

**IMPORT SUBSTITUTION AND EXPORT SUBSTITUTION — THE
EXPERIENCE OF JAPANESE INDUSTRIALIZATION — WHAT CAN
SRI LANKA LEARN FROM JAPANESE EXPERIENCE?**

by

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The industrialization process and the consequent changes in foreign trade relations of Japan can be seen as a continuous process of import substitution (IS) and export substitution (ES). The IS policies of industrialization often pursued by the late comers to development is well known in economic literature, though the latter term sounds little unfamiliar to many readers. As used here, the ES policies imply the substitution of current exports by new exports. In the process of ES, a country which was exporting primary commodities at the beginning becomes a light manufactured goods exporter at the second stage and a heavy manufactured goods exporter at the subsequent stage and so on. Yamazawa notes that “the start of every modern industry was preceded by an increase in imports of new products, then domestic production developed gradually and became competitive enough to replace imports in the home market. At first, the domestic product tended to be a lower substitute for imported product and the domestic producers expanded their scale at lower price. That is import substitution. The product was then exported to less developed neighbours, and later to other parts of the world. That is export expansion”¹

There is no dispute that Meiji Restoration (1868) was the beginning of rapid industrial growth of Japan, which was another less developed country (LDC) in the Far East during the nineteenth century. Kazushi Ohkawa and Hirohiso Kohama² roughly divide the one hundred year period of Japan’s industrialization into five continuous but slightly overlapping phases, viz. the phase of traditional exports (period before 1890); the phase of primary IS in non-durable consumer goods (1880—1910); the phase of primary ES by light manufactured goods (1890—1919); the phase of secondary IS in consumer durable and producer goods (1920—1960); and lastly the phase of secondary ES by heavy manufactured goods (1960—1975). The period after 1975 can be identified as the phase of high-tech industries, though this period has not been covered by Ohkawa and Kohama for the obvious reason that it has not been one of import substitution. The high technology industries which emerged particularly in the last decade have not exactly replaced imports but are necessarily replacing heavy manufactured exports of the country. Let us now closely review the different phases of industrialization.

The Phase of Traditional Primary Exports (before 1890s)

The foundation for the modern economic growth of Japan was laid during the Meiji period³. Till then Japan remained more or less a closed economy with very little dependence on the world economy. The few exports of the country consisted of raw silk, coal, copper and tea. Raw silk accounted for 30 percent of total exports while tea accounted for another 10-20 percent. The closed economy was quite self sufficient in food. Rice, vegetables and fruits were amply grown domestically. The sea around the island country was quite rich in aquatic resources. Japan was a warrior-nation in the old days and the traditional war-weapons were made at black-smiths workshops with imported iron. Thus the manufacturing of war weapons, agricultural implements and household equipment remained cottage industries. Until the end of World War II the country was little exposed to the West, and as a result, Japan was not woven into the international economy network during this period.

Meiji reforms included, among other changes, the abolition of the four-tier class system viz, the aristocrats, warriors, farmers and merchants, leaving an aristocracy and a commoner class, drawing up of prefectural boundaries focusing on a centrally planned system, universal free choice of occupation, general school system and a military conscription. The Land tax seems to have ensured the main source of government revenue needed for infra-structural investment. "The land tax served as the major instrument of transferring savings in the 19th century and was increasingly replaced by the intermediation of private voluntary savings"⁴. However, Juro Teranishi argues that "the accumulated wealth in the commercial and industrial sectors through the inflationary process after the early 19th century had been an important source of funds for industrialization during the Meiji period"⁵. The primary accumulation of capital through exports, the acquisition of high education levels by the masses and most important of all, the government endeavour towards modernization seem to have led to rapid efforts at industrialization.

The Phase of IS in non-durable consumer goods (1880—1910)

The last quarter of the 19th century has witnessed the infant stage of industrialization of Japan with enormous inducement and encouragement by the Meiji government. The initial phase of industrialization had necessarily been one of import substitution as had been in almost all countries. The initial industries such as the silk-reeling industry and the cotton textile industry have greatly benefitted by the protected market. Japan had never been an open economy and was least exposed to the western market economy compared with other Asian countries, many of which had been colonies of the western powers during this period. Japan, in fact, was a colonial power for a long period having invaded and conquered Korea and a substantial part of China in the process.

An examination of a few representative sectors of early industrialization with special attention to the transformation from traditional to modern activities and from imported to adapted technology will illustrate the import substitution nature of early industrialization. Silk reeling was an industry developed on domestic raw materials to transform raw silk into silk yarn. The government imported a machine from France with the intention of developing the silk reeling industry. The imported machine was not widely used as its cost was too high. Very soon the Japanese engineers were able to replace the costly steel parts of the machinery with wooden parts, wherever possible, and adapt the borrowed technology to suit local needs. Eventually, they developed the same machinery at home with only the engine and essential components being imported. The adapted technology thus facilitated and enhanced the use of modern technology in the industry and also paved the way for domestic production of required machinery.

Cotton textiles were imported to Japan as domestic production by cottage industries was inadequate to meet the domestic demand. In early Japan, cotton spinning was developed on indigenous technology that used cotton produced locally as raw material. The Meiji government spent huge sums of money on a variety of public sector investment projects mainly of an infrastructural nature. The rise in income of the people increased the demand for textiles and thus created an attractive domestic market. The government imported spinning machinery from England with a view to increase production to meet the domestic demand. However, the very first government ventures, in the form of two government owned spinning mills, had to be closed down, one in 1878 and the other in 1879, only after few years of operation. The water wheel was used in these mills for power generation which could not guarantee an uninterrupted energy supply throughout the year. There was also a shortage of skilled engineers in this field. On the other hand, the industry did not experience any economies of scale, as the output was low.

Minami notes that the lessons learnt from these two failures contributed to the success of the Osaka spinning company (Pvt) established in 1882. "The engineers were trained before its opening, imported cotton was used and the production was on a large scale, 10,000 spindle machines operated by a steam engine. The success of this venture led to the construction of several large scale spinning factories after 1887".⁶ The needs of the domestic market were fulfilled by the end of the century and it became necessary to look for the external market to sustain employment and income levels. The indigenous mode of production was gradually replaced by imported technology and eventually both the silk reeling industry and the cotton spinning and weaving industries completely absorbed the modern technology. It greatly helped in raising the output very rapidly. On the other hand, the country had a huge labour force employed predominantly in domestic agriculture. A sizable proportion of this labour force could be withdrawn from the farm sector to be employed in the growing industrial sector without any fall in total farm output. The

marginal productivity of labour was either zero or near zero. This surplus labour resulted in keeping the real wages low. The advantage of cheap labour combined with advanced technology increased the country's international competitiveness in cotton textiles.

Kiyokawa demarcates the time period from around 1887 to 1900 as the period of assimilation of newly introduced advanced technology in the textile industry. The number of modern factories increased from 21 to 79 between 1887 and 1900. The import substitution was completed by 1902. During this period, yarn exports too began and expanded rapidly. By 1897, exports to Korea and northern China (yen 41.2 million) surpassed total textile imports (yen 12.6 mil.) The turn of the century was a landmark point of the textile industry.⁷

Import substitution needed protection from foreign competition. Japan, however, had neither been a laissezfaire economy nor widely exposed to the west during this period. The protection of domestic industry was provided through import tariffs. During the initial period of industrialization Japan had such a protective import tariff structure. "In 1899, the first import tariff schedule set a rate of 0-5 percent on raw materials, 10 percent on semi-manufactures and more than 25 percent on luxury goods. The schedules of 1906 and 1926 set even steeper tariff structures.⁸ The nature of the tariff structure was such, that it discouraged the importation of finished products and encouraged domestic processing of imported inputs. Thus the IS industries have been well protected during the initial period.

The Phase of Primary Export Substitution (1900—1920) (light manufactured goods)

Till about 1890 Japan's total exports consisted of primary commodities. The share of primary exports declined sharply to less than 50 percent around the turn of the century. The large scale spinning factories both in silk and cotton industries and weaving factories in cotton textiles enabled the production to surpass the needs of the domestic market. The primary export of raw silk was directly substituted by silk yarn exports. Tea and other minor exports were eventually substituted by expanding cotton textile and yarn exports. Meanwhile the producers in resource based industries such as rubber, timber, and minerals commenced exporting their products. The cotton textile and yarn exports rapidly succeeded in capturing the Asian market to the complete elimination of British textiles and yarn from Asia. Thus within a short period, Japan's textile industry achieved an international superiority surpassing England. Akamatsu⁹ describes Japan's shift from imports to import substitution and then to exports in the process of substituting imports and eventually substituting current exports by new exports. In the 1870s and 1880s, Japan's imports of cotton cloth and cotton yarn increased as a result of increased domestic demand for fabrics. In 1880s, the domestic production increased to substitute imports, and by 1890, the domestic production exceeded imports. Thus Akamatsu contends that IS in cotton textiles

was complete by end of the century. As production continued to increase, the surplus was exported. By 1910, the contribution of traditional primary exports became insignificant with the expansion of yarn and cloth exports. Akamatsu points out that a similar pattern can be observed in industries of spinning and weaving machines and machine tools. First they were imported, then imports were substituted by domestic production and eventually the country became an exporter of machines and machine tools. This transformation occurred, first, in light manufactured goods and subsequently in heavy industrial goods. According to Akamatsu the approximate time period during which exports exceeded imports was 1890 in the case of cotton yarn and 1905 in the case of light machinery and machine tools. "This should be the path of development that all late comers should pursue for rapid development" he claims.

In explaining Japanese development experience Minami points out that Raymond Vernon's "Product Cycle theory" does better explain the Japanese case. The product cycle model¹⁰ developed by Vernon in 1966 states that when a new product is invented by an advanced country and introduced to the export market, the production process usually involves highly skilled labour requirement. As the product matures and acquires mass acceptance, it becomes standardized; thereafter, it can be produced by mass production technique, and unskilled labour. Therefore, the comparative advantage shifts from the advanced country promoter to the less advanced country, where labour is relatively cheaper. In most countries this process takes place through private foreign investment from the inventing country to the labour cheap developing country.

In Japan it happened through import of machinery firstly by the government and subsequently by the private sector. With the imported and subsequently adapted standardized technology, the production was possible through mass production techniques and unskilled labour. The comparative advantage in producing cotton textiles was shifted to Japan owing to low wages. The relatively low wages and rapid technological progress achieved through imitating the imported technology, helped Japanese textiles to replace English textiles in the world market. During the post-war years wages rose raising the cost of production and Japan lost the comparative advantage in light manufacturing industries. The Japanese exporters quickly invested in low-wage neighbouring countries in order to retain their export market. As a result, Hongkong, Taiwan, South Korea and Singapore became exporters of cotton textiles, while Japan became a net importer of textiles. These countries too failed to retain comparative advantage in labour intensive industries as wages rose, and gave up the market to relatively low-wage countries in South East Asia.

Cotton textiles had been the first industry in the policies of import substitution and ensuing export substitution, not only in the case of late comers like South Korea, Taiwan or even Japan but also in the case of very first nation to industrialize viz. England. The cotton textile industry was started in

England to substitute imported high quality Calicoes and Muslin fabrics after having imposed an embargo on the importation of those fabrics. When wages started rising, England lost its comparative advantage in labour intensive industries and shifted to labour saving industries such as heavy and chemical industries giving up the market for labour intensive products to the late comers. Rostow¹¹ points out that in Britain, the cotton textile industry was the original leading sector in the first take off (p. 53). "The British cotton textile industry was large in relation to the total size of the economy. From its modern beginning, but notably from the 1780s forward, a high proportion of total cotton-textile output was directed abroad, reaching 60% by the 1820s."¹²

The rapid expansion of exports and the control on the supply of raw materials from colonies, the control over sufficiently large potential markets for the final manufactured goods and also the control over technological process have immensely contributed to the success of British textile industry¹³. Throughout the 19th century British textiles were dominating the world market. However, "from 1907—35, textiles subsector in the manufacturing output recorded a 9% decline while the machines and machine tools and also the chemical sectors recorded a 4% rise. One reason for the decline in British textile production was the competition from Japanese textile industry which also had superior technology and lower wages"¹⁴.

The Phase of Secondary Import Substitution (1920—1960) (consumer-durable and producer goods)

In the phase of secondary IS, the primary ES too continued to expand at a fast pace. As a matter of fact, during the entire period before the world-war II, the textile industry sustained its growth and retained its dominant role in expanding exports. Both inward-looking policies as well as outward-looking policies prevailed during this phase. In this sense, it was a simultaneous phase because inward-looking policies had been pursued in consumer durable and producer-goods while outward-looking policies continued to be pursued in light manufactured goods industries. Thus the Japanese experience has proved that both import substitution and export expansion policies can co-exist in the process of economic development. One advantage of the simultaneous implementation of both these policies was that foreign exchange required for strengthening IS could easily be obtained. Japan was a resource-poor country and if not for these export earnings, the country would not have been able to import raw materials needed for heavy industries.

The metal industries (mainly iron and steel) and chemical industries have been the major sub-sectors of heavy industry which produced intermediate goods during the second IS phase in Japan. The replacement of imports with domestic products was first achieved in machinery and then in metals and chemicals, although the domestic production of these industries had started more or less simultaneously. The growth of heavy and chemical industries

contributed largely to the accelerated growth of manufacturing. The combined growth rate of these two sectors rose from 5 percent in 1878—1900 period to 10 percent in 1901—1938 period and their relative contribution to manufacturing growth had been 14 percent and 51 percent respectively during these two periods.¹⁵

The industrial organization and ownership of wealth during this period were of prime importance in determining the capital accumulation in the presence of rapid industrialization. The family controlled conglomerate known as the Zaibatsu was at the centre of industrial organization. Each Zaibatsu consisted of a group of enterprises dominated by a single family. The Zaibatsu family controlled a holding company that dominated several operating companies in a wide range of industries which included mining, manufacturing, commerce and banking e.g. Mitsui, Mitsubishi and Sumitomo. Yasuda was involved in banking and not in mining and manufacturing. Asano, Furukawa and Nakajima specialized only in one industry (cement, non-ferrous metals and aeroplanes respectively) and did not own banks. The Mitsui and Sumitomo were the oldest which grew up from the big merchant house of the Tokugawa period, while Mitsubishi, Yasuda, Okura, Asano and Furukawa were largely benefitted by the close association with the Meiji government. Nakajima, Nissan and a few other “new Zaibatsu” developed with the ammunition industry in the Showa period. Cartelization occurred in various industries during the Great Depression (1930s) in order to increase profits and the government sanction was received for this, in industries such as paper manufacturing, iron and steel and also in banking.

At the beginning, the setting up of capital intensive industries was not an easy task, mainly because of the technological backwardness of the country. However, the country gradually succeeded in doing so with the adaptation of imported technology. The strategy of importing machinery and improving upon them was explicitly adopted as far back as the end of the 19th century. The method of assimilating and improving upon imported technology was some form of “reverse engineering” which involved trying to manufacture a product similar to the one already available in the world market, but without direct foreign investment or transfer of blueprints for product and process design.¹⁶ The expansion of export trade gave rise to the necessity for shipping which led to ship building and steel industries. The speedy expansion of the power industry enabled the electrification of factories and rapid expansion of electrical machinery and chemical industries. The period 1919—1930 can be identified as the period of the electrical revolution whereas the previous period (1909—1919) can be considered as the period of ship building, machinery and equipment industries.

The expansion of the domestic market has enormously helped the expansion of domestic industries, in addition to the expanding export market. A few important economic reforms implemented during the occupation period (1945—1952) had a great impact in creating an effective demand in the domestic

market. Among them, land reform, labour democratization and the dissolution of the Zaibatsu system were of prime importance. The land reforms, involving a transfer of ownership to the tillers from the absentee landlords residing in cities and from big landlords, had been quite an important change. It had not only motivated farmers to cultivate land more productively had given a high income to the farmers, which in turn created an enhanced domestic market for the non-farm products. Thus, it provided a large domestic market and a stimulus to the expansion of industrial output. Several legislative enactments in the late 1940s, stipulated a framework for labour management relations. As a result, the proportion of ununionized workers increased, while money wages rose and non-pecuniary benefits increased. These too had contributed to the enhancement of the domestic market.

The Zaibatsu system was dissolved in 1946. Out of the 83 companies identified as holding companies, 21 were dissolved because they were family companies. Zaibatsu leaders including members of founding families were debarred from business. The Anti-Monopoly Law of 1947 prohibited holding companies, company ownership of stocks and bonds, directors of one company holding office in another concurrently, cartelization, and so on. The 1949 and 1953 revisions, however, greatly weakened the law; the company ownership of stocks and bonds, and concurrent office-holding in more than one company are now being allowed.

Phase of Secondary Export Substitution (1960—1975) (heavy manufactured goods)

Having successfully completed the phase of secondary IS, the country entered the phase of secondary ES. The important characteristic of this period was that domestic production of capital goods, intermediate goods and consumer durables became internationally competitive while production of non-durable consumer goods such as textiles became less competitive in the world market. The ES thus occurred with the shift of comparative advantage.

During the 1950s there was rapid growth in the Japanese economy and in the 1960s this was further accelerated. The rate of growth was not less than 10 percent per annum during this decade. High growth was mainly the result of public investment and they created expectations regarding future prospects in the minds of private sector investors. The high level of investment resulted in a capacity expansion by increasing the physical capital stock, while a favourable world trade performance contributed to high future expectations. More investments created more employment opportunities bringing an end to the labour surplus. Coupled with relative labour shortages, the expansion of capital investment resulted in changing the factor endowment ratio, implying that Japan had gained a comparative advantage in heavy industries.

Even in the 1950s, textiles were still a major export product. Machinery exports surpassed those of textiles in 1961. A decade later, in 1971, machinery exports were 50 percent of the total exports of manufactured goods,

while textiles accounted for only 11 percent. During the 1970s, the substitution continued; in 1980 the proportion of exports was 63% for machinery and 19% for metals and chemicals: together they comprised 82% of the total merchandise exports (textiles accounting for only 4%)¹⁷

The period of rapid growth had to face a series of problems towards the end of 1960s. The increasing concern of the government towards environmental problems such as air pollution and water pollution led to the introduction of regulatory policies. The heavy industries were a major source of pollution. The regulatory measures increased the cost of production of these industries. The state intervention resulted in a loss of comparative advantage determined on the relative factor endowments. The second major problem was the trade friction with the United States. As regards trade friction, Japan had to face two complications. One was the increasing overall trade surplus vis-a-vis the US and the trade frictions in certain specific goods such as textiles, iron and steel. The other was that the trade surplus resulted in a substantial appreciation of the yen in the early 1970s. Thus a rise in production costs resulted from the regulatory measures. The decline of foreign demand owing to yen appreciation and voluntary trade restrictions resulted in the decline of exports and hence the production of low-tech intensive heavy industrial goods became unattractive.

The other problem Japan had to face was the oil price hike of 1973. Japan is completely dependent on foreign supplies for her entire requirement of oil. Therefore, the country was badly-hit by the oil price hike. As Japan was experiencing a very high effective demand owing to expansionary monetary and fiscal policies, it had to face a severe inflation in 1973—74 and there was a deficit balance of payments in the current account. Thus the period of high growth came to an end, and the country had to adopt restrictive economic policies to cope with the situation. The impact of the oil crisis was badly felt by the economy because the country had developed high energy consuming heavy and chemical industries although the country was fully dependent on imported crude oil. The interim measures such as economizing on energy use, backed by the voluntary co-operation of the working class who tolerated real wage cuts did not take much time to adapt the economy to absorb the entire impact of oil crisis.

The Phase of High-technology—intensive industries (1976 onwards)

The oil crisis can be identified as a point marking another structural change of production and trade. With the price hike of crude oil, Japan lost her comparative advantage in high energy consuming low-technology-intensive heavy industries. These industries were shifted to the newly industrialised countries (NICs), particularly to the neighbouring middle income countries viz. South Korea and Taiwan. The condition of these countries in late 1970s was similar to that of Japan in late 1950s and early 1960s with reasonably low wages and enormous government backing toward rapid industrialization.

As a matter of fact, the oil crisis has only speeded up the shift to high-technology-intensive industries as the need to expand industries on this line was felt before, with the onset of environmental regulatory measures. There appeared to be a national consensus that the high-tech industries were going to be industries of the future. Its expansion was made easy owing to a number of reasons. The government played an important role in the shaping of expectation that high-tech industries are the industries for tomorrow, by encouraging the private firms to shift to high-tech industries providing them with incentives and conducting a number of programs with a view to advancing the level of technology. The active investment in research and development activities both by public and private sectors improved that technological level of the country. Lastly, the domestic and world demand for high-tech goods was on the increase. As a result of these factors Japan reached the top position in high-tech industries.

The IS and ES Phases in Sri Lanka.

In an overview of Sri Lanka's industrialization efforts and performance since political independence, one may observe that it has experienced the three primary phases of economic development which closely resemble with Japan's industrialization experience before world war I. The period prior to 1955 had been the phase of traditional primary exports in Sri Lanka, while 1956—1977 period can be identified as the phase of IS in non-durable consumer goods. Inward-looking policies pursued during this period included tariff, and quantitative controls along with import licensing and foreign exchange rationing. This phase can be divided into two broad sub-sectors viz. a fixed exchange rate regime with a highly over-valued domestic currency (1956—1967) and a dual exchange rate regime with one fixed rate and one depreciated variable exchange rate (1968—1977). The salient feature of the import substitution strategy of Sri Lanka had been the quantitative controls on imports and foreign exchange, the protection of domestic assembling industries, the existence of highly overvalued domestic currency, and the mobilization of domestic savings through austerity measures. The artificially low exchange rate and the low interest rate policies have been geared towards increased investment in import substituting industries. A foreign exchange budgeting system was practiced by the government with a view to utilizing the scarce foreign resources through a system of allocating them on a priority basis. All invisible payments were subject to control by the monetary authorities via exchange control regulations while the tangible trade was subject to licensing and quotas. Eventually, all imports came under state monopoly after a State Trading (Imports) Corporation was set up in 1964 and the distribution was done by the Co-operative Wholesale Establishment through its island-wide distribution network and consumer co-operatives.

A dual exchange rate policy was introduced in 1968 with a view to liberalizing import controls and exchange restrictions. A partial liberalization of selected imports, mainly in the category of raw materials, was implemented

removing the special licence requirement on them and allowing them to be imported under the depreciated variable exchange rate. The liberalization attempts, however, were short lived as they were suspended with the change of government in 1970. But the dual exchange rate regime continued until a single unified exchange rate was introduced as a key instrument in the policy package of 1977.

The policy package introduced in 1977 included, among other things, a) liberalization of imports combined with exchange rate depreciation and adoption of a unified floating rate; (b) an approach to the International Monetary Fund for finance for the probable increase in imports resulting from import liberalization; (c) greater use of price mechanism, instead of direct controls, for resource allocation purposes. Sri Lanka had been experiencing reasonably good export prices since mid-1976 and the country had accumulated an impressive reserve of foreign exchange in the ensuing year. The expectation, that the present trend will remain in the years to come, seems to have persuaded the policy makers to revalue the currency in March 1977 and also to implement an indiscriminate liberalization of imports towards the end of the same year.

The period 1978 onwards can be recognized as the phase of substituting primary commodity exports by light manufactured goods. The rapid expansion of garments exports, particularly in the late eighties and early nineties, has caused a remarkable change in the long established composition of export earnings, pushing tea to second place, garments and textiles coming on top in terms of gross export earnings and shifting the prime destination of exports from UK to USA. By the end of 1993, nearly three fourths of gross export earnings have come from industrial exports of which, well over 75 percent was represented by a single industry viz. garments and textiles. The new exports include petroleum products, leather products, rubber and wood products, electronic components, soft toys, batik products and also a few non-traditional primary exports such as marine products, cut flowers and precious stones, in addition to garments and textiles. In the textile and garments industry the import content is so high, the domestic value added was only around 30 percent and hence the net contribution of garments exports to country's foreign exchange earnings was not very high.

Can Sri Lanka Learn from Japanese experience?,

One may notice that there is no strict correlation between promotion of new exports in Sri Lanka and the early 20th century export substitution of Japan. The Japanese light manufactured exports were derived from the production surplus over domestic demand of the very IS industries started in the late 19th century. It was not so in Sri Lanka, where export industries were a new phenomenon which emerged after the policy changes in 1977. The import substituting industries started in the 1960s have either been closed down immediately after the trade liberalization in 1977, or they are still catering to the needs of the domestic market. In this respect, Sri Lanka's experience

resembles more with the South Korean than the Japanese experience. Korea followed an IS policy throughout the 1950s, but shifted strongly to export oriented policies at the beginning of 1960s with completely new export products. Similarly, Sri Lanka too has changed her industrialization strategy and shifted to export oriented policies since 1978.

The speed of industrialization depends on the degree of acquisition and assimilation of technology in industry. Japan too depended on imported technology as any other developing country. However, Japan adapted the imported technology to suit the local situation. Throughout the process of industrialization, Japan has embarked upon a program of importing, unpackaging and adapting technology and has been involved in a process of learning by doing. Towards the latter half of the 20th century, it was quite visible that the Japanese management and the workers were accustomed to think of the entire production system as a single unit and to work collectively in the process of learning by doing. During the IS phase, Sri Lanka received foreign technology mainly through turnkey projects received under foreign assistance and to a lesser degree through subsidiaries of multinationals, for a brief period towards the end of 1960s. Neither of these methods has produced satisfactory results in generating adequate technological development in the country. This had been a major reason for industrial backwardness of the country.

One major reason for the failure of IS strategy in Sri Lanka has been the inadequate inflow of foreign technology to the industry. Four major sources of technological transfer are the purchase of turnkey projects from engineering companies of donor countries, the inflow of private foreign investment, the licensing of foreign technology and importation of machinery from abroad or purchasing components from foreign countries for the domestic production of capital goods.¹⁸ The inflow of foreign investment has played a major role, in the recent past, in the case of Asian NICS, Latin American countries and also the rapidly industrializing ASEAN countries. Sri Lanka has received far less technology, compared to any of the above countries or even compared to a long closed economy, that is India.

The dominating objective of the government, particularly in the first half of 1960s, which was also the initial period of IS strategy, was economic freedom or economic sovereignty which has led to the nationalization of foreign investments and generated a hostile attitude towards foreign investment. Had there been sufficient technological transfer through foreign participation to the initial IS industries, those industrial products could have faced foreign competition when imports were liberalized in the late 1970s. The domestic IS industries failed to establish a strong foothold in the absence of modern product technology and were producing substandard goods. Liberalization of quantitative controls on imports resulted in immediate collapse of many such foot-loose industries and caused marketing problems for those that survived.

Another important factor behind Sri Lanka's failure in IS strategy was the small size of the domestic market. The IS strategy has been successful in Japan mainly because it had a large domestic market compared to Sri Lanka or any Asian NIC. The IS strategy has also been successful in large economies like India and Brazil. The size of the domestic market is of prime importance in achieving economies of scale which will bring down the unit cost. Given the small size of the country and its population, the domestic market is severely restricted by the level of income of the people. Since there was no rapid industrialization, the expansion of employment opportunities in the secondary sector was very low. The restrictive commercial policies impeded the expansion of the services sector which was limited to the public sector. As the public sector could not absorb the entire work-force, unemployment became widespread which, undoubtedly, resulted in restricting the expansion of the domestic market.

One more important factor which deserves attention is the choice of a development strategy. The import substitution and export production are simply two strategies of development which need not necessarily be alternatives. In the literature on development economics, however, these two strategies have often been explained as substitutes and not as complementary policies and many economists seem to think that outward-looking policies are always superior. The structural adjustment policies that have been prescribed to third world economies involve the liberalization of trade and foreign exchange restrictions, reduction of import tariffs, promotion of new exports and discouraging import substituting industrialization. In a labour-surplus economy, no doubt, there exists a comparative advantage in labour-intensive export industries. Similarly, domestic import substituting industries which utilize only domestic raw materials or very little imported raw materials resulting in a high domestic value-added, should also possess comparative advantage. If no such comparative advantage is visible that is because they are still infant industries. The infant industries should be protected with suitable tariff and incentive schemes. The present policy of reducing import tariffs should be accompanied by equivalent increase in excise duty on imports in order to protect the domestic industry. Thus the outward-looking policies supplemented by necessary protection to selected domestic IS industries may be the most appropriate strategy for many countries such as Sri Lanka.

Domestic infant industries, no doubt, need some form of protection. Excessive liberalization of import restrictions will be harmful to industries that possess the development potential. South Korea, for example, had been protecting her domestic IS industries even in the late 1970s and early 1980s although the country had shifted strongly to outward-looking policies at the beginning of 1960s. Bruton¹⁹ points out that "data from Frank, Kim and Westphal (1975) for 1970 show that out of 1312 major import items, 70 were banned completely and 524 were limited in one way or another. In 1976, 60 items were banned and 600 restricted in one way or another. Similar data

apply to the early 1980s. Korea has used quantitative restrictions to protect many of its activities, and the familiar escalation of effective rates of protection from lower to higher stages of manufacturing is evident" (p. 1622). He says that "it is difficult to believe that Korea grew, as it did, simply because it followed an outward-looking export expansion policy" (p. 1621). Neither Korea nor Taiwan did sacrifice their IS industries for the sake of outward-looking export expansion strategy. Actually, from the mid-1960s to the late 1970s, the Korean economy was managed under a dualistic policy consisting of export promotion and import substitution measures. A study by Ohno and Imaoka²⁰ reveals that both in Korea and Taiwan, the increase in domestic supply of intermediate products has been greater than the increase in exports in the manufacturing sector and also the export promotion policies and import substitution policies, often considered as mutually exclusive alternatives, in fact coexisted throughout 1960s and 1970s. The subsidization of exports, in pushing export expansion through various means can be just as much a misallocation of resources as protection and other impediments to imports. A certain line of production becomes an export commodity with an array of subsidies is no evidence of efficiency of that export item. Economists have paid very little attention to the possible distortions and costs of pushing exports, although they have thoroughly dealt with the costs of import substitution. The misallocation effects of export subsidies are similar to those of effective rates of protection. When those fiscal incentives vary among different export activities, they have the same misallocation effects as that of varying rates of effective protection. On the practical side, the excessive subsidizations involve export market problems. Many countries view such highly subsidized exports as dumping on their economies. Recently, for example, the US government imposed a countervailing duty on import of garments from Sri Lanka as they were treated as dumping on the US economy.

The policies of import substitution and export promotion should be complementary in industrialization attempts of Sri Lanka. It had been the case in South Korea where domestic IS industries were protected while export industries recorded a rapid growth rate. Unlike in Japan, the export output in Korea was derived from special industries meant for that purpose. In Sri Lanka too, the new export output comes solely from especially set up export industries mainly in the Export Processing Zones and few from outside the Zones. All these new export industries are highly subsidized as a result of deliberate attempts of the government to promote new exports. Those domestic industries which have been capable of surviving till present day despite the tough competition in the presence of liberalized imports should, in fact, possess the comparative advantage in one way or other. Those industries should be safeguarded with suitable protective measures. The pursuit of export promotion strategy should not mean a complete abandonment of import substitution strategy of industrialization.

NOTES :

01. For further details see Yamazawa I. and Tambunlertchai S. : *Manufactured Exports and Developing Countries: the Thai Textile Industry and Japanese Experience*, ch. 16 in Ohkawa K. and Ranis G. ed. *Japan and the Developing Countries*, Basil Blackwell, 1985 p. 369.
02. These two academics had a lecture series at the International Development Centre of Japan for Economic Development Training Courses. This lecture series has been printed as lectures on *Developing Economies Japan's Experience and Its Relevance*, University of Tokyo Press 1989.
03. Meiji period was 1868—1912. It was preceded by Tokugawa period (1603—1868) and succeeded by Taisho period (1912—1926) and Showa period (1926—1989) respectively. The period since 1989 is known as Heisei period.
04. Land Tax had been the primary instrument of transferring resources from agriculture to industry while this source had been subsequently replaced by private voluntary savings. See Ohkawa K. and Ranis G. *Op. cit.* (note 1).
05. Some writers argue that the domestic inflation created through raising profit margins in commercial and industrial sectors had been an important source of funds for the growing industrial sector. See Juro Teranishi : *The Sectoral Flow of Funds in Pre-war Japan A Reconsideration*, in S. Chakravarthi ed. *Manpower Transfers : Balance Between Industry and Agriculture in Economic Development*, vol. 3, 1989 pp. 151-2.
06. For details read Minami R. : *The Economic Development of Japan — A Quantitative Study*, MacMillan Press, 1986.
07. Growth of domestic industrial output came through the absorption of modern technology by domestic industries. This point is clearly illustrated in Kiyokawa Y. : *Technology Gaps and Assimilating of Borrowed Technology : Focusing on the experience of textile industry*, Chapter 11 in Ohkawa K. and Minami R. ed. *Economic Development of Modern Japan*, Tokyo, 1975.
08. The tariff protection provided to the domestic industries was explained in Minami R. *op. cit.* page 252.
09. Akamatsu explains the process of shifting from imports to import substitution and then to exports as a wild-goose flying pattern in the sense that they all come one after the other. Read Akamatsu K. : "Historical Pattern of Economic Growth in Developing Countries" *The Developing Economies* No. 1, 1962.
10. The concept of product cycle was first introduced by Raymond Vernon in "International Investment and International Trade in Product cycle" *Quarterly Journal of Economics*, vol. 80, 1966 pp. 190—207.
11. Rostow identifies cotton textile as the core industry during the period of Britain's take-off to a sustained growth. See Rostow W.W. : *The Stages of Economic Growth*, Cambridge, 1955.
12. *Ibid.* p. 54.

13. See Sideri S. : "The Industrial Development Deadlock in Latin America", *Change and Development*, vol. 1 no 2., 1972.
14. See Minami R. : op. cit. p. 135.
15. Minami R. : op. cit. p. 135.
16. Freeman explains how Japan imitated the new products available in the world market without direct foreign investment. See Freeman C. : *Technology Policy and Economic Performance — Lessons from Japan*, Pinter Publishers, 1987.
17. Ohkawa K. and Kohama H. : op. cit. p. 119.
18. See Lall S. : "Exports of Technology by Newly Industrialising Countries, An Overview", *World Development*, 12, 1984, pp. 471-480.
19. See Bruton H. : Import Substitution Chapter 30 in Chennery H. and Srinivasan T. N. ed. *Handbook of Development Economics*, vol. II, North Holland, 1989.
20. See Ohno K. and Imaoka H. : *The Experience of Dual-Industrial Growth; Korea and Taiwan, The Developing Economies*, xxv-4.

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