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Japan's model of economic development: Relevant and nonrelevant elements for developing economies

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Research Paper No. 2009/22

Japan's Model of Economic Development

Relevant and Nonrelevant Elements
for Developing Economies

Fukunari Kimura*

April 2009

Abstract

Japan was the first non-western country to accomplish successful industrialization, and the dominant perception of its 'industrial policy' had over-emphasized specific characteristics of Japan. However, from the perspective of today's development thinking, Japan's economic history shared a wide range of common factors in usual economic development: macroeconomic stability, human resource development, and economic infrastructure. Industrial policy in Japan sometimes worked well and sometimes did not, depending on how effectively it counteracted market failure and took advantage of market dynamism. We must note, however, that the external conditions faced by Japan were widely different from what today's developing countries face.

Keywords: industrial policy, industrialization, trade liberalization, macroeconomic stability, economic infrastructure

JEL classification: O25, O53, N65

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Acronyms

AFA	automatic fund allocation system (of Japan)
FA	fund allocation system (of Japan)
FDI	foreign direct investment
FILP	fiscal investment and loan programme (of Japan)
GNE	gross national expenditure
JDB	Japan Development Bank
LDCs	least developed countries
MITI	ministry of international trade and industry
NDP	net domestic product
NTBs	various non-tariff barriers
SITC	standard international trade commodity classification
SMEs	small and medium enterprises

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The views expressed in this publication are those of the author(s). Publication does not imply endorsement by the Institute or the United Nations University, nor by the programme/project sponsors, of any of the views expressed.

1 Successful industrialization of the first non-western country

Japan, due to its geographical location, had a peculiar history in the domination of the western nations during the era of imperialism in the nineteenth century and the first half of the twentieth century. Barely escaping colonization by western powers, it went through the Meiji Restoration in 1868 and started building a modern nation state under the strategy of *fukoku kyohei* ('enrich the country', 'strengthen the military') and *shokusan kogyo* ('promote industries'). Revision of Japan's unequal treaties, concluded in the late 1850s, with extraterritoriality and fixed low import-export duties subject to international control, became the prime diplomatic target, but total elimination of the articles took a long time, until 1911. In the First World War, Japan fought with the allied powers and gained a seat as permanent member of the League Council, together with the United Kingdom, France, and Italy. However, Japan was inclined towards bold militarism in the 1930s, started a prolonged war with China in 1937, and ended in an unconditioned surrender in the Second World War in 1945.

The war caused total devastation, and Japan had to re-start from ruins. It took almost ten years to bring production back to the prewar level. But Japan did achieve notable economic growth in 1955-73, which pushed the economy to full-scaled industrialization, to become the second largest economy in the western world.

Japan was the first non-western country to accomplish successful industrialization, and the dominant perception of its 'industrial policy' had emphasized specific characteristics of the people or the economy of Japan. This generated a lot of unwarranted 'myths'. However, from the perspective of today's development thinking, Japan's economic history is qualitatively no different from the usual economic development of other countries. A number of factors had an impact on Japan's development and these are still common today in the less developed countries (LDCs): the importance of macroeconomic stability, human capital development, and economic infrastructure. However, we must also be aware of the external economic conditions that differ from the LDCs today. The period of the 1950s-60s was not affected by the current globalization phenomenon: foreign borrowing was much more difficult to obtain, and the perception of hosting foreign direct investment (FDI) was largely negative as well. At that time, the emphasis of development strategies was to seek indigenous development with minimal dependency on foreign economic forces.

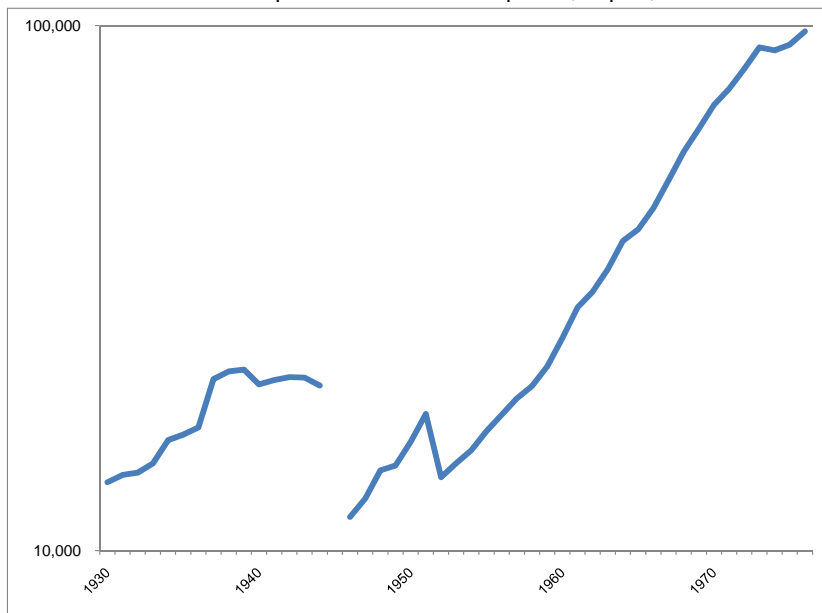
The paper proceeds as follows: the next section reviews the starting point of Japan's economic development after the Second World War, and section three discusses the economic elements, including macroeconomic stability, human capital development, and economic infrastructure, issues that are common in today's LDCs. Section four examines industrial policy, which was heavily influenced by external economic conditions and development thinking that differed from the current world. The last section summarizes our findings, both relevant and irrelevant, for drawing lessons for the LDCs.

2 What was Japan's starting point?

What was the stage of Japan's development immediately after the Second World War? Modern economic growth in the sense of Simon Kuznets started in Japan at the end of

the nineteenth century, and the country became embroiled in the Japanese-Sino war and the Second World War. The compulsory development of the machinery industries during the military regime was substantial in the late 1930s. However, the industrial structure before and during the war had not been fully developed, and the war destruction of physical and soft infrastructure was extremely severe. In the mid-1950s the level of development was equivalent to the newly industrializing economies, although this expression did not exist at that time (Kohama 2007: 1).

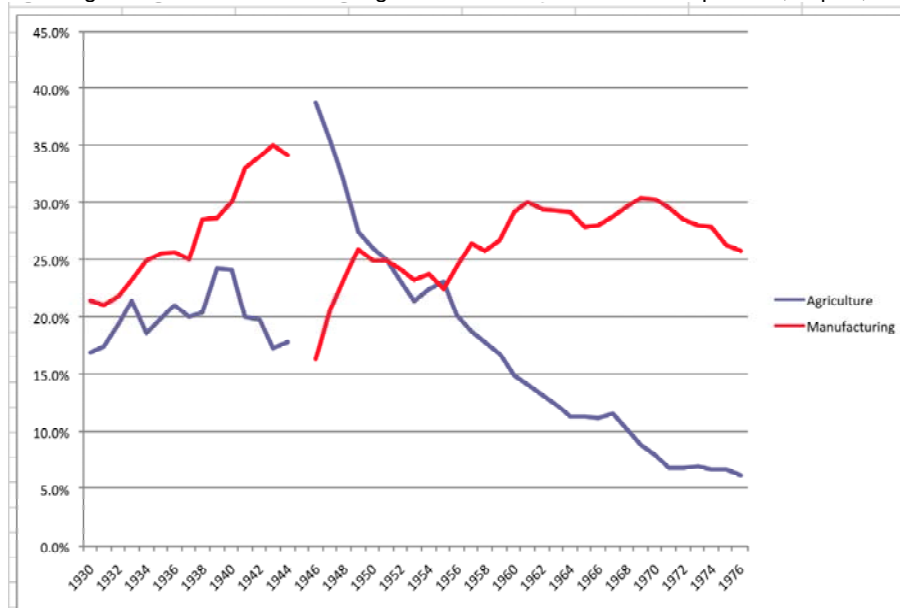
Figure 1
Gross national expenditure at constant prices, Japan, 1930-76



Note: Until 1951: 1934-36 calendar year base, in million of yen; after 1952, 1970 calendar year base, in billions of yen.

Source: MCA-SB (1988, vol. 3: 363).

Figure 2
Shares of agriculture and manufacturing value added to net domestic product, Japan, 1930-76



Note: In millions of yen until 1944; in billions of yen after 1946.

Source: MCA-SB (1988, vol. 3: 370, 13-12).

Figure 1 presents Japan's gross national expenditure (GNE) at constant prices during 1930-76. The devastating effects of the Second World War can be vividly seen in the drastic GNE drop, which then took almost a decade to reach the pre-war level. In other words, the substantial economic growth in the first postwar decade merely achieved recovery rather than opening a new frontier of development.

Figure 2 depicts the shares of value added of the agriculture and manufacturing sectors in net domestic products (NDP) during 1930-76. The share of manufacturing sector exceeded the 20 per cent level at the beginning of the 1930s, and was boosted even further after the mid-1930s by the total militarization of the economy. However, the share of agriculture was still as high as 20 per cent prior to the Second World War, and jumped in the postwar years, because of the devastation of other sectors, but dropped gradually during the next decade. The substantial shifting from agriculture to the manufacturing sector as well as services started from the mid-1950s.

3 How to resolve bottlenecks?

Japan, after the Second World War, was confronted by a number of bottlenecks hindering development—like the LDCs today. We review three of these economic development elements: macroeconomic stability, human resource development, and economic infrastructure.

3.1 Macroeconomic stability

Macroeconomic stability is, without a doubt, essential for steady economic development, and Japan focused considerable attention on macroeconomic management, at times at a substantial cost due to unfavourable external conditions.

The macroeconomy in the latter half of the 1940s was in chaos: depression in the supply of goods due to decreased capital stock, demilitarization of industries, and shortages in raw materials and equipment were extremely serious. These problems, together with the loss of control over monetary discipline, induced the typical postwar hyperinflation: consumer prices increased 80-fold, and wholesale prices increased in 61-fold in the period between the end of war and April 1949 (Kohama 2007: 176). In such a situation, policy-induced contraction with recessionary fiscal and monetary policies was inevitable. Japan, occupied by the Allied Forces, initiated an economic stabilization plan in 1949, the Dodge Line, named after Joseph M. Dodge, economic advisor and the chairman of the Detroit Bank. This plan imposed the discipline of balanced government budget as well as a single foreign exchange rate regime (1 dollar = 360 yen) that was claimed to be over-valued (Komiya and Itoh 1988: 176).

Due to a serious shortage of foreign currency, very tight management of international trade was continued under the Foreign Exchange Control Law (December 1949) and the Foreign Capital Law (May 1950). International trade, in principle, was prohibited although some exceptions were allowed.

After regaining independence in 1951, Japan had the freedom to set its own tariffs and established a new tariff system. In addition, based on the Import Control Law, the automatic fund allocation (AFA) and the fund allocation (FA) systems were introduced.

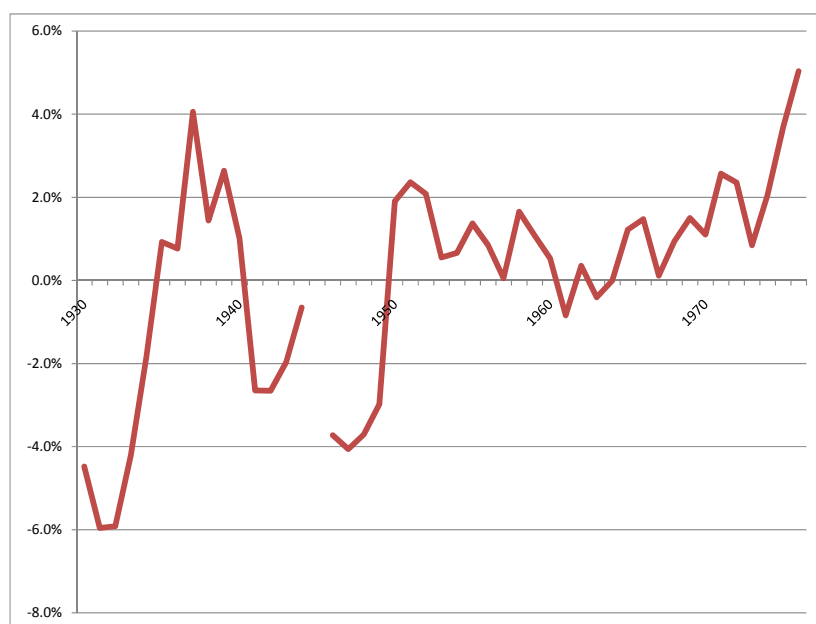
The FA system applied to most final and intermediate products as well as materials, which virtually made itself an import quota system. Importers needed to obtain a foreign currency quota from the minister of international trade and industry in order to approach foreign exchange banks for approval on the usage of foreign currencies.

Japan provisionally acceded to GATT in 1953 and was admitted as a contracting party in 1955. However, a large number of countries—with the exception of the US, Canada, West Germany, Italy, and the Scandinavian countries—refused to obey their GATT obligations for Japan by appealing to Article 35. This discriminatory treatment became a bitter memory for Japan. Even the US, a strong supporter of the GATT regime, occasionally requested Japan to impose voluntary export restraints in the 1950s.

Normal international trade was finally established after the Guideline of Trade and Exchange Liberalization was announced in 1960. Until the 1950s, most trade had been conducted in a regime of heavy nontariff barriers, with the prime motivation being the management of foreign currencies and the balance of payments, rather than protecting domestic industries.

External environment for Japan was finally normalized by the beginning of the 1960s. Macroeconomic management, however, was still not easy. Japan gradually established ample domestic saving rates that enabled high investment rates. Due to limited opportunities for foreign borrowing, domestic savings and investments needed to be in balance. Management of the foreign currency reserve and the balance of payments was still difficult. Until the mid-1960s, Japan was always at risk of foreign currency shortages under the fixed exchange rate regime. Once the economy picked up, trade deficits developed, and the government had to cool down the economy by imposing recessionary policies.

Figure 3
Ratios of current account surplus to gross national expenditure, Japan, 1930-76



Note: Until 1951: 1934-36 calendar year base, in millions of yen;
After 1952: 1970 calendar year base, in billions of yen.

Source: MCA-SB (1988, vol. 3: 363, 366).

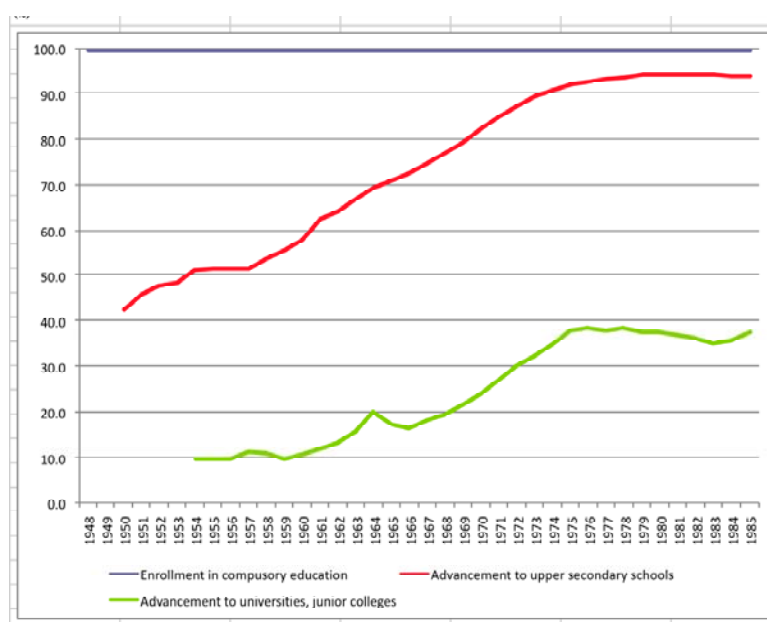
Figure 3 gives the ratio of current account surplus to GNE during the years 1930-76. Obviously, the ratio was tightly managed until the mid-1960s, with foreign currency reserves equivalent to import amounts for 2-3 months. Difficulties in foreign borrowing together with concerns over incoming FDI forced Japan to maintain such a tight discipline. Today, LDCs may have much greater flexibility in managing foreign currency reserves and balance of payments, due to active international capital transactions.

3.2 Human resource development

Did Japan have a high educational background from the beginning of its development process? Historians claim that Japan enjoyed high literacy ratios already during the Tokugawa Era (1603-1868), and introduction of the education system since the Meiji Era (in the latter half of the nineteenth century) is usually praised. However, according to some statistical figures, Japan was faced with a serious shortage of human resource development even in the postwar era.

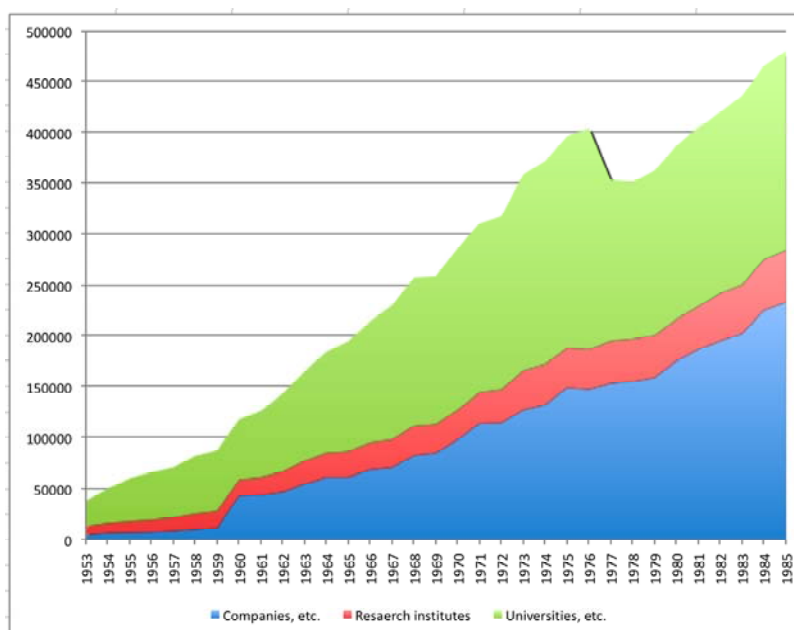
Figure 4 shows the changes in the proportion of (i) enrolment in compulsory education (primary and lower secondary schools), the advancement to (ii) upper secondary schools, and (iii) to universities and junior colleges. In the late 1940s and the early 1950s, Japan had a solid background in basic education but did not have a fully established upper secondary and tertiary education. It took 20-25 years, until the mid-1970s, to achieve a respectable educational level. Of course, the meaning of education in the 1940s and 1950s was perhaps different from the present because of changes in the industrial structure and cultural background. But we can at least claim that the quantitative expansion of Japan's educational system until the mid-1970s was an important factor in the country's industrialization process.

Figure 4
Development of enrolment rates and advancement rates (%) in education, Japan, 1948-85



Source: MCA-SB (1988, vol. 5: 260, 22-7).

Figure 5
Number of researchers, by research organizations, Japan, 1953-85



Note: Some anomalies in 1959-60 and 1976-77 seem to be due to changes in statistical definitions.
Source: MCA-SB (1988, vol. 5: 293, 22-19).

Figure 5 presents an increase in the number of researchers in private companies, research institutes, and universities after the Second World War. It also indicates that human capital accumulation, particularly at the higher level, was an essential element of successful industrialization and of the preparation for the new phase of competitiveness after the 1970s.

3.3 Economic infrastructure

Economic infrastructure was also a serious bottleneck for Japan in the postwar years, just as it is in the LDCs today. External conditions in Japan, however, were different, as the opportunities for borrowing from abroad were limited. In addition, public private partnerships (PPP) were still unknown, and investments for economic infrastructure were taken for granted to be the role of the government.

To finance investment in economic infrastructure, the government extensively utilized a fiscal investment and loan programme (FILP). The FILP was a budgetary system prepared in addition to the central government's general budget, and was financed mainly by postal savings until fiscal year 2000. Figure 6 shows the proportion of FILP according to usage during the years 1955-84. Spending for social infrastructure was maintained at a low level, at around 30 per cent, while substantial amounts were allocated to economic infrastructure.

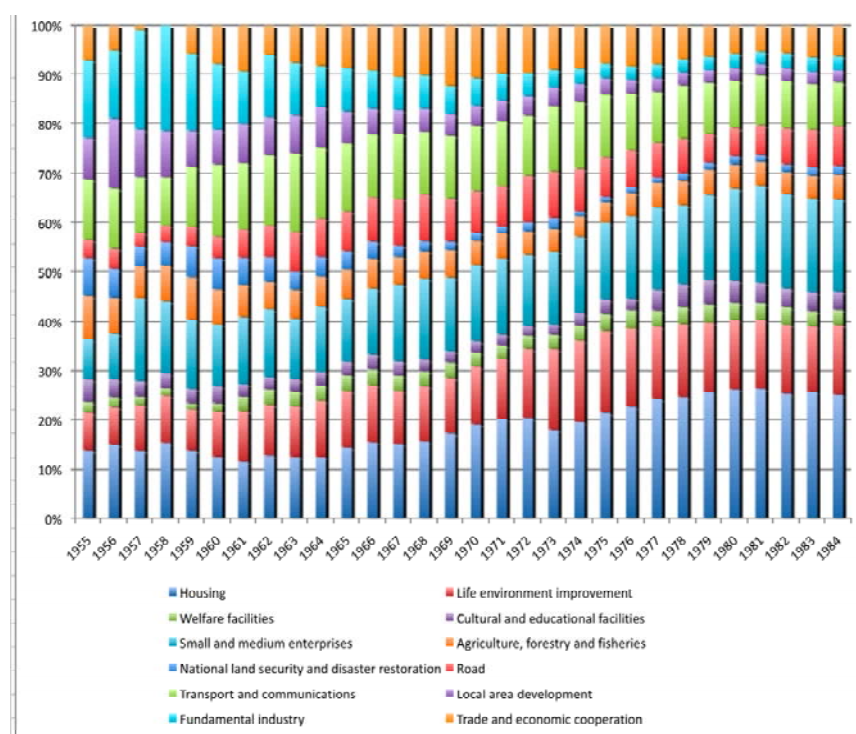
Japan received loans from the World Bank in 1953-66, for investment mainly in power plants, steel plants, freeway construction, and the bullet train. However, the total loan amount of the period was US\$862.9 million (Kohama 2007: 3), which accounted for only a few percentage points of Japan's total investments.

The Japan Development Bank (JDB) was established in April 1951 to provide long-term loans for development. Table 1 presents the composition of JDB loans by usage. A

substantial portion of the loans were allocated to energy and sea transport sectors in the 1950s and 1960s, highlighting the emphasis on economic infrastructure development.

The speed of infrastructure development was impressive from the mid-1950s to the mid-1970s. Roads are a good example, as can be seen from Figure 7 which gives the length of general national highways and expressways in 1936-85. In the early 1950s, road conditions, including paved roads, were very poor but a substantial improvement can be observed for the 1950s, 1960s, and onward. Construction of the national expressways was financed mostly through toll collection, which necessarily forced construction to proceed slowly, albeit without adverse effects on government budget.

Figure 6
Composition of fiscal investments and loan programme (FILP), Japan, 1955-84



Source: MCA-SB (1988, vol. 3: 280-81, 12-11).

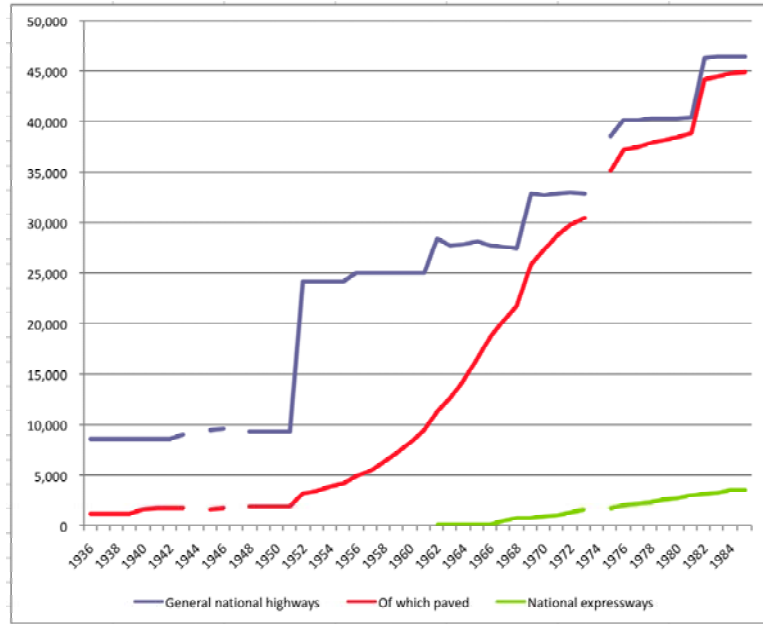
Table 1
Composition of loans by the Japan Development Bank

	1951-55	1956-60	1961-65	1966-70	1971-75	1976-80	1981-82
Energy	45.3	58.7	25.8	15.0	7.7	24.4	41.1
- Electric power	38.8	39.0	16.6	7.4		17.1	28.6
- Coal	6.5	9.7	8.5	3.4			
Transport, sea transport	25.3	27.3	30.3	35.5	17.7	7.7	11.7
Strengthening international competitiveness		12.1	14.6	8.4			
Improving balance-of-payment position			4.4	2.5			
Area development		2.6	21.5	27.5	30.9	30.5	25.8
Anti-pollution measures				0.6	19.1	21.3	8.5
Promotion of technology				8.3	10.6	11.1	9.2
Total JDB loans (100 million yen)	2,744	3,027	6,726	13,632	28,275	45,355	22,390

Source: Ogura and Yoshio (1988: 135) based on JDB.

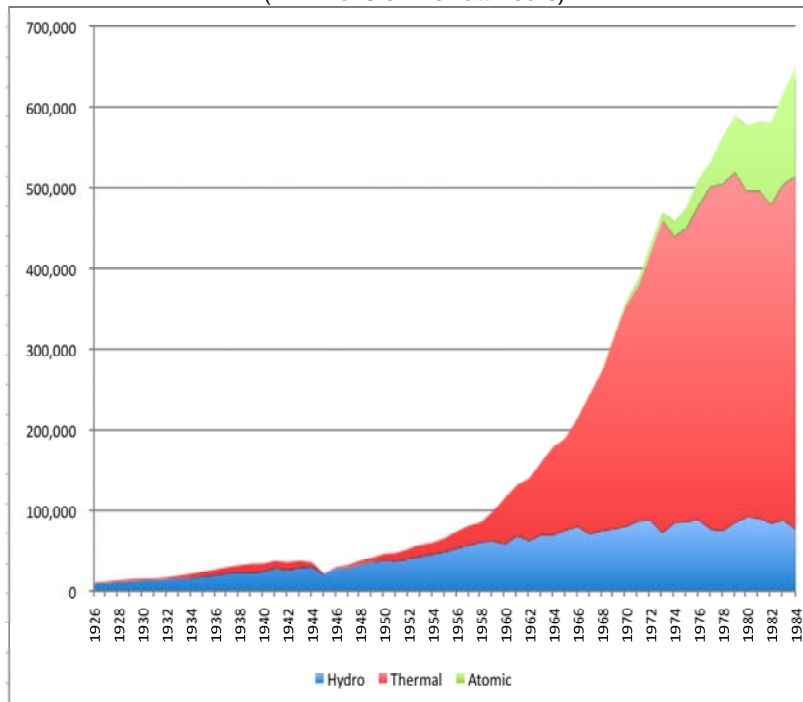
Figure 8 offers another example: the development of electric power generated from hydro, thermal, and atomic sources over the years 1926-84. Again there is spectacular growth in the period between the mid-1950s and the mid-1970s. Generation modes shifted from hydro to thermal in order to enhance capacity that had relied on imported petroleum.

Figure 7
Length of roads and paved roads (km), Japan, 1936-85



Source: MCA-SB (1988, vol. 2: 498-99, 8-1).

Figure 8
Generation of electric power, Japan, 1926-84
(in millions of kilowatt-hours)



Source: MCA-SB (1988, vol. 2: 450-51, 7-5).

4 Did the industrial policy work?

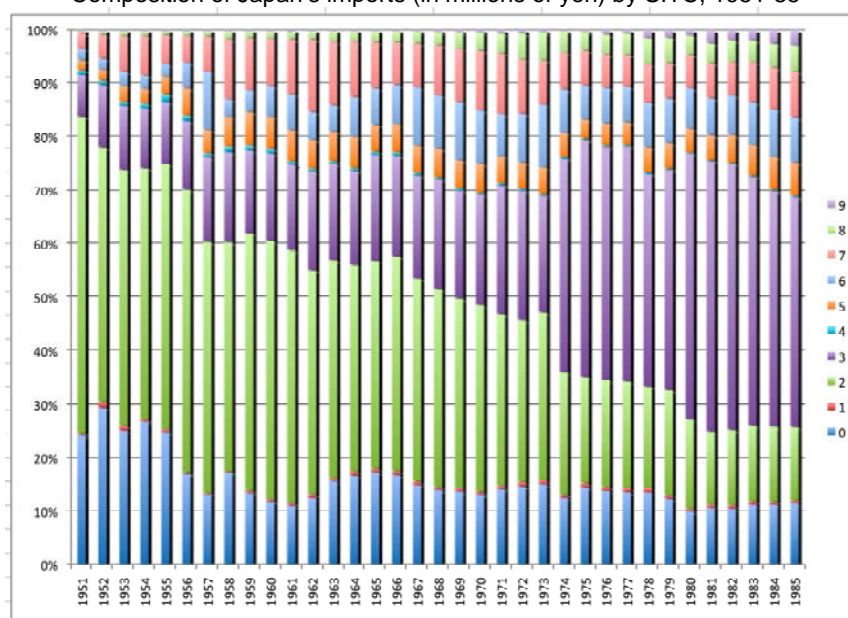
Japan's transition from labour-intensive industries to capital- or human capital-intensive industries took place from the mid-1950s to the mid-1970s—the same process currently faced by the newly industrializing economies. However, the policy package applied by Japan was somewhat different from the current LDCs. In the past, the Japanese 'industrial policy' was evaluated without much criticism, but recently its benefits and drawbacks have been analysed in a much more critical manner. This section summarizes the 'modern' perception of Japan's industrial policy.

4.1 Evolving trade patterns

Before going into a discussion on policy, let us briefly review the transition of trade patterns in Japan.

Figure 9 shows the changes in the import-commodity composition, measured on the standard international trade commodity classification (SITC) one-digit basis for 1951-85. SITC0 (food) and SITC2 (crude materials) initially accounted for large shares in the country's imports, but decreased over time. Instead, SITC3 (mineral fuels) gained importance from the latter half of the 1950s due to the switch from domestic coal to imported petroleum and the share peaked after the first oil crisis in 1973. Imports of manufactured goods were relatively small, although imports of SITC7 (machinery) were essential until the first half of the 1970s for introducing technology-embodied industrial machines. Vertical intra-industry trade with East Asian countries did not begin until the 1990s.

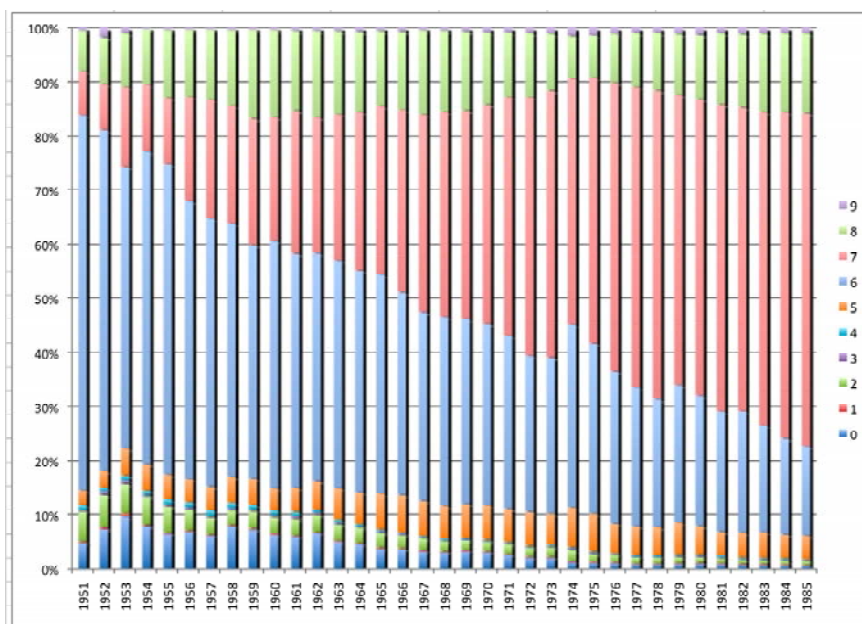
Figure 9
Composition of Japan's imports (in millions of yen) by SITC, 1951-85



Note: SITC 0	Foodstuffs and animals	1	Beverages and tobacco
2	Nonfood raw material (excl. mineral fuel)	3	Mineral fuels, lubricating oils, etc.
4	Animal, vegetable oils and fats	5	Chemical products
6	Manufactured goods by material	7	Machinery, transport equipment
8	Miscellaneous	9	Special goods

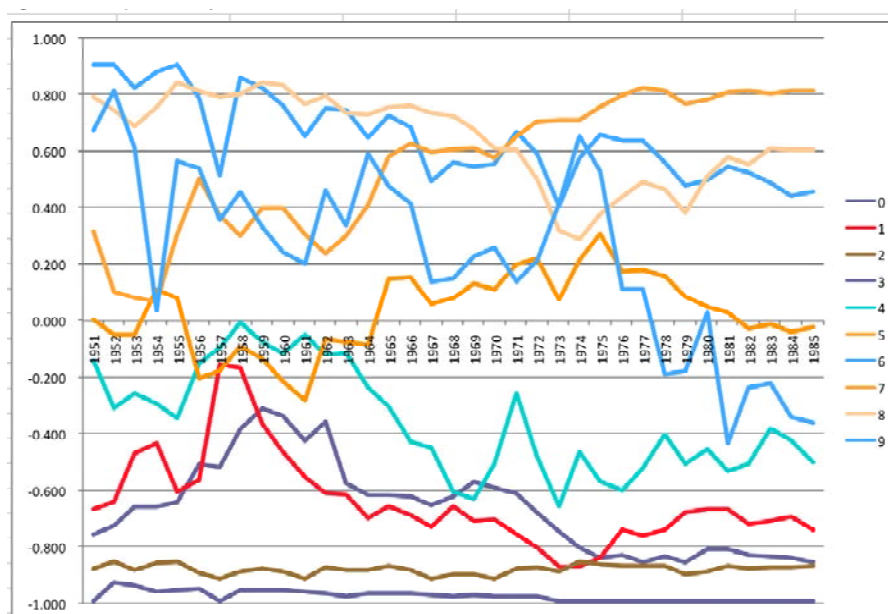
Source: MCA-SB (1988, vol. 3: 18-21,10-2-d).

Figure 10
Composition of Japan's exports (in millions of yen), 1951-85



Note and source: See Figure 9.

Figure 11
Net export ratios by SITC, 1951-85



Note and source: See Figure 9.

Figure 10 represents the export side. Major exported commodities shifted from SITC6 (textiles, iron and steel, and others) to SITC7 (machinery); on the whole, changes can be observed in the comparative advantage of labour-intensive manufactured goods to capital-intensive or human capital-intensive manufactured goods.

To check the trade balance in each commodity classification, net export ratios are calculated. Net export ratios are defined as

$$\text{NER}_i = (X_i - M_i)/(X_i + M_i)$$

where $i = \text{SITC0, SITC1, \dots, SITC9}$.

Figure 11 gives the net export ratios. SITC0 to SITC4 were negative throughout; Japan was a net importer of primary products. SITC6 was strongly positive, although gradually decreasing from the mid-1950s to the 1970s. SITC7 climbed during the 1960s to mid-1970s, gaining international competitiveness.

4.2 Background to Japan's industrial policy

There are various views and assessments on the industrial policy in Japan.¹ It is true that the bureaucrats in most cases at least tried in earnest to promote industrialization through industrial policy. However, background logic was not necessarily consistent with standard economics. Rather than focusing on solving static and dynamic market failure, mercantilism sometimes crept in. Competition was often considered too harsh, and measures, which at times were inefficient for limiting competition, were occasionally introduced. Industrial policy thus had mixed results: occasionally it worked well while at other times, it only worsened the situation.

According to Komiya (1988: 3), industrial policy can be defined as follows:

- (1) policies that affect the allocation of resources to industry, including (a) items that affect the infrastructure of industry in general, such as the provision of industrial sites, roads and ports, industrial water supplies, and electric power, and (b) items that affect inter-industry resource allocation; or
- (2) policies that affect industrial organization, including (a) items aimed at regulating the internal organization of particular industries, such as industrial restructuring, consolidation of firms, output restrictions, and the adjustment of output and investment, and (b) items affecting cross-industry organization, such as small and medium enterprise measures.

Item (1b) is regarded as industrial policy in a narrow sense. At the same time, industrial policy is usually equivalent to policies conducted by the ministry of international trade and industry (MITI), and 'industry' refers mainly to manufacturing.

There were several reasons why industry policy worked to some extent in postwar Japan: First, Japanese firms had been accustomed to direct government control and market intervention since the war period so that they exhibited a degree of obedience; second, tight foreign currency management provided a strong leverage for MITI's initiatives at least in the 1940s and 1950s. And third, people were still concerned over hosting FDI so that the fostering of indigenous firms and entrepreneurs was taken for granted. Japan had actually been more open to multinational enterprises in the 1910s and 1920s than in the postwar period. These conditions are widely different from those

¹ See, for example, World Bank (1993), Tsuruta (1982), Komiya, Okuno, and Suzumura (1988), Komiya and Itoh (1988), and Kohama (2007).

existing today in the LDCs. We should, therefore, be careful in drawing direct lessons from the Japanese experience.

4.3 Direct financial support and taxation

One of the important measures of Japan's industrial policy was direct financial support and taxation by the government. As for the allocation of financial resources for prioritized sectors, a large amount of FILP as well as long-term JDB loans were directed to economic infrastructure, such as energy and transport sectors. Direct government support for manufacturing industries was modest, but government commitment often encouraged additional funding from private banks. Financial support by the government, together with the export facilitation by the Export-Import Bank of Japan (established in December 1950 as Japan Export Bank), seemed to effectively control total funding towards strategic prioritization.

The establishment of so-called inclined taxation system in 1951, supported by the Firm Rationalization Promotion Law in 1952, also had a substantial impact. This system provided generous corporate tax exemption arrangements in purchasing specific types of machinery and equipment, and accelerated the introduction of foreign technologies and investment on imported machinery and equipment. For a long time, due to the war Japanese firms had no access to new technology developed abroad, and it was thus extremely important to enable these firms to obtain technology transfers in order to bridge the gap. In this regard, the system worked well.

4.4 Attempts by MITI to control the industrial structure

There is no doubt that MITI officials during the peak period of industrial policy had a great interest in promoting industries, but the outcome was not always as had been envisaged. The reasons were threefold: first, the choice of policies was wrong; second, the powers of enforcement were at times too weak to ensure that private firms would follow the intention of the government, particularly in the 1960s. And third, the government ex ante often underestimated private dynamism. Indeed, successful industrialization evolved when industrial policy supported market mechanisms or when private dynamism counteracted industrial policy.

One example is the automotive industry. Downstream industries were typically dominated by market mechanisms, and government intervention in general was weak. However, the automotive industry attracted attention as a strategic industry, and the MITI made continual efforts to promote it. In 1952, MITI decided to protect the automotive industry, and in May 1955, the ministry issued a draft guideline for promoting a national car, that was to be small-sized and inexpensive, partially for the exports market, and to be produced by one company only. The guideline was not approved in total by the government, as it was regarded too difficult to implement, given the technological constraints of the time.

In the latter half of the 1950s and the 1960s, the private sector engaged in vigorous competition among multiple companies and started to produce a large selection of different types of cars. MITI's original aim had been exactly the opposite to the situation the market was headed towards. In June 1961, MITI proposed a plan to concentrate automotive production so as to limit new entries and enhance the economies

of scale among a small number of producers. Naturally, the plan did not work. Private dynamism overrode the aims of MITI, and the competition of the market provided incentives for many companies. MITI had been losing its powers of enforcement after the end of the 1950s, and private companies did not necessarily follow MITI policy.

In the case of upstream industries such as petrochemicals, iron and steel, oil refineries, and cotton weaving, MITI had a stronger grip because of its control over imported materials. Government intervention took the form of individual industry laws or administrative guidance. However, the experiment based on limiting competition, coordinating investment, and attaining collusive oligopoly had not succeeded as MITI had intended. Backed by vigorous market expansion, new private sector entrants wrecked MITI's plans of limiting competition. We can conclude that the MITI's industrial policy did not work as had been intended, particularly with respect to limiting competition, because of the unexpected level of market dynamism.

4.5 Temporary trade protection

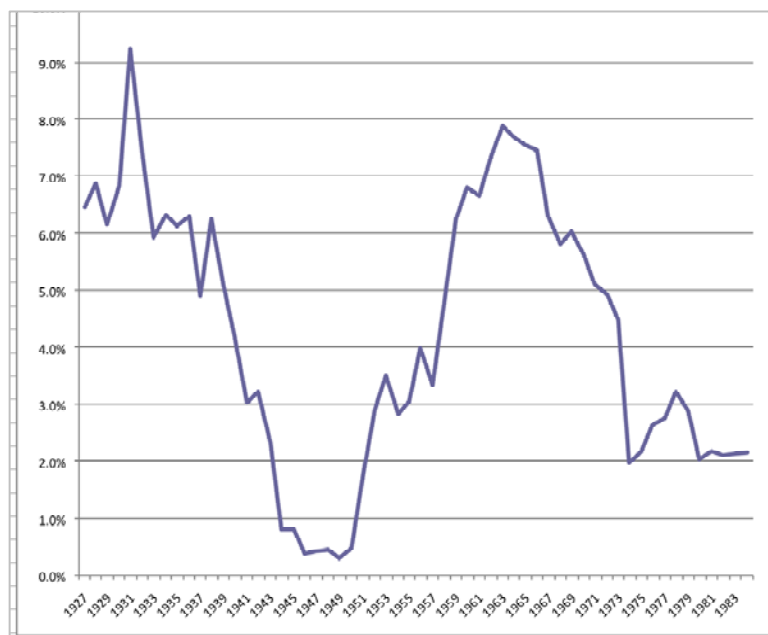
Japan's trade regime started out in a severely restrictive environment, because of the transition from the war period and binding foreign exchange constraints. Until the early 1950s, virtually all trade was under the direct control of the government, and throughout the decade, a large portion of trade was still under various non-tariff barriers (NTBs) at the discretion of the government. In June 1960, the Cabinet announced the Trade and Capital Liberalization Programme, which established a commodity-wise procedure and schedule of the tariffication of NTBs and trade liberalization. The removal of import quotas was started in 1961 and was mostly completed for manufactured goods by 1963. Japan amended its status with the International Monetary Fund with regard to Article 14, which allows a country to regulate foreign exchange due to balance-of-payments concerns, to a country classified according to Article 8, which does not allow a country to do so.

Trade liberalization was motivated by strong pressure from the US and the international community rather than considerations with respect to internal policy. In this sense, liberalization was passive, but worked as a credible policy commitment for trade liberalization. The private sector had a clear timeframe for strengthening competitiveness in the open market. International trade continued to be liberalized under the Kennedy Round negotiations (1964-67), which also worked as a credible threat that needed to be prepared for.

Figure 12 gives the ratio of annual custom duties to the value of imports in 1927-84. The big dip in the latter half of the 1940s and the 1950s is actually an indication of other types of trade barriers, and the upward trend until the mid-1960s reflects the tariffication of NTBs. From the beginning of the 1960s in particular, import substitution in specific industries was clearly the objective of the escalation of tariffs. Low tariff rates were set for primary commodities, raw materials, well-established export industries, and products that did not have much hope of gaining international competitiveness. On the other hand, high tariffs were imposed on the products of newly established industries that were striving to gain international competitiveness. It is important to note that trade protection was provided only temporarily; by 1974, the ratio dropped to 2 per cent, indicating that major trade barriers had been removed, particularly for manufactured goods.

Liberalization of inward FDI also worked as a credible trigger for the indigenous private sector and encouraged efforts for strengthening competitiveness. Japan joined the OECD in April 1964 and needed to adhere to the regulation of capital flow liberalization, as stipulated in the Code of Liberalization of Capital Movements. The first and second liberalization waves of capital movements were undertaken in July 1967 and April 1973, which concluded most of the liberalization process. Although incoming FDI did not increase much, the liberalization process worked as a clock setter.

Figure 12
The ratio of customs duties to imports, Japan, 1927-84



MCA-SB (1988, vol. 3:13, 16, 17, 20. 273).

4.6 The development of small and medium enterprises (SMEs)

After the Second World War, Japan already had a large pool of SMEs, contrary to the situation in most of the LDCs today. However, the gap between the large firms and SMEs was wide in terms of technology and managerial ability. Within the SMEs, access to financial resources as well as advanced foreign technology was also limited. The labour market was dualistic between large firms and SMEs in terms of human capital, wages, and employment conditions; SMEs did not literally observe the famous lifetime employment system.

The government continually introduced promotion policies for the SMEs in the form of multiple channels to help with financial arrangements, managerial practices and technology, cooperative organizations, modernization schemes through advice, and tax concessions. The financial support to compensate for liquidity constraints was particularly important.

The Japanese subcontracting system (*shitauke*) developed among upstream SMEs and downstream large firms as a sort of intermediate form between complete vertical integration by a single firm and spot market bidding among unrelated firms. Such inter-firm relationships worked well when technological and managerial gaps between large

firms and SMEs were neither too large nor too small, and contributed to the upgrading of SMEs in terms of technological improvement and access to foreign markets in the 1950s and 1960s.² The government implemented various policies to protect SMEs with respect to social policy as well as competition policy.³

As the competitiveness of the small and medium enterprises improved, relevant SME policies gradually evolved from a type of social policy helping the weak and poor to economic policy to eliminate market distortions. SMEs eventually became the source of international competitiveness among the Japanese industries in the 1970s, and took an important role in extending production networks to East Asia in the 1990s and thereafter.

4.7 Evaluation

Although the debate on Japan's industrial policy has not yet died down completely, some broad consensuses have been formed:

- First, while infant industry protection or import-substitution strategies may not be impossible theoretically, in most cases, they are very difficult to plan and implement properly.
- Second, industrial policy itself was not always logically consistent, and a degree of mercantilism was occasionally evident. Preventing 'excessive competition' by limiting the number of firms and encouraging collusion was neither logically consistent nor effective. Instead, such policies became obstacles to achieving international competitiveness. In the cases of successful industrialization in Japan, private dynamism overrode the government's intentions.
- Third, we are not sure whether trade protection was an essential element for fostering indigenous firms but can at least conclude that the time limits imposed on private firms in preparing for harsh global competition constituted an effective trigger.
- Lastly, Japan did not utilize incoming FDI in the postwar development period. However, introducing foreign technologies through technology purchases and importing advanced production machines were crucial steps in the process of gaining international competitiveness.

5 Relevant and irrelevant elements for the developing countries today

In our discussion of the development experience of Japan, we probably placed too great an emphasis on the country's peculiar elements. Japan was the first non-western nation to accomplish full-scaled industrialization, and researchers naturally noted that there are various aspects which differ from the western world. However, we have by now accumulated knowledge on a number of countries that have ascended the ladder of

² For the subcontracting system in Japan, see Kimura (2002).

³ The 'unfair' trade practices of large parent companies (clients) were strongly criticized by the media, and in response, the government in 1956 enacted a specific law to prevent undue delays in payments of subcontracting fees, and other improper trade practices (*Shitauke Daikin Hou*).

economic development and have noted that there is a wide range of elements common to many countries. Thus, we can de-mystify the Japanese model of economic development and single out lessons that may be applicable to LDCs today. But we also need to take into account the unique conditions faced by Japan, i.e., the experience of war and its devastating effects in the latter half of the 1940s and the first half of the 1950s. Japan's progress also evolved during the era before the current globalization phase in which vigorous cross-border corporate activities can be utilized for economic development.

We can single out three vital lessons from the Japanese experience:

- *Macroeconomic stability is essential for economic development.* In the case of Japan, the management of foreign currencies and the balance of payments was the centrepiece, and very tight control had to be implemented. Today's LDCs have more opportunities than Japan for introducing borrowing from abroad as well as gaining support from the international community. This allows considerably larger deficits in trade and current accounts. On the other hand, they sometimes face the risk of fast-moving capital, speculative attacks, and the lack of coordination between internal and external financial markets, all of which can generate difficulties.
- *Solving bottlenecks is important for economic development.* Similar to today's LDCs, Japan faced a serious shortage of human capital, economic infrastructure, and other adverse economic and social conditions with respect to economic development. Japan was not completely unprepared, as some development experience had been accumulated even prior to the Second World War. However, the level of preparation was far from adequate for a newly industrializing economy to jump to full-scaled industrialization. Compared with the devastation of the war and the strong hostility from foreign countries confronting Japan, most of the LDCs today are in a much better external environment, where it will be easier to obtain support from the international community. The current level of international higher education is also completely different than in the past. Furthermore, development of financing infrastructure can now be conducted much more efficiently due to the recent innovation of financial instruments, including public-private partnerships.
- *Effective utilization of the globalizing forces is important.* In the case of Japan, introducing foreign technologies through technology purchases and importing advanced industrial machines was crucial to successful industrialization. Opening up to free trade in a short period worked as a credible trigger for the private sector to enhance its competitiveness. The enthusiasm of the bureaucrats and politicians for industrial development was probably real, but the industrial policy, particularly with respect to limiting the number of firms and encouraging collusion, did not work. Industrialization was successful when private dynamism overrode the government's original intention.

Currently LDCs exist in much more globalized environment, and utilizing incoming FDI is the key for economic development. The East Asia model of economic development has fully utilized fragmentation and agglomeration forces (Kimura 2006), and a much faster introduction of advanced technology and managerial knowhow has been realized. The key is to introduce competition among the multinational enterprises.

How to link the operations of the multinationals with local firms/entrepreneurs is a new issue that needs to be dealt with. The importance of the exposure to advanced foreign technology is a common element in the case of Japan's development, but strategies of achieving it should be different.

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