agricultural population was 25.4 million, 72% of the total population. The agricultural sector was able to supply labor forces to the modern industrial sector. The domestic agricultural production technologies were fairly developed, which resulted in the sector growth rate of 1.7% per year on an average from 1878 to 1885. By the end of the Edo Era, 20% of agricultural products were traded in the market, which contributed to the development of merchandizing and distributing function of the economy. Besides, the dissolution of the Class System in 1869 and the liberalization of land trade in 1872 accelerated free movement of farmers and peasants often to the urban modern sectors.

② Manufacturing Industry

As for the textile industry (cotton and silk), prior to 1886 its production level was held relatively low with some imported technologies. The first three cotton spinning factories (Kagoshima in 1867 by Kagoshima clan, Sakai in 1870 by Kagoshima clan and Kashima in 1872 by the private sector) started their production with imported technologies. But they

failed to run them profitably. In 1883, Osaka cotton spinning factory started its production with high profits. Since then, the cotton industry emerged, and its production increased drastically.

For the silk industry, the first modern silk filature factory with French technologies was constructed in Tomioka by the government. This state-owned factory, however, failed to be run profitably. In 1876, a unique, efficient, and low-cost domestic technology was invented and used widely in rural Japan. The silk production increased substantially. The volume of Japan's silk exports exceeded that of Italy in 1905 and that of China in 1909. The machinery and metal industries were underdeveloped. The government, therefore, nationalized all the factories that the former feudal clans held. They included metal, machine, wooden products, shipbuilding, steel-making factories. These factories were, later, divested to private entrepreneurs, which in turn caused to emerge financial cliques (conglomerates). The growth rate of industrial production was 3% per year on an average from 1878 to 1885.

③ Commerce and Finance

The commercial sector development took place at cities and towns in 200 clan states all over Japan throughout the Edo period. As a matter of fact, merchants and bankers/brokers worked actively as a go-between between consumers and landlords/clans. Thus, the commercial capital was accumulated and used at a later stage as investment funds for industrial development of the private sector. The establishment of the central bank of Japan in 1885 contributed to the development of the financial sector and the commercial sector. Besides, during this period the Meiji government worked hard to introduce modern company systems, which eventually bore fruit in the form of "limited company system" in 1899.

The points discussed above proved that the pre-conditions for the Japan's modern economic development were well-fulfilled by 1886.

2. Long-term Modern Economic Development in Japan

The Japanese long-term economic development can be seen from two viewpoints. One is from the long-term trend of economic growth vis-à-vis the population growth. The other is from the cyclical trends with policies and policy measures behind. By doing so, one may expect to clarify a variety of policies and policy measures effective in promoting economic growth under circumstances Japan was in.

(1) Japan's Long-term Economic Growth and its International Comparison

Table 1 shows that the economy of Japan over 78 years between 1885 and 1967 grew at 3.6% per year on a 5-year moving average. This was the one of the highest among, then, the developed countries and as high as USA. Canada, Sweden, Australia follows the first two. And they are all, except Sweden, newly opened countries.

As for the population growth, Japan recorded 1.1% per year and this rate was characterized as “in-between” among the countries. As a result, the Per Capita Income growth was 2.5% per year, remarkably high among the countries.

It is often said that Japan succeeded in catching up the western countries. As a matter of fact, the Japan's per capita income in 1886 was equivalent to 60% of UK, 29% of USA. In 1999, however, Japan's Per Capita Income was \$35,715 and exceeded USA (\$34,047) and UK (\$24,548).

Why the Japanese economic performance was that remarkable? One of the explanations is often referred to the “Late-comer's Advantages.” (Gerschenkron Hypothesis) This was proved empirically among the developed countries, on a condition that a country in question has to be equipped with the “social absorptive capacity (to be discussed in detail later).” In addition, it should be noted that the late-comer's advantages would become a disadvantage where a high population growth results in low investment through abrupt increase in consumption, which is often the case of the developing countries.

(2) Steady Long-term Economic Growth and Cyclical Ups and Downs during the Course

The statistics of cyclical changes in economic growth rates is shown in Figure 1 and Table 2. They would help to understand the following discussion.

Before World War II

① 1885~1896 Upwards Swing in Growth Rates

In 1884, the first 10-year development plan (indicative plan) called “Kogyo Iken” was formulated, which aimed to give “confidence” to the private sector and to allocate government resources to priority sectors/industries (a kind of the unbalanced growth approach).

By 1895, the state railway expanded to 955km, while the private railway expanded to 2,731km. This took place only over two dozen of years. Electricity services expanded rapidly since its services to the public started in 1886, only 5 years after the world first services started in New York, by Tokyo Electricity Company (established in 1883). In 1884 and 1885, two large shipping companies, Osaka Shosen Kaisha (OSK Line) with fleet of 93 ships and Nippon Yusen Kaisha (NYK) with fleet of 58 steamships, inaugurated their operations.

The cotton spinning industry (with imported technologies) expanded its production capacity

rapidly since the success of Osaka Cotton Spinning Company (1883). Several large-scale factories started their production in Osaka and Tokyo. In 1891, the domestic production volume exceeded the imports, and in 1897, the volume of exports surpassed the imports. The silk industry also got on growth path as a rural industry with domestically developed technologies through the failure of French technology application at the state-owned Tomioka Silk Filature Factory (1872~). In 1885, the government initiated to establish industrial cooperatives (as well as agricultural cooperatives) who worked for technical/technological extension and diffusion, which was welcomed by the private sector.

② 1897~1903 Downwards Swing in Growth Rates

The economic expansion hit the ceiling right after the Sino-Japanese War (1894-95). The Gold Coin Standard was introduced, with war reparations, in 1897, which lasted until 1917. And the exchange rate was fixed at ¥1.00 = \$1.00. This implied appreciation of Yen via relative depreciation of silver coin. As a result, the exports dropped sharply worsening balance of payments and the Japanese economy experienced crises repeatedly.

Shipbuilding Promotion Law was issued in 1896 and a policy measure of financial subsidy was employed to promote domestic production capacity and to upgrade its technological level. In 1901, the total domestic production reached 32 thousand tones which surpassed the imported tonnage of 20 thousand tones.

Incidentally, the period from ① to ② is referred to as the “First Import Substitution Phase” which is characterized by promotion of domestic production of light industry products.

③ 1904~1918 Upwards Swing in Growth Rates

The Russo-Japanese War (1904~1905) stimulated to modernize the Japanese industries. And the government bonds issued in the foreign market for war costs also stimulated the Japanese economy. Increased imports due to economic upswing as well as increased debt services gradually worsened the balance of payments of Japan. This trend of disequilibrium disappeared owing to the outbreak of World War I (1914~1918).

Under these circumstances, the demand for exports vis-à-vis industrial products was strong throughout the entire period, and the Japanese economy could manage to satisfy this demand. The light industry expanded further, and the heavy industry laid its foundation for future development. By 1910, the shipbuilding industry attained its self-sufficiency of modern production. As for the steel industry, the state-owned Yawata Steel Works was founded and expanded its production capacity twice in 1906 and 1911. In 1917, towards the end of this period, five privately-owned large steel mills (Kyushu Steel Co., Mitsubishi Iron Co., Toyo Steel Co., Ltd., Fuji Steel Co.) were founded. (Wanishi Iron Works was founded in 1931) As

a matter of fact, it is historically observed that the “first investment spurt” took place during this period. In accordance with these positive economic activities, the labor surplus in rural Japan disappeared temporarily.

This period is referred to as the “First Export Promotion Phase” which is characterized by exports promotion of light industry products.

④ 1919~1928 Downwards Swing in Growth Rates

When World War I (1914~18) was ended, the world economy shrunk. Accordingly, the Japanese economy experienced the lasting post-war recession. Furthermore, the gold export was banned in 1917. These factors caused Japan to decrease its exports from its peak year of 1917. In 1919, Yen was devalued substantially only to wait for the post-war economic crisis in 1920. To make the matter worse, a huge earthquake (Kanto-Daisinsai) struck Tokyo and gave the disastrous damage to the economy. Yen was devalued and set at ¥100 = \$38 in 1923. In 1927, the first financial panic in the history of modern economic development broke out and the banking sector fell into a functional disorder.

The harsh economic circumstances forced the Japanese business to realign and upgrade its managerial efficiency, business concentration, and to strengthen oligopoly situation as well as the financial clique (conglomerate). Further, the lifetime employment system and seniority system were consolidated during this period, which were believed to be the efficient Japanese management style.

Reflecting the difficult economic conditions, the skilled manpower was kept employed and the unskilled manpower was dismissed, resulting in the severe unemployment problem and the widened wage gap between the skilled and the unskilled.

⑤ 1929~1936 Upwards Swing in Growth Rates

To cope with the economic difficulties, the government employed the retrenchment policy in 1929, which aimed to improve the economic health and competitiveness. In 1930, the government freed gold export to stabilize the exchange rate and to expand exports. This purpose, however, failed partly because the gold export meant 15% of Yen appreciation and partly because of the Great Depression that started in New York in Oct. 1929, and spread to Japan. In 1930~31, Japan experienced severe economic crisis owing to the Great Depression. Over the few years, Japan had to face a large number of bankruptcies and serious unemployment. The government swiftly banned exports of gold and employed the expansionary policy (government bonds' issue, budgetary expenditure expansion, inflationary policy). Yen was devalued by 43% against US\$ in 1932 and exports expanded quickly.

After the recession, the industrial production expanded sharply, particularly, that of the heavy industry and of the modern chemical industry. In fact, six steel mills were merged into one gigantic steel mill named Japan Iron & Steel Co., Ltd. in 1934. Accordingly, the unemployment problem also disappeared in the economy.

It is recognized that the Japan's Second Investment Spurt took place from the latter half of 1930s and onwards. The Japanese economy was restructured to pave the way and ready to mobilize resources towards militarism.

After World War II

⑥ 1945~1956 Downwards Swing in Growth Rates --Post-war Recovery Period--

The production capacity dropped by 50% to 80%, depending on the product lines, from the pre-war peak level. Further, as the government paid huge amount of war costs, the hyper-inflation broke out. To cope with this situation, the government exercised urgent policy measures such as freezing bank deposits in 1946.

In pursuit of effective resources mobilization, the Priority Production System which prioritized to develop such industries as coal and steel was introduced in 1946. In 1947, the state-owned Reconstruction Finance Bank was established to finance priority industries. Thanks to these efforts, the economy was brought back onto the growth path. But these expansionary efforts started to induce the strong inflationary trend. In 1946, the fiscal retrenchment policy and the tight money policy were implemented (Dodge's Line). For instance, the Reconstruction Finance Bank ceased its lending operations in March 1949. The Dodge's Line caused serious slashes in industrial productions and unemployment problem derived from massive dismissal of workers.

The so called Dodge recession was saved by the outbreak of Korean War (June 1950~June 1951 in real terms). The Japanese economy recovered substantially owing to the Korean War demand.

It should be noted that during this difficult recovery period massive foreign relief assistance was extended by LARA, UNICEF, CARE, GARIOA, EROA and the World Bank. The first four relief aids aimed to save the war-affected people and supplied the necessities of life such as foods, medicine, clothes and so on. The latter two aids aimed to rehabilitate and reconstruct the war-torn economy. These foreign assistances contributed to the economic recovery far more than one could have expected.

While the "Treaty of Peace with Japan" was concluded between Japan and the allied powers in 1951, the Economic Planning Agency of the Japanese government was established in 1955 to promote the recovery process and quickly issued the indicative

development plans. In 1955, “Five Year Economic Independence Plan (1956~60)” was issued and, in 1957, “New Long-term Economic Plan (1958~68)” was issued. These plans, as in the case of “Kogyo Iken (1884),” induced “Confidence” in the mind of the people vis-à-vis the future economic development.

The long period from ③ through ⑥ is referred to as the “Second Import Substitution Phase” which can be characterized by promotion of domestic production of heavy industrial and chemical industrial products.

⑦ 1957~1969 Upwards Swing in Growth Rates --Accelerated Growth Period--

Throughout this period, Japan experienced some 10% growth rate per year. In fact, this period is regarded as the Third Investment Spurt in Japan’s long-term economic development. The investment rate in a particular year reached as high as 35.3%. This was accompanied by advanced technologies and equipment imported from the Western countries. The Japanese technological development was 15 years, from 1930 to 1945, behind those of the Western countries.

The government employed the “strategic industries’ promotion policy.” Its policy measures consisted of the state-owned development bank finance, corporate tax remission, accelerated depreciation, subsidy and import license for foreign technologies. These measures are not different from those that the developing countries exercise today. To promote the policy, temporary laws such as Machinery Industry Promotion Law (1956), Electronics Industry Promotion Law (1957) were legislated.

In parallel with the industrial promotion policy, the government implemented the industrial protection policy and the import liberalization policy to cope with the international competition. Until early 1960s, the method of mandatory import quotas was the main policy measure. In 1960s, the import liberalization progressed gradually as Japanese industrial products gained their sufficient competitiveness. For instance, machine products in the 1950s, buses and trucks in 1961, color TVs in 1964, cars in 1965. On the other hand, slow capital liberalization as a kind of protectionist policy lasted from 1950 when the “Foreign Capital Control Law was issued until 1964 when Japan obtained the status of IMF Article VIII. Japan was so much concerned about foreign capital “invasion” (FDI). On the front of export promotion policy, the preferential export credit in the form of interest reduction by 1~3% was introduced in 1953, the export insurance system was organized in 1950 and the export inspection law was legislated in 1958. The G-Mark System inaugurated in 1957 and various products design centers were opened. In 1954, the semi-governmental export promotion organization, JETRO, was established by merger of three organizations of similar

nature. During this period, the fixed exchange rate of US\$1.00 = ¥360 was maintained. Thanks to these policies, the Japan's problem of foreign exchange shortage gradually disappeared towards the end of 1960s.

In addition, the government administrative guidance, defined as guidance on wanted industrial structure, technologies, and institutions, is said to have played an important role. During 1950s, the guidance centered around the promotion of basic industries and during 1960s it centered around realignment of excessive competition among industrial firms, which aimed to select smaller number of larger and more efficient firms. The guidance was not always successful. But it is believed that industries were benefited.

As for the economic development plan, Prime Minister Ikeda announced the "Income Doubling Plan (1961~70)" in 1960. This was welcome by the people and infused tremendous aspiration into the people's minds.

By 1960, the labor shortage became the persistent phenomena and, as a result of the boom, the inflationary trend sneaked into the economy and the serious environmental degradation was perceived towards the end of 1960s.

⑧ 1970~1975 Downwards Swing in Growth Rates

The US B/P situation was greatly worsened in 1970 and the International Monetary System was collapsed. The long-lasting fixed exchange regime changed into the floating exchange regime. As a result, Japanese Yen was devalued from US\$1.00 = ¥360 to US\$1.00 = ¥308 in 1971. To avoid economic recession, the Japanese government employed the easy money policy. But Japanese exports did not drop, and an excessive liquidity problem arose, which meant strong inflationary pressure.

In 1973, the first Oil Crisis occurred, and Japan experienced Hyper Inflation (denominated as *Kyoran Bukka* which literally means "Crazy Prices Hike") in 1973~74. The government quickly exercised the tight money policy, and the inflation ceased. As the growth rates during this period indicated, the economic activities slowed down and the situation of labor shortage ended.

The period from ⑦ to ⑧ is referred to as the "Second Export Promotion Phase" which can be characterized by exports promotion of heavy industrial products. In terms of the Late-comer's Advantages, it is proved that the technological gap between Japan and the West was narrowed down by 1970 in most of the industries including the heavy, the chemical and the machinery industry.

⑨ 1976~1987 Upwards Swing in Growth Rates --Stable Growth Period--

The government relaxed the tight money policy in Spring, 1975. In 1977, the fiscal policy

was also used to stimulate the Japanese economy. Exports did not fall, which compensated the weak domestic demand. Thus, the economy was brought back onto the stable economic path. Throughout the period, the economy experienced stable annual growth rates of 3% to 5%, stable prices and low unemployment rates. Japan was the best economic performer among the developed countries.

In 1976, the current account of B/P turned into surplus. And since then, the surplus expanded rapidly. As a result, the foreign exchange reserves increased substantially and continuously. The Second Oil Crisis (1979~80) did not affect this trend. In 1985, "The Plaza Accord" was reached and the Yen was appreciated greatly and the exchange rate was set at US\$1.00 = ¥150. In Oct. 1987, the US stock market collapsed (Black Monday). Yen was further appreciated at US\$1.00 = ¥122.

Under the circumstances, the Japanese government could not raise the Official Bank Rate and kept it at 2.5%, which in turn caused the commercial banks to expand their lending volumes, without paying due attention to project/loan appraisal. In other words, they lent money upon 'land mortgage' whose value was, then, skyrocketing. Land prices and stock prices were dramatically hiked, which was the entrance of "Bubble Economy."

3. Post-war Economic Recovery and Accelerated Economic Growth: A Closer Look

While we would learn various lessons for the third world's development from the long-term developmental experiences as seen above, an additional closer look at the post-war economic development over a shorter period could attract those who work for the development economies. For this reason, let us investigate post-war-specific causes of the post-war economic recovery and high economic growth.

(1) Post-war Specific Causes of Economic Recovery and High Economic Growth (1945~1969)

A variety of causes may be pointed out as follows.

① Recovery Demand from the War Damages and the Korean War (1950~51)

The war damages must have been one of the causes to push up the economic growth rate relatively higher. In addition, the Korean War's special demand is believed to have had a positive impact to keep the high growth rate as long as to early 1960s.

② Post-war Democratization

Under the occupation of the Allied Powers, the financial cliques were dissolved in 1945. From 1947 through 1950, the agricultural land reform was taken place. The government bought out compulsorily agricultural land from absentee landowners at low priced and reallocated to a large number of peasants. Legalization of labor unions was also implemented. These democratic reforms paved the way for the competitive market economy, resulting in enlarging the market as well as purchasing power of the nation.

③ Expansionary Economic Policies

The government quickly formulated three economic development plans, Five Year Economic Independence Plan in Dec.1955, New Long-term Economic Plan in Dec. 1957 and National Income Doubling Plan in Dec. 1960 as already stated above. These plans gave the nation expanding images of bright future. At the same time, the government employed the low interest policy to stimulate the investment. Investors and entrepreneurs responded positively to these initiatives.

④ Decrease in Defense Expenditure

The decrease in defense expenditure must have been quite substantial. And this saving was diverted towards the post-war economic recovery and development.

⑤ Imported New Technologies and Equipment

Over the period of World War II, the technological gap between Japan and the West was widened. The gap, if translated in terms of time, must have been longer than 15 years. Japan tried very hard to catch up and imported the Western technologies by allocating scarce foreign exchange to prioritized technologies. In 1950, for example, Foreign Capital Control Law was issued and the government announced a list of 33 technologies urgently needed for the industrial development.

⑥ Full Employment Policy Pursued by Developed Countries

The governments of the West employed the full employment policy based on the Keynesian economics. The economies of the West recorded high growth rates, which in turn expanded the international commodity market. This enabled Japan to increase its exports to the expanded market.

It should be noted that the above causes, coupled with the various factors stipulated in 2-(2)-⑥ and -⑦, were translated into actual economic recovery and high economic growth.

4. Factors/Causes (hereinafter Factors) of Japan's Economic Development and Their Applicability to Developing Countries

We have investigated the major factors, mostly in terms of policies and policy measures, of the Japan's economic development. We have learned that those policies and policy measures were implemented to cope with domestic economic and social problems. We have also learned that they were influenced by the international economic and social conditions such as the wars, the great depression, the full employment policy of the West and so forth. Most of the policies and policy measures seemed to have been successful. However, in my view, this was only possible on one crucial condition that there existed what we call the "social absorptive capacity," which had been brought up since 1886.

We can, therefore, divide the factors into two groups. One consists of those that are

characterized as the ad hoc or transient factors and the other consist of those which belong to the social absorptive capacity.

(1) Ad Hoc and Transient Factors of Post-war Economic Development (1945~1969) and Developing Countries

Let us hereunder reiterate the identified factors/causes during the post-war period.

- ① Priority Production System
- ② Establishment of Reconstruction Finance Bank
- ③ Fiscal Retrenchment Policy and Tight Money Policy (Dodge's Line)
- ④ Expansionary Economic Policies (after Dodge's Line)
- ⑤ Korean War's Special Demand
- ⑥ Foreign Assistances (Recovery Assistance to Reconstruction Assistance)
- ⑦ Establishment of Economic Planning Agency and Three Development Plans
- ⑧ Strategic Industries' Promotion Policy, and Imports of Western Technologies and Equipment
- ⑨ Industrial Protection Policy
- ⑩ Import Liberalization Policy
- ⑪ Foreign Capital Liberalization Policy
- ⑫ Export Promotion Policy vis-à-vis Full Employment Policy by the West
- ⑬ Japanese Government's Administrative Guidance
- ⑭ Democratization of Economic and Social Institutions

These factors would be quite useful for the developing countries at least in two aspects. One is that, as any developing country must deal with most of the factors at one time in its development process, the country can learn some general idea and contents on every one of them from the Japanese experiences. The other is that the country can learn the relationship between timing of introducing the factors and the prevailing international and domestic economic/social conditions that Japan faced. These lessons, however, do not imply that the developing countries can directly apply them to their developmental problems and issues. Every developing country is on its own development phase and faces domestic as well as international economic/social conditions. The developing country is required to scan the Japanese experiences and reinvent to the local conditions with innovative ideas of its own. In doing so, the country also must give careful consideration on speed and sequence of implementation.

(2) Factors of Social Absorptive Capacity and Developing Countries

The economic development can only be realized when all the development efforts, in whatever forms they may take such as policies and policy measures, development plans, institutional reforms, administrative initiatives and so on, are successfully carried out and produce expected

outputs. The factors/causes listed above from ① through ⑭ forms definitely part of Japan's development efforts. More importantly, however, we should realize that some other efforts, which laid a foundation for causing the above kind of policies and policy measures to function, had been well-implemented. Japan, as a matter of fact, had consolidated the following factors over a long period since 1886 that we may call the "social absorptive capacity" collectively.

① Disciplined Political Leaders

It was fortunate that Japan started its early development with leaders from the Knight (Samurai) Class, who were morally well-disciplined. Tradition of Confucianism is said to have played an important role in keeping a high standard of moral. The political leaders had worked their fingers to the bone for the nation and contributed to form a corruption-free society.

② Efficient and Effective Government Administration

The government had long employed the brightest graduates from the best universities. Those government officials had exercised great ability as policy makers, planners and partners with the private sector business.

③ Entrepreneurs' Modern and Positive Attitude to Introduce New Technologies and Equipment

Many entrepreneurs recognized the importance of competition in the world market and foresaw inevitable current of trade liberalization and capital liberalization. They were, therefore, innovative, and aggressive in introducing advanced new technologies from abroad. In other words, Japan succeeded in bringing along the high-quality entrepreneurship.

④ Engineers Capable of Understanding, Digesting and Developing New Science and Technologies

On the production front, engineers could increase actual production by utilizing foreign advanced technologies and science. Furthermore, they succeeded in advancing those production technologies into the more efficient and effective ones.

⑤ Hard-working Laborers Capable of Acquiring Secrets of Handling and Operating Modern Equipment and Machinery

Hard-working laborers were abundantly available. Besides, they quickly got accustomed to master how to handle and operate sophisticated machines and equipment efficiently.

⑥ Fairly developed Social/Economic Infrastructure

As touched upon briefly above, the transportation sector, the power sector, the telecommunication sector, and the irrigation sector had been developed in accordance with Japanese economic and social development. Therefore, the infrastructure did not become a serious stumbling block to hamper economic and social activities at each phase of development.

⑦ Fairly developed Financial System

The economic development can only be achieved with the healthy financial system. The Japanese banking sector had been developed by the initiatives of the government at an early

stage of the development and then by those of the private sector and played its own role in the Japanese economic development as needed.

⑧ Fairly developed Physical Distribution System

The physical distribution system had been developed hand in hand with the development of the social/economic infrastructure. Over years, transaction costs had been reduced, resulting in making the economy efficient and making it competitive in the world market.

The eight factors of the absorptive capacity imply that the developing countries must tackle them as top priority issues. Out of the eight, the last three are relatively developed in most of the contemporary developing countries. Today, therefore, all they must do is to maintain and upgrade them, they may not need huge investment as used to be. The first factor is fundamentally the issue of moral upgrading. This can not be solved in a short time. One of the short cuts to it is the human development approach, which was developed by Dr. Mahbub ul Haq of UNDP backed by the philosophical capability approach of Prof. Amartya K. Sen. That is, the developing countries should invest sufficiently on human priorities such as basic education, primary health care, safe drinking water, adequate sanitation, family planning and nutrition programs. The Japanese development experience, though not proved yet, seems to have coped with those priorities successfully, regardless of what the government's intention may be. The Japanese bureaucracy must have had something to do with the spirit of Confucianism, the administrative institution developed since the feudal Edo period and modern education. The developing countries can learn some lessons from the workings of present Japanese machinery of bureaucracy. As for the factor ③ through the factor ⑤, the Japanese educational development (primary, secondary as well as technical) and traditional family nurture must have contributed to bringing along them.

Once again, the developing countries can extract lessons from the social absorptive capacity that Japan had developed, but they may not apply them directly to their countries. They have to reinvent them to suit local conditions.

5. Factors of Japan's Successful Economic Development and Their Influence on Asian Countries

The factors that were supposed to have contributed to the Japanese economic development were scrutinized above. It is difficult to specify influence that some of those factors have had on the economic development of Asian countries. However, the following observations would, at least, tell us something about it.

① Strategic Industries' Promotion Policy and Imports of Advanced Technologies

The Late-comer's Advantages have been proved in the cases of Taiwan and Korea. Table 4 clearly shows that Taiwan and Korea developed their economies much faster than Japan. Take the primary export promotion phase, for example, Japan had to spend 20 years or so, while Taiwan and Korea spent less than 10 years. Needless to say, in an attempt to achieve

the fast industrial development, both governments must have carefully scrutinized sector development policies and policy measures and put them into practice. In this respect, it is certain that they studied the Japanese experience in depth.

② Development Plans

There are 14 medium-term and long-term development plans that the Japanese government formulated after World War II. They are all indicative ones and are believed effective in one way or another in nurturing the “Confidence” or “Aspiring Mindset” of the people. The National Income Doubling Plan (1961-70) is one of the typical.

Most of the Asian countries must have referred to Japan for its development plans, when they formulated their “National 5-Year Economic and Social Development Plan,” which has long been a popular practice of the Asian countries.

③ Human Resource Development (Technical Education, in Particular)

Japan proved, though implicitly, that the economic and social development rests on availability of human resource. We have learned above that the social absorptive capacity is closely related to the availability of quality entrepreneurs, engineers, and laborers. ASEAN countries particularly have long been making efforts to bring along educated manpower. Some of the ASEAN countries dared to obtain Japanese ODA loans to train their university students/graduates in specific areas of natural sciences at Japanese universities.

④ Economic Infrastructure

The factors of the social absorptive capacity had been developed for three quarters of a century since 1886. And when World War II ended, the economic infrastructural facilities such as roads, ports and airports, railways, bridges, power plants and stations, telecommunication facilities, water supply facilities and irrigation facilities as well as industrial production facilities were severely damaged. The Japanese government mobilized available resources including the World Bank loans to reconstruct those facilities. Within a matter of several years, the Japanese economy got back on growth path, and the economy not only recovered but also started to grow at a tremendous speed.

This very experience created a firm belief on the part of the Japanese authorities that the economy can develop if the economic infrastructure is constructed. Based on this belief, Japan started to supply its ODA loans in early 1960s to the Asian countries for the infrastructure development. During the first 30 years or so, the Japanese ODA loans were used mostly to construct the infrastructure facilities of the Asian countries. As a result, 20~30% of total infrastructure capacities of several Asian countries were constructed by the Japanese ODA. As a matter of fact, it is believed that the Asian Miracle was realized partly due to the Japanese ODA.

It is questionable whether this Japanese belief was accepted by the Asian countries totally.

But it is certain that the Asian economic development was substantially promoted through the Japanese ODA for the infrastructure development.

Table 1 Long-term Economic Growth, Population Growth and Per Capita Income Growth (International Comparison)

Country	Period	Years	Annual Growth Rate		
			G(Y)	G(N)	G(Y/N)
Japan	1885/89–1963/67	78	3.6	1.1	2.5
USA	1834/43–1963/67	125.5	3.6	2	1.6
Canada	1870/74–1963/67	93	3.5	1.8	1.7
Sweden	1861/69–1963/67	100	3.2	0.6	2.6
Australia	1861/69–1963/67	100.5	3.2	2.2	1
Denmark	1965/69–1963/67	98	2.9	1	1.9
Norway	1865/69–1963/67	98	2.8	0.8	2
Italy	1895/99–1963/67	68	2.8	0.7	2.1
Germany	1850/59–1963/67	110.5	2.7	1	1.7
Netherlands	1860/70–1963/67	100.5	2.5	1.3	1.2
Switzerland	1910 –1963/67	55	2.3	0.8	1.5
UK	1765/85–1963/67	180.5	2.2	1	1.2
France	1831/40–1963/67	128.5	2	0.3	1.7
Belgium	1900/04–1963/67	63	1.9	0.5	1.4

Note: G(Y) Economic Growth Rate, G(N) Population Growth Rate, G(Y/N) Per Capita Income Growth Rate

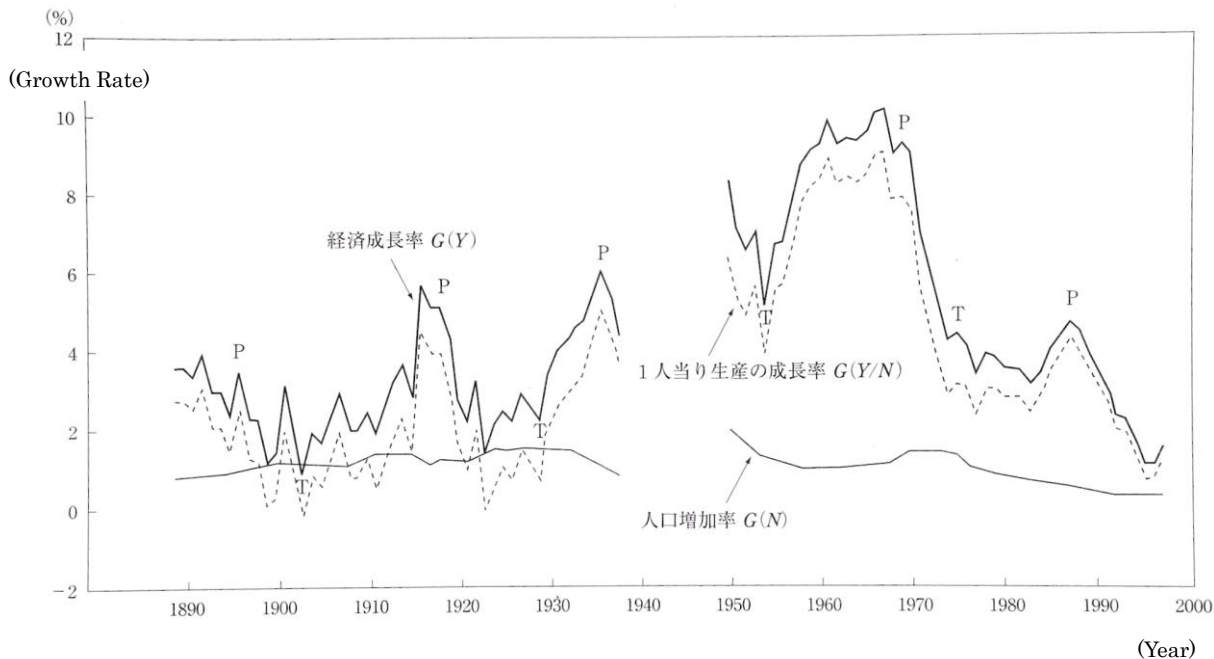
Source: Minami (2002)

Table 2 Japan's Economic Growth, Population Growth and Per Capita Income Growth

Period	Economic Growth Rate	Population Growth Rate	Per Capita Income Growth
1989–1900	2.8	0.96	1.84
1901–1910	2.14	1.16	0.98
1911–1920	3.75	1.28	2.47
1921–1930	2.5	1.43	1.07
1931–1938	4.88	1.2	3.68
(1889–1938)	3.13	1.19	1.93
1950–1960	8.04	1.28	6.76
1961–1970	9.89	1.09	8.8
1971–1980	4.64	1.16	3.52
1981–1990	3.93	0.55	3.37
1991–1997	2.15	0.3	1.85
(1950–1997)	6.01	0.92	5.09

Source: Minami (2002)

Figure 1 Japan's Long-term Economic Growth



Note: G(Y) Economic Growth Rate
 G(N) Population Growth Rate
 G(Y/N) Per Capita Income Growth Rate
 P: Peak
 T: Bottom

Source: Minami (2002)

Table 3 Japan's Economic Development and Infrastructure Development ~With Particular Attention to Trade Pattern Development~

	Primary Import Substitution Phase	Primary Export Promotion Phase	Secondary Import Substitution Phase	Secondary Export Promotion Phase
	Light Industry Products	Light Industry Products	Heavy/Chemical Industry Products	Heavy/Chemical Industry
	1885-1903	1904-18	1919-56	1957-75
Per Capita Income	Less than \$500	\$500-\$1,000	\$1,000-\$3,000	More than \$3,000
Power Consumption per Person	Less than 500kwh	500-1,500kwh	1,500-3,000kwh	More than 3,000kwh
Telcom	Less than 1line/100 people	1-10lines/100 people	10-20 lines/100people	More than 20 lines/100people
Transport	Less than 10 cars/1,000 people	10-50 cars/1,000 people	50-100 cars/1,000 people	More than 100 cars/1,000 people

Source: JCIF (1997)

Table 4 Late-comer's Advantages

	Japan	Taiwan	Korea
Primary Import Substitution Phase	1885–1903	1950–62	1953–64
Primary Export Promotion Phase	1900–19	1962–70	1964–72
Secondary Import Substitution Phase	1920–60	Early 70s–	Early 70s–
Secondary Export Promotion Phase	1960–75	n.a.	n.a.

Source: Rearranged from Ohkawa and Kohama (1993)

References

- Minami, R., *Nihon-no Keizai-Hatten (Japan's Economic Development)*, Toyo-Keizai-Shinpo-sha, 2002
- Ohkawa, K. and H. Kohama, *Keizai-Hatten-ron (Economic Development)*, Toyo-Keizai-Shinpo-sha, 1993
- JBIC Institute, *Special Feature: Infrastructure for Development in the 21st Century*, 2000
- Haq, Mahbub ul, *Reflections on Human Development*, Oxford University Press, 1995
- Zen-Nihon-Yushutu-Konpo-Kogyo-Kumiai-Rengo-kai, *Buturyu-Gairon (Physical Distribution)*, 2002
- Japan Center for International Finance (JCIF), *Minkatu Purojekuto-ni-taisuru Sikin Kyoryoku-no Arikata (Private Sector-led Infrastructure Development in Asian Developing Countries and Financial Assistance)*, 1997
- <http://www.c20.jp/1948/05drape.html>
- <http://www.c20.jp/1949/03dodge.html>
- <http://www.c20.jp/1946/12keisy.html>
- <http://www.isc.senshu-u.ac.jp/~the0589/kougi0310.htm>
- <http://www.tabiken.com/history/doc.K/K075R200.HTM>
- http://www0.nsc.co.jp/shinnihon_english/company_profile/enkaku/enkaku.html
- <http://www.mol.co.jp/history.shtml>

<http://www.nykline.co.jp/english/about/history/index.htm>

<http://www.kcat.zap.ne.jp/ynakase/rept3/r3t1.htm>

<http://www.rieti.go.jp/jp/papers/journal/0312/rr01.html>

<http://www1.toptower.ne.jp/~katumata/sub562.html>