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**Arnab Roy**

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**Centre for Studies in International Relations and Development (CSIRD)**

167-B, S. P. Mukherjee Road, Kolkata 700026, India  
Phone: (9133) 24630884, 22483769, Fax: (9133) 22483769  
Email: csirdindia@yahoo.co.in, Website: [www.csird.org.in](http://www.csird.org.in)

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# **Industrial Development Measures: What India Can Learn from Japan**

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## **Abstract**

If there is one thing that makes Japan stand out in the eyes of the rest of the world, it is its amazing postwar recovery and astounding economic growth. The main cause of its economic success is attributed to the industrial policy measures it undertook during the catch-up phase. India was in a similar position to Japan in 1950, having just been granted independence. Like Japan, it set out on the path to industrialization. However three decades later India had fallen behind and was still far off from economic prosperity. What then had made Japan succeed and India achieves only modest gains? What could India learn from Japan? This paper attempts to answer these questions. The industrial policies of Japan from the fifties to the seventies are overviewed. The policy measures responsible for Japan's industrial success are then isolated. India's industrial policy measures during this period and beyond are analyzed. The lessons India can learn from Japan are listed out. The paper concludes with pointers for the way forward for India.

## **1. Introduction**

Let us go back half a century, say to the year 1951. The two major countries at that time, in Asia, were Japan and India. Japan was a defeated power in the Second World War. It was still under the control of the occupying American Supreme Commander of Allied Powers (SCAP). It had begun its postwar reconstruction from the devastating damage. India on the other hand had gained independence from British Rule four years back. It was recovering from the damage caused by religious riots and exchange of populations, which accompanied partition. Two centuries of imperialism by the British had left the country economically weak. India had just started its programme of economic development.

We look at some key economic indicators (Table 1). In 1951 Japan was in a slightly more advanced stage of industrial development. Its GDP was lesser than India at the official exchange rate; its per capita GDP was about two and a half times that of India. After 50 years, the gap had significantly widened. Japan's GDP was then about nine times that of India, whereas its per capita income was 77 times that of India. Adjusted for Purchasing Power Parity the per capita income was still more than 9 times that of India's.

India was still a largely agricultural country with the primary sector accounting for 55.4 per cent of GDP while the secondary sector contributed a mere 11.4 per cent. Japan was industrially more advanced with 33 per cent of GDP being contributed by the secondary sector whereas the share of the primary sector was only 25.1 per cent. Japan held 2.4 per cent share of the world exports whereas India's share was 1.38 per cent. Therefore we see that Japan was a more economically developed nation in 1951 than India. However the difference in the state of development was not overwhelmingly large.

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\* Project Director, Change Management Unit, Kolkata Urban Services for the Poor, Municipal Affairs Department, Government of West Bengal. Contact address - Flat No. C-3, 32 Ballygunge Circular Road, Kolkata 700019, Tel.: 91-33-24861461 (Residence), 91-33-23342660 (Office), Email: ar\_oy@hotmail.com

Both countries set out on a path to economic development through industrialization. Both the countries followed a strong industrial policy with the Government actively intervening in the market. Though the objectives were the same, the path chosen by the respective Governments were different and the results were divergent. Japan was able to make a quick recovery and achieved outstanding economic success. It joined the ranks of the developed nations and its GDP became the second largest in the world (after the USA). India on the other hand made very modest gains. Its economy performed much below potential and the country remained very much a third world nation.

**Table 1: India Japan Comparison: Economy**

	India 1951	India 2001	Japan 1951	Japan 2001
Population (million)	359	1032	84.76	127
GDP (in US\$ billion)	20.06	477.3	12.09	4100
GDP per capita (in US\$)	55.86	460	142.65	35610
GDP-PPP per capita (in US\$)	N.A.	2820	N.A.	25550
Savings rate (%age GDP)	14.0 in 1955	24.7 in 1998	24.2 in 1955	28.7 in 1998
%age of world exports (mer)	1.38	0.7	2.4	6.6
Sectoral comp. GDP (Pry-Secn. - Ter)	55.4-11.4-33.2	25.1-26.5- 48.4	25.1-33.0- 41.9	1.4-31.8 - 66.8

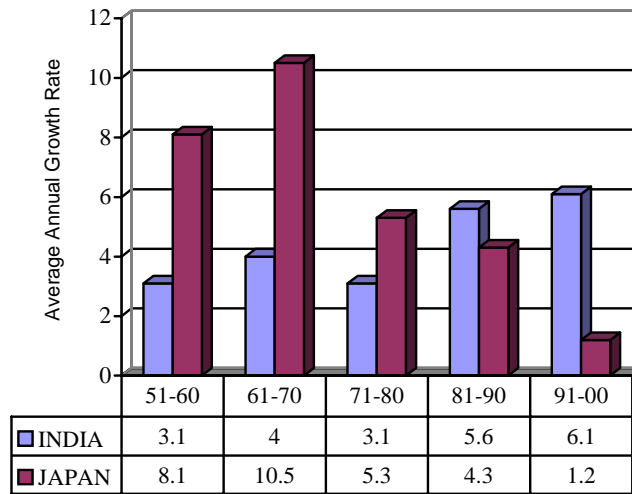
Sources: World Bank, Reserve Bank of India, Economic Stabilizing Board, Japan

The great gulf in the economic key indicators can be attributed to the phenomenal growth rates of Japan in the fifties and sixties. Whereas India grew by 3 per cent and 4 per cent annually in the fifties and sixties respectively, Japan increased the size of its economy by more than 8 per cent annually in the 50s and 10 per cent in the 60s (Figure 1). Even in the 70s the Japanese economy grew by over 5 per cent whereas India could manage an average of 3 per cent growth. It was only since the 80s that Indian growth rate picked up and sustained more than 5 per cent growth whereas the Japanese economy began the slump that saw it grow by just 1.2 per cent in the 90s. From the comparison it is evident that Japan got its catch up policies right up to the 70s when it became a matured and developed economy. India on the other hand must have pursued policies that hampered growth during its first three decades since independence.

The main cause of the Japanese economic success is held to be the industrial policy measures it undertook during its catch up period. On the other hand much of the blame for India's modest economic development is attributed to the strong interventions undertaken by the government in industry, which restricted free competition. In this study we take a look at the industrial policy measures undertaken by India and Japan. The key questions addressed in the study are: 'How did Japan industrialize so successfully between 1945 - 1970?' and 'Why did India which took up a policy of Industrialization fail in its economic development?'

In Section 2 we overview the industrial policies undertaken by Japan primarily in its catch up phase. In Section 3 we attempt to isolate the policy measures responsible for Japanese industrial success. In Section 4 we overview the industrial policy measures of India. An analysis of the policies is attempted in Section 5. Section 6 deals with what India can learn from Japan in its present stage of development. We conclude with pointers for the way forward for India.

**Figure 1: GDP Growth Comparison**



Source: Same as Table 1

## 2. Japan's Industrial Policy Measures

In this chapter we have a brief overview of the main policies and strategies to aid industries undertaken at various times during 1945 to the 1980s and beyond by the Japanese Government. An analysis of measures, which led to success, shall be taken up in the next section.

The period from 1945-1960 can be viewed as the Reconstruction phase for Japan whereas the Rapid Growth may be said to have taken place from 1960-1973 (Komiya, Okuna, Suzumura 1988a). Chalmers Johnson (Johnson 1982a) on the other hand characterizes the entire postwar period up to the mid seventies as a period of the MITI high growth system.

### 2.1. Reconstruction period

Strong government and weak enterprises characterized the Reconstruction phase. The basic production units of the economy were private firms as no nationalization of industries was carried out. After imposition of Dodge Line<sup>1</sup> in 1949 direct controls were removed and government intervention shifted to indirect means. The dissolution of the *Zaibatsu*<sup>2</sup> caused

<sup>1</sup> Dodge Line: Joseph Dodge was financial adviser to General MacArthur's American Occupation Command of Japan. He was entrusted with the reform of Japanese banking and government finance systems. The U.S. needed to rebuild the Japanese economy to support its offensive operations in Asia. It assigned Joseph Dodge to design and implement an economic austerity program to accomplish this task. The so-called Dodge Plan aimed to strengthen the monopolies, smash the unions and thereby cheapen domestic labor for industry focused on exporting commodities for Southeast Asia. With Japanese capitalism restored to its old ways, Dodge hoped to use it "as a springboard for America, and a country supplying material goods required for American aid to the Far East." Stating that Japan and the U.S. could no longer afford a "Santa Claus economy," Dodge implemented his structural adjustment plan that cut government spending to ribbons and precipitated an economic depression. His policies came to be known as Dodge line policies.

<sup>2</sup> Zaibatsu: the great family-controlled banking and industrial combines of Japan. They gained a position in the Japanese economy with no exact parallel elsewhere. Although the Mitsui were powerful bankers under the shogunate, most of the other zaibatsu developed after the Meiji restoration (1868), when, by subsidies and a favorable tax policy, the new government granted them a privileged position in the economic development of Japan. Later they helped finance strategic semiofficial enterprises in

inter-firm competition to increase. The government business advisory councils (*shingikai*<sup>3</sup>) took root during this period. The goal of government policy was to improve the national welfare and this led to government intervention to protect and promote industries so as to face foreign competition. International trade was chosen over autarky as it was realized that economic advancement of Japan would be impossible without exports. According to Komiya (Komiya 1990a), the influence of Soviet Gosplan<sup>4</sup> model seems to have been carried over into this period.

Kosai {in Komiya et al (eds) 1988b} further subdivides the Reconstruction period into three distinct phases. Recovery from decline in output and resumption of production was the primary goal from 1945-50. Specific focus of policy was resumption of production in industries where recovery was thought to be especially difficult such as coal and steel. The “priority production” system was introduced and the industries included were coal, steel, ammonium sulfate and electric power. The tools used were direct controls in materials rationing, price controls including price maintenance subsidies, Reconstruction Finance Corporation Loans and some miscellaneous measures. Johnson (Johnson 1982b) finds that there can be no question that priority production achieved results.

Rationalization of industry became the central goal from 1950-55. Solution of problems of high prices in coal and steel, which were affecting competitiveness of exports, became urgent. The government introduced various industrial rationalization measures like The First Steel Rationalization Plan, the Coal Mining Rationalization Plan, the Five-Year Electric Power Development Plan, and Planned Shipbuilding. Rationalization was backed up by special tax measures, the provision of government finance (Japan Import-Export and Development Bank loans), interest rates subsidies for shipping, allocation of foreign exchange and regulation of technology imports. During this period new industries such as synthetic fibres were encouraged. Use of recession cartels began after 1953.

Promotion of new and growth industries was the dominant theme from 1955-60 which marked the beginning of rapid growth. Exports and heavy industries were promoted. Modernization of steel and other industries started. Mass production system in cars and consumer goods started. Industrial Policy sought to build industrial infrastructure through provision of sites, water supplies and transportation. Expansion of infrastructure became crucial, as new industries needed sites accessible to ocean transport or near consumer markets. There was encouragement of new industries such as machinery parts and petrochemicals. Intra-industry adjustment was sought through orderly investment and other policies. Protection and rationalization of declining industries was also attempted. Tax incentives and government financing remained the main tools of industrial policy. Adjustments within a given industry were attempted through administrative guidance. Okuno and Suzumura {in Komiya et al (eds) 1988c} contend that a great number of bureaucrat-dominated policies were adopted in this period.

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Japan and abroad, particularly in Taiwan and Korea. In the early 1930s the military clique tried to break the economic power of the zaibatsu but failed. In 1937 the four leading zaibatsu controlled directly one third of all bank deposits, one third of all foreign trade, one half of Japan's shipbuilding and maritime shipping, and most of the heavy industries. They maintained close relations with the major political parties. After Japan's surrender (1945) in World War II, the breakup of the zaibatsu was announced as a major aim of the Allied occupation, but in the 1950s and 1960s groups based on the old zaibatsu reemerged as keiretsu. The decision on the part of these groups in the post-World War II era to pool their resources greatly influenced Japan's subsequent rise as a global business power.

<sup>3</sup> Shingikai were policy advisory committees set up by the Japanese Government. They were comprised of leading industrialists and business house representatives in the concerned area along with Government representatives

<sup>4</sup> Gosplan: the State Planning Committee in erstwhile U.S.S.R. (Gosudarstvennyi planovyi komitet - *Gosplan*) was primarily responsible for creating and monitoring five-year plans and annual plans under party guidance.

## 2.2. The MITI High Growth System

Chalmers Johnson (Johnson 1982c) traces the evolution and growth of the industrial policy of the Ministry of International Trade and Industry (MITI) from the early 50s onwards. According to him the elements of MITI's high growth system initiated in the fifties were as follows.

- Government's selection of industries for nurturing
- Perfection of measures to commercialize the products of these chosen industries
- Development of means for regulating the cutthroat competition that the first two sets of policies generated.

Tools:

- Control over all foreign exchange and imports of technology – gave power to choose industries for development
- Ability to dispense preferential financing
- Tax breaks
- Protection from foreign competition- gave power to lower the costs of the chosen industries
- Authority to order the creation of cartels and bank-based industrial conglomerates – gave power to supervise competition.

The actual measures initiated were as follows.

Korean War, Dodge line and need for capital led to the two-tiered structure of government-guaranteed "city bank" over loaning and newly created government-owned "banks of last resort"(Japan Development Bank).

As a consequence of Bank of Japan's monetary expansion, the most distinctive characteristic of the Japanese industrial system that emerged was the pattern of dependencies in which a group of enterprises borrows from a bank well beyond the individual companies' capacity to repay, or often beyond their net worth, and the bank in turn over borrows from the Bank of Japan (Johnson 1982d). Since the central bank is the ultimate guarantor of the system, it gains complete and detailed control over the policies and lending decisions of its dependent "private" banks. Dependence on equity was only slight – 10 per cent in 1963.

Guidelines were supplied by MITI's Enterprises Bureau to the central bank on the amounts of capital various industries would need for a given period, and above all on the industries that other branches of the government were protecting and promoting. The Bank of Japan or city banks almost never ventured from MITI guidelines.

It became less expensive for an enterprise to borrow the funds it needed from a bank than to try to raise money through issuing new shares. Capital market did not begin to rival bank lending as a source of capital until the 1970s.

Since stockholders did not pressurize companies they could ignore short-term profitability and concentrate on foreign market penetration, quality control and long term product development.

Fostering of bank *keiretsu*<sup>5</sup> (conglomerate groups) evolved where each enterprise tried to develop a close working relationship with a particular bank to ensure access to capital. The banks in turn became dependent upon the financial health of their heavily indebted priority industries and took responsibility for them.

Fiscal Investment and Loan Plan (FILP) from post office savings became the most important source of industrial loans- direct supply of capital from government to banks mostly to designated strategic industries- electric power, coal, ships, steel etc in 50s.

Enterprises Bureau emerged as the center of planning and policy-making in 1949. It introduced “Policy Concerning Industrial Rationalization”. This contained seeds of the Japan Development Bank, the Foreign Capital Law of 1950, the attacks on the Antimonopoly Law<sup>6</sup>, the reform of the tax system to favor industrial growth, and the creation in 1949 of the Industrial Rationalization Council. Two years later the cabinet passed the Enterprises Rationalization Promotion Law. 58 separate industrial policy statutes were enacted between 1952 and 1965 under MITI’s sponsorship. Chief policy making organization was the Industrial Rationalization Council. 45 committees and 81 subcommittees covered every industry. The council made significant policies in the reform of management, the institutionalization of the lifetime employment system, and the raising of the productivity of the Japanese industrial worker. The Council’s Labour Subcommittee produced standards for the wage system and promotion system, for the organization of work sites and measures to avoid strikes, and for employee training programmes which were subsequently recommended to all Japanese firms.

Foreign Exchange and Foreign Trade Control law 1949 gave the government power to concentrate all foreign exchange earned from exports. MITI suppressed imports of finished goods but sought imports of modern technology and machinery. The Foreign Capital Law established a Foreign Investment Committee and stipulated that foreign investors wanting to license technology, acquire stock, share patents or enter into any kind of contract that provided them with assets in Japan had first to be licensed by the Committee. By this, import of foreign technology was restricted to only cases deemed necessary for the development of Japanese industries.

Enterprises Rationalization Promotion Law was promulgated in 1952. It provided direct government subsidies for the experimental installation and trial operations of new machines and equipment, plus rapid amortization and exemption from local taxes of all investments in research and development. Secondly, it authorized certain industries (to be designated by the cabinet) to depreciate the costs of installing modern equipment by 50 per cent during the first year. Third, it committed the central and local governments to building ports, highways, railroads, electric power grids, gas mains, and industrial parks at public expense and made them available to approved industries.

MITI and Ministry of Construction made extensive efforts to not only build up infrastructure for industries but to rationalize it as completely as possible. Ports were built, factories were situated next to dockside and intermediate producers were located next to final manufacturers. Successes: Keiyo industrial belt and petrochemical complex in Chiba prefecture.

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<sup>5</sup> Keiretsu: After the breakup of the Zaibatsu by the American Occupation Command, the feature of large conglomerate groups reemerged as the keiretsu. The keiretsu often had relations with a single bank, which financed all their businesses.

<sup>6</sup> One of the first reforms attempted by the American Occupation Command was introduction of the Antimonopoly law, primarily to curb the power of the Zaibatsu. The Japanese Government however made consistent provisions to get around the law because they aimed for ‘workable’ competition rather than ‘excess’ competition.

In 1952 was introduced the Special Measures Law for the Stabilization of Designated Medium and Smaller Enterprises and the Exports Transactions Law, both of which authorized MITI to create cartels among small businesses as exceptions to the Anti-Monopoly law. In 1953, the Anti-Monopoly Law was amended to permit so-called depression and rationalization cartels. In 1955 MITI amended the Exports Transactions Law to make the cartels compulsory for all small exporters and to strengthen the general trading companies.

The strategy in 1955 was to enhance exports by lowering costs. This was to be achieved by enlarging production to effect economies of scale. MITI's strategy gradually shifted to promote both exports and domestic sales.

From 1955 to 1960, the Economic Planning Agency, the principal think tank, formulated three plans mainly for export growth. These were Five-year plan for economic independence in 1955 (56-60), New long-term economic plan in 1957(58-62) and National income-doubling plan in 1960(61-70). The planned and realized growth rates in the three plans were: 5 per cent-9.1 per cent, 6.5 per cent-10.1 per cent, and 7.2 per cent -10.4 per cent.

Another Institution, the Japan External Trade Organization (JETRO) was set up to gather detailed information on what manufacturers should be producing for various foreign markets. It also gathered information on tariff rates and specifications for products as well as assisted in publicizing and marketing new Japanese products.

From 1950s tax breaks replaced subsidies as the main means by which the government pursued its industrial policy.

Taxation Special Measures Law with annual revisions gave concessions to industries based on specific results like exclusion of 80 per cent of a firm's income earned from exports from tax. Tax measures also led to consumer revolution with consumers buying targeted products.

### **2.3. The Rapid Growth Period**

The 1960s were the period of high growth in the Japanese Economy. Hugh Patrick (Patrick 1986a) states that Japanese industrial policy as an ideal type came into its own in the high growth era. This period saw gradual trade liberalization and capital liberalization. The former saw government lose its power to allocate imports whereas the latter resulted in loss of power to approve technology imports, joint ventures with foreign firms and new plant construction. According to Tsuruta {in Komiya et al (eds) 1988d}, Industrial policy sought an industrial system that could survive liberalization i.e. by strengthening international competitiveness.

Trade liberalization in specific industries like automobiles and computer were delayed till it was certain that the industries could compete with foreign countries. The government also resorted to some tariff measures to protect industries. Government tried to build a new industrial order by trying to broaden the power of government to intervene in industry, rethinking the appropriate competitive order and increasing the scale of firms through industrial restructuring. A Special Industries Law designed to give the bureaucracy powers to intervene in private decision-making (*Kanmin system*<sup>7</sup>) could not be passed. The government attempted industrial reorganization by encouraging large-scale mergers. Where there were many suppliers the government tried to coordinate the division of products among firms, foster a system of specialized producers, and develop cooperation in production.

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<sup>7</sup> Kanmin system: This was a much debated attempt by the Government to intervene in private decision making of individual firms so as to bring about restructuring suitable to the Government's policies. This law could not be passed due to opposition. However this influenced the policies of the Government to a large extent during the sixties.

In 1963 the Small and Medium Enterprises Modernization Law aimed at bringing about appropriate scale and coordinated production.

The goal of government policy was to bring about a concentration of production and formation of an industrial structure of specialized manufacturers. This was done with the aim of improving international competitiveness in advance to opening up the economy. Government sought to concentrate industry through mergers and tie ups among firms. Foreign Direct Investment was regulated and discouraged. The National Income Doubling Plan was the official statement of rapid growth policies, but government projections were below the actual growth rate. Masao Baba {in Komiya et al (eds) 1988e} concludes that in comparison to the extremely aggressive policies prior to the mid-1960s, direct government intervention in markets decreased substantially in this period.

#### **2.4. 1970s and After**

According to Uekusa {in Komiya et al (eds) 1988f} in the 1970s Japanese Government had to respond to the following.

- Problems generated by growth particularly damage to the environment;
- Short-term adjustment due to oil crisis; and
- Responding to structural changes in the economy brought about by oil crisis and shift to the floating exchange regime. This included need to deal with declining industry domestically, to handle trade friction internationally and to develop high technology industry including alternative energy sources.

During high growth period, positive activist policies were taken. After the oil crisis, negative and passive policies became more central. In place of hard measures such as subsidies, low interest finance and tax benefits, government changed to soft option where firms were induced to change chiefly through provision of information on long-term trends in industrial structure and the international economy.

In 1970 the Industrial Structure Council brought out MITI Policy in the 1970s generally known as Vision for the 1970s. The Vision set out a shift from pursuit of growth to policies to take advantage of growth. These policies sought to improve the labour environment, build up social capital, create a healthy environment, strengthen education, increase investment in research and development and increase foreign aid. Secondly it sought to curb excess policy intervention and prohibit measures, which excessively protect industry. Market mechanism was to be relied upon for the purposes of resource allocation and industrial policy was to be limited to dealing with market failure e.g. pollution, supply of social capital and public services, promotion of infant industries and helping declining industries to adjust. Finally, there was the suggestion that industrial structure would shift from being centered on capital-intensive heavy industries to being built around knowledge-intensive machining and assembly industries. Industrial policy was to be redirected to build up knowledge intensive industrial structure.

Some more Industry Policy Visions were issued in the 1970s notably the 1975 Long Term Vision of the Industrial Structure and in 1980 MITI Policy Vision for the 1980s. The latter called for developing an industrial structure with high technology at its core.

Several environment protection measures were passed in the 1970s. The Anti Monopoly Law was revised and strengthened in 1977. There was a Law on Measures to Promote Industrial Relocation and measures were taken to help small business. There were measures for declining industries such as the 1978 Law on Temporary Measures for Stabilization of Specified Depressed Industries. There was strengthening of promotion measures for the

integrated circuit, computer and aircraft industries through the enactment of 1978 Law on Temporary Measures for the Promotion of Specified Machinery and Information Industries. Energy policy became crucial after Oil shocks.

The policy tools in the 70s shifted to encouragement of technological development in areas of high technology. For this purpose subsidies were given, favorable tax status was granted and access to government financing was given. An adverse judgment in Fair Trade Commission in 1980 regarding formation of petroleum cartel curbed the practice of government guidance in formation of cartels.

Unlike in the rapid growth age, targeted industry policies were applied to very limited number of industries. In contrast industrial adjustment policies and horizontal policies (environmental, international relations, and energy and natural resource policies) played the largest role. This change of policy was ad hoc response to successive domestic and international incidents. Focus changed to subsidizing research and development.

## **2.5. Present Policies**

Japan reached the end of the catch-up phase at the beginning of the 1980s. It found itself at the leading edge of many technological sectors. It could no longer follow proven technology paths. Japan's traditional industrial targeting strategies had to be abandoned, as it was no longer clear what to target. According to Hugh Patrick (Patrick 1986b) at this time the Japanese companies that were dependent on the MITI for protection against US competition in the 1970s became capable and confident of their own competitive strength. They began to resist MITI's policy intrusions. The U.S. Government in the face of wide trade deficit with Japan pressured the Japan government to stop the aggressive promotion and protection of Japanese industries in the 1980s.

In the light of these developments, Japan's industrial policies became greatly toned down and quite different in style and content from the earlier era. From the late seventies to throughout the eighties Japan began to promote high technology and Research and Development. Several high technology consortia with participation of companies were initiated. The Government spending on R&D increased several times. In the 1980s focus of R&D efforts shifted from applied research to basic research. During this time several companies withdrew substantial funding from the technology consortia since they were spending large sums on in house R&D and basic research were not giving sufficient pay offs to them. The success of the VLSI consortia in the 70s and 80s could not be replicated by other consortia such as Supercomputer, Fifth generation computers and TRON (Callon 1995a). Superconductivity, Biotechnology and Nanotechnology are some of the areas where the government is at present providing grants for joint research programs.

Apart from emphasis on promotion of Research and Development, industrial policy in the 1980s and 1990s became restricted to industrial adjustment assistance, response to "trade friction" and deregulation. Industrial adjustment measures granted temporary relief for adjustment to industries that were suffering the impacts of sudden changes in demand and supply. It encouraged the transfer of resources from depressed industries to more promising ones. Responses to trade friction took the form of voluntary export restrictions and the Structural Impediments Initiative imposed by the U.S.A. Deregulation was a continuing effort to minimize government intervention in the light of trust in the market mechanism.

A major part of industrial policy in the 80s and 90s became the provision of information. MITI provided various statistics concerning trade and industry, analysis of current situation of trade and industry and presented outlook and raised issues concerning trade and industry. Various White Papers analyzing issues related to trade and industry and key policy themes began to be published every year. Along with these, outlooks on trade and industry began to

be presented as “Visions” on Industrial Development. Every two or three years the Economic Planning Agency began to come out with the “National Economic Plan” which are basically intended to show projections reflecting expectations for the economy over the medium term (5 to 10 years).

The aim of provision of such information, analysis and government outlook is to steer industries in a certain direction or stimulate certain type of economic activity. However the visions contain no binding power. Nevertheless the visions constitute the most important policy tool for implementing METI<sup>8</sup> industrial plans at present. The projections, forecast and policy contained in the visions are generally accepted by the industry (especially since they do not have any other information apart from their own business) who then base their investment decisions on the government provided information. “The Basic Design of Industrial Society in the 21<sup>st</sup> Century” published in 1986 set two concrete goals – international coordination of Japan’s industrial structure and integration of creative knowledge. It presented the Governments ideal image of the future industrial society and hoped that decisions of firms would be based on the outlook.

In 2000 the Industrial Structure Council brought out “Challenges and Prospects for Economic and Industrial Policy in the 21<sup>st</sup> Century” which set out the objectives of future industrial policy. It envisages industrial policy to perform a coordinating function, developing various basic conditions necessary to promote a major encounter between supply and demand. The competitiveness of the economic system is sought to be constantly strengthened through technological innovation. The present industrial policy aims to build up an open and interconnected innovation system. Resources are to be channeled into strategic areas and competitive research funding is to be raised to U.S. levels (0.3 percent of GDP).

The 2003 Economic and Industrial Policy of METI aims at creating internationally competitive companies and promoting start-ups and new business directions. To counter the hollowing out of Japanese manufacturing industries the new industrial policy aims to realize industries that will create higher added value. To aid financing, the government aims to push for development and dissemination of finance instruments focused on the value generated by business and constructing direct finance markets of sufficient quality and volume. METI proposes incentives (including tax breaks) and facilitation measures for Industrial Revitalization through reorganization, IT-based corporate innovation, 1000 University-Launched Ventures Plans, Small Business Innovation Research and stimulation of service industry.

### **3. Policy Measures Leading Towards Rapid Economic Development**

Having surveyed the various policy measures undertaken by Japan in the post war period we now try to isolate the measures that led to rapid industrial growth. What are the policies which made it easier for firms to invest, how did the industrial base develop, what made the task of finding capital easy, what made firms acquire state-of-the-art technology to face up to international competition and what policies led to sufficient economies of scale that made pricing attractive both for exports and domestic consumption? Let us analyze some of the major themes in Industrial policy.

#### **3.1. Infant Industry Protection**

After the war and till the age of liberalization starting from the late sixties, Japan chose to heavily protect its industries. Many countries adopted import substitution policies during the time of export pessimism after the recession of the thirties and the Second World War.

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<sup>8</sup> METI: The erstwhile Ministry of International Trade and Industry was reorganized and renamed as Ministry of Economy, Trade and Industry.

However most of the countries failed miserably in economic development while Japan was a glorious success.

How did this happen? The answer lies in the fact that Japan combined infant industry protection with export promotion. Coupled with this was the fact that the domestic market was sufficiently large for a number of firms to exist. Thus there was vigorous domestic competition, which prevented inefficiency from becoming a reality. So gradually the industries grew sufficiently to develop economies of scale, which made them internationally competitive. Japan began to liberalize protection, once the industries became competitive in the majority of cases. However in some industries protection was retained and this led to inefficiencies.

**Table 2: Effective Rate of Protection (in percentage) in Japan by Industry**

Industry	1963	1968	1973	1975	1978
Textiles	54.3	28.2	18.6	38.6	38.3
Wood pdts	14.0	25.6	16.1	22.2	18.1
Paper	9.7	18.0	11.0	17.3	9.4
Printing	- 16.7	1.0	-0.9	-8.3	-0.6
Leather & rubber pdts	30.9	21.8	12.3	16.9	14.1
Chemicals	33.4	17.7	8.8	15.4	11.6
Petroleum & coal pdts.	19.5	14.5	7.1	12.6	19.2
Ceramics & stone pdts	22.2	15.7	8.1	11.6	8.4
Iron & steel	30.1	30.0	17.1	52.3	19.5
Nonferrous metals	30.4	34.1	22.1	30.3	20.8
Metal pdts	13.8	19.9	9.9	10.3	6.5
General Machinery	23.0	14.5	8.7	8.7	6.2
Electrical machinery	30.9	16.5	5.4	10.2	7.4
Transport equipment	61.5	31.0	9.2	7.1	2.8
Precision instruments	34.9	22.9	10.4	8.6	6.2

Source: Industrial Policy of Japan ed. by Komiya et al quoting Shouda (1982)

Whatever be the case there is no denying that high tariff barriers enabled domestic industries to grow and achieve the scale economies that made them internationally competitive (Table 2 shows the Effective Rate of protection by Industry from 1963 to 1978). For example, initially the cost of steel produced in Japan was above international prices. However after years of protection, the steel industry achieved scale economies and developed innovations (like switching earlier to electric arc furnaces), which made Japan a major exporter of steel. Similarly, we see that in 1953 there was a brief period when barriers to automobile industry were lowered. Foreign cars swamped the Japanese market, being of superior technology and lower price. MITI then clamped down on imports. After several years Japanese automakers came up with several innovations and Japanese cars broke through in the American market. If initially there were no protections it would be doubtful whether Japanese automakers would have survived.

Competitiveness expert Michael Porter (Porter 1998a) justifies this kind of policy, “In the early Japanese success, such as steel, shipbuilding and sewing machines, this sort of government role was constructive. Competitive advantage depended on having modern, large-scale facilities. Government’s levers at this stage were powerful ones...”

Therefore we see that infant industry protection played a very important role in Japanese industrial success.

### **3.2. Development of Infrastructure**

Immediately after the war Japan tried to resume production and utilize existing capacity. In this initial period, development of infrastructure received less attention. The government took up development of infrastructure in earnest from 1957. Setting up of a network of roads and railways, the development of ports, the securing of land and water resources became the subject of a number of medium-term improvement programs. According to Ogura and Yoshino {in Komiya et al (eds.) 1988g}, the Income Doubling Plan in 1960, foreseeing the problem of social overhead bottlenecks for rapid growth, aimed at rapid development with the result that investments in industrial infrastructure (roads, ports, railways, waste treatment facilities, water for industrial use) rose from 1 per cent of GNP in 1956 to 3.5 per cent in 1964.

In the late forties and early fifties industries were situated near coalmines which was the principal energy source. When the energy revolution occurred, based on shift to oil, new industries required sites accessible to ocean transport. Furthermore, new industries also preferred being located near consumer markets rather than near coalfields. In this environment, industrial policy sought to build up industrial infrastructure through provision of sites in accordance with locational needs, water supplies and transportation.

The Enterprises Rationalization Promotion Law of 1952 committed the central and local governments to building ports, highways, railroads, electric power grids, gas mains, and industrial parks at public expense and made them available to approved industries. The government recognized that since Japan's industries had to import most of their raw materials and to export their products, factories and port facilities should be completely integrated (Johnson 1982e). Harbours were dredged, factories were built at dockside and intermediate processors were located next to final manufacturers.

This massive effort by the Government to build up infrastructure, provide land to industries at low cost or sometimes free of cost and rationalize location according to needs of the industry lowered production costs to a considerable extent. The industries in the approved areas did not have to incur any significant costs and spend crucial time in locating to a suitable area. They could concentrate on improving production without worrying about extraneous needs. For example, in case of four petrochemical companies in 1955, the Government sold them cheap land at erstwhile military fuel facilities that were advantageously located. All attempts were made to nurture the designated industries by giving them infrastructural advantages. The lowering of transaction and production costs, as well as promoting external economies and knowledge spillovers by clustering, had a significant contribution in enhancing the competitiveness of Japanese industries.

### **3.3. Increase in Capital Investment**

The importance of factor input for the growth of the economy was given top priority by the Japanese government throughout the second half of the 20<sup>th</sup> century. The government tried to channel increasing funds for industrial investment from right after the Second World War. After the war savings rate was low. The government injected funds into the economy through Reconstruction Finance Loans. Dodge Line policies in 1949 ended the Reconstruction Finance Loans in order to check inflation. The government in the 1950s began to provide government finance through Japan Development Bank and Japan Export-Import Bank loans. Special tax measures and interest rate subsidies were given to induce investment in strategic industries.

Capital markets in the 50s were imperfect. In this situation it was government lending and the tax system that resulted in free flow of cheap funds into new and growth industries [Kosai {in

Komiya et al (eds) 1988g}). During the period of rapid economic growth, the government raised investment incentives for industries such as iron and steel, automobiles, and shipbuilding through specially designed depreciation schemes. The depreciation schemes succeeded in raising the profits of designated industries and a high proportion of these gains went to investment expenditure.

The Fiscal Investment and Loan Program (FILP) was one of the most important tools in the hand of the government to directly bring about rapid increase in investment in its chosen industries. FILP used surplus funds from postal savings and social security funds. A large portion of these funds was used to provide capital for private sector investments through public financial institutions like Japan Development Bank, Export-Import Bank, Small Business Finance Corporation and Housing Loan Corporation. The share of FILP in capital market funds rose from 20% in 1955-1964 to 30% in 1965-1974 and to 40% since 1975 [Ogura and Yoshino {in Komiya et al (eds) 1988h})].

So we see that since 1945 the government was able to inject sufficient investible funds into industries it considered desirable. The government also made the cost of capital cheap which enhanced the profitability of firms. Johnson (Johnson 1982f) feels that the influence of Government financial institutions was as much indicative as monetary.

Therefore, what are evident are the constant efforts by the government to make available sufficient cheap credit for industrial development. Stiglitz (Stiglitz 1996a) feels that this mild financial repression had a positive effect on economic growth. A massive savings rate made available sufficient funds that were channeled into capital investment and infrastructure development. As Michael Porter (Porter 1998b) says, when a country is in the period of catch-up, the source of the country's competitive advantage is investment driven growth and this is where Japan's industrial policy succeeded.

### **3.4. Export Push**

After the end of the Second World War, Japan chose trade dependence over autarkic development as its path to growth. The winning argument (Nakayama and Arisawa, 1952) was that with excess population and highly limited natural resources, it was appropriate for Japan to follow an industrialization strategy oriented toward the export of goods processed from imported materials in seeking to increase the population's standard of living. Thus the government followed a conscious and consistent policy of export push from the beginning. Throughout the years the government initiated and followed several export promotion strategies and strove to make Japanese goods internationally competitive.

The Dodge line policies in the beginning imposed a unified exchange rate (1\$=360 Yen), which opened the way for renewed participation of Japanese industry in international trade. In the 1960s exports expanded rapidly (consistently above 15% annually) and brought about a huge current account surplus. The export goods shifted from processed food, textiles and non-metallic mineral products to chemicals, steel and machinery (Chart 2). This vindicated the government's earlier policies of promoting basic and heavy industries. In the 1970s when growth of steel, chemicals and machinery slowed due to reaching limits of economies of scale and increasing energy cost, the government promoted knowledge intensive industries which were assembly type machinery industries like electric and electronic equipment, precision instruments, general machinery and transport industries. These industries provided the next generation of export success to Japan. There were of course certain industries like aviation and petrochemicals that were protected and promoted but failed to become successful.

In 1961 the Government introduced an Export-Based Special Depreciation scheme to encourage exports. A firm with rising exports could claim a special depreciation equal to the product of the increase in its export/sales ratio and the amount of normal depreciation. This

system continued up to 1972 when in face of huge surplus in Japan's trade balance and severe international criticism, the government decided to abandon it.

The Japanese government established the Export-Import Bank of Japan in 1950 to supply long-term funds to exporting industries for financing plant exports. The Bank of Japan gave short term export financing. The EIBJ loans had low interest and deferred payment clauses, which greatly aided the export effort.

In the late 1960s the Japanese government promoted the export of Japanese heavy electrical equipment, which lacked international competitiveness by linking economic cooperation loans to less developed countries to purchase of these equipment [Ogura and Yoshino {in Komiya et al (eds) 1988i}]. The trend has since continued with Overseas Development Assistance bringing about export orders for Japanese firms.

The government evolved a system of priority financing of exports, an export promoting tax system, and an export insurance system that comprised the policy kit for promoting exports.

On the effectiveness of export aid Richard Katz (Katz 1998) remarks, "Not every industry in Japan that received aid went on to become a competitive exporter, but most industries that did become export superstars received critical protection and promotion during their initial stages."

Besides these policy measures, the Japan External Trade Organization (JETRO), established in 1954, contributed to export promotion measures by disseminating information necessary for the development of foreign markets. The government also conducted a concerted effort both to improve the quality of the products and to establish brand reputations for Japanese firms, so that they would have private incentives to maintain their reputation (Stiglitz 1996b).

Therefore we see that the Japanese government has constantly endeavored to promote exports vindicating the belief of Bhagwati (Bhagwati 1988a) that such intervention can be of great value in making export promotion work successfully. This was a major factor in rapid growth and increasing the welfare of the population. The policy of export push from the beginning led to rapid solving of most of Japan's economic problems starting from foreign currency reserves.

### **3.5. Promoting Economies of Scale**

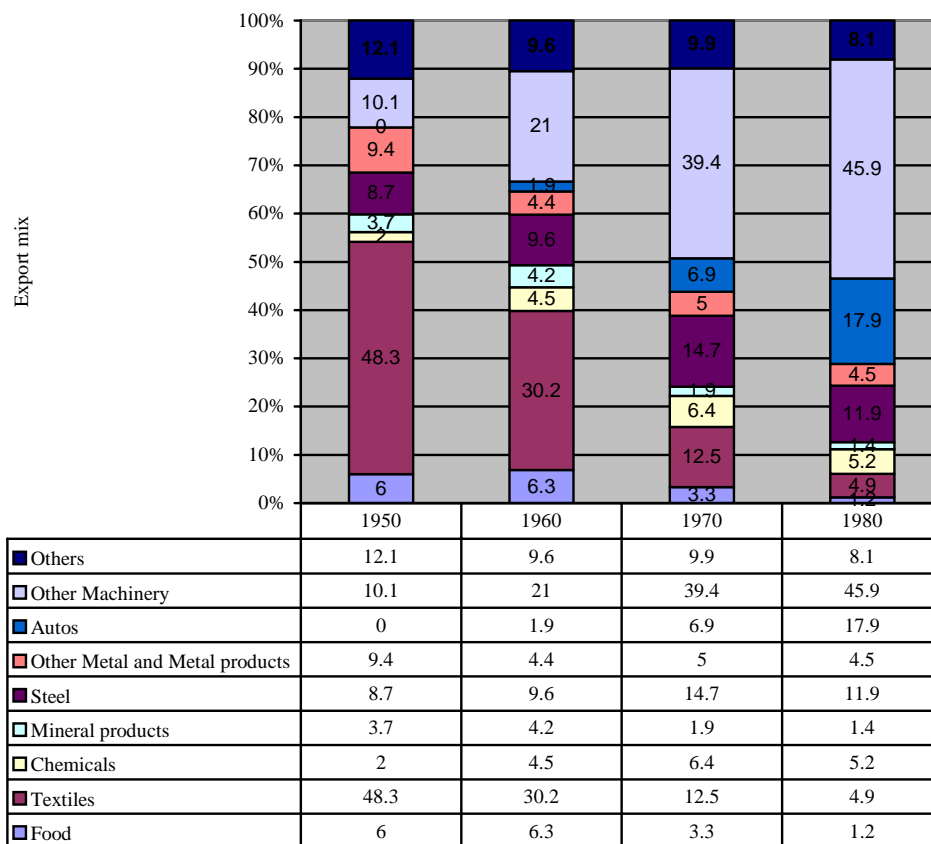
The Japanese Government has since the end of the Second World War been actively pursuing policies to achieve economies of scale in industries, to the point of obsession. To achieve scale economies, an industry has to incur tremendous set up costs during which period (the period of learning by doing) it has to be protected from competition. During the 1950s and 1960s, the Japanese government, with its heavy-handed protection of domestic industry through trade policy, played an important role in assisting the establishment of a number of industries [Itoh et al {in Komiya et al (eds) 1988j}]. The government started various rationalization plans in the 1950s. They were aimed at bringing about decreasing costs in industries and thereby promoting economies of scale. Government assistance served to minimize the financial, market and technological risks of investment by industry to modernize and build up capacity.

During the High Growth phase the government sought "appropriate scale" of activity by trying to bring about concentration (merger or formal tie ups) of firms and the development of firm-level product specialization. The Japanese bureaucracy never internalized the Antimonopoly Law imposed by the American Occupation Command. Throughout two decades the government actively pursued a policy of "workable" competition rather than "excess" competition and a few big firms instead of many small firms. For judging the

appropriate scale the Japanese government set the yardstick on comparable firms in the United States or Europe [Tsuruta {in Komiya et al (eds) 1988k}]. Infant industries were nurtured through protectionist trade barriers, mergers and tie-ups were encouraged to concentrate production, modernization and technology import were promoted and the firms were given every incentive to become internationally competitive. MITI made every effort to see that firm scale expanded to reach the minimum output scale in the shortest possible time and begin producing higher output levels of any given output.

While there are debates on whether such strong policies for achieving economies of scale was desirable or effective and whether the policies produced oligarchic trends which resulted in inefficiencies, there is no denying the fact that these policies had a great impact in making Japanese industries internationally competitive. The consistent pursuit of economies of scale in targeted industries is perhaps a major reason for the high rate of trade surplus and consequently growth in the economy. Indeed Denison and Chung (Denison and Chung 1976a) estimates economies of scale to have contributed 1.94 per cent out of the 8.8 per cent growth achieved during 1953-1971. However economists such as Stiglitz (Stiglitz 1996c) feel that government policies are inappropriate as natural economic forces lead to the rationalization of industries without government intervention.

Figure 2: Japan's Export Items



Data source: Nihon Kanzei Kyokai quoted in Industrial policy of Japan edited by Komiya et al

### **3.6. Building up the Industrial Base**

After the anti inflationary Dodge policies cut off funds for “priority production” system, the Supreme Command for Allied Powers (SCAP) were quite content to push exports like textiles which earned foreign exchange rather than provide funds for coal and electric power development. The Japanese bureaucrats however saw an energy crisis looming (Johnson 1982g). After withdrawal of SCAP the Japanese first concentrated on building up the basic industrial structure mainly through development of heavy and chemical industries.

Through successive periods MITI’s policies were geared towards protection and promotion of industries considered vital to building up the economic base of the country. These included iron and steel, machinery, electric equipment, ocean transport, shipbuilding, air transport, petrochemicals, nuclear power, aircraft manufacturing, computers, integrated circuits, and the like. There is a point of view that the government supported only those industries that it or the Japanese public wanted [Komiya {in Komiya et al (eds) 19881}]. While this may be partially true and development of these industries may have had the aim of enhancing national prestige, it cannot be denied that the heavy and chemical industries provided a solid base over which other industries could flourish and at the same time made Japan industrially self reliant. MITI’s two criteria (see 6.1) for promoting industries ensured that industries were chosen which would flourish in the future. Japan constantly shifted its export menu from labour intensive industries to capital intensive and finally knowledge intensive industries (Figure 2). According to Richard Katz (Katz 1998b) had Japan not rapidly shifted its export composition, the income- doubling plan might have been stillborn.

Thus we see that the Japanese government has adopted consistent and coherent policies for development of basic industries it considered vital for economic well being and self-reliance. For this purpose resources were concentrated in the key industries, which were sequentially changed in terms of world demand pattern. Economist Hisao Kanamori (Kanamori 1982) remarked in 1968 that this enabled Japan to avoid ‘immiserizing’ growth, which would have led to deteriorating terms of trade. Whatever ones viewpoint, it has to be conceded that such targeting of important growth industries established the foundation on which Japan’s economic success was based.

### **3.7. Modernization and Technological Development**

The Japanese government took up modernization of industry, closing the technological gap and technological advancement seriously after WWII. Denison and Chung’s (Denison and Chung 1976b) famous study estimated that advances in knowledge accounted for as much as 1.97 per cent out of 8.8 per cent growth achieved during 1953-1971. It is estimated that Total Factor Productivity accounted for 57 per cent% and 53 per cent of growth in the 1950s and 1960s.

The various rationalization plans and efforts had an important objective in modernizing the industry. The chosen industries were given permits to import technology through licenses and plant and machinery (special depreciation was given). They were encouraged to improve productivity and quality and to follow the best modern management techniques. Exemptions were given for “modernization facilities” from property taxes. Efforts continued through the 60s to pursue modernization of industries. MITI also placed enormous emphasis on upgrading the country’s overall capabilities in process know-how (Okimoto 1989b).

Meanwhile, in promoting technological development, the government supported R & D in the form of subsidies, preferential measures and low interest funds. The government set up national and public research institutions as well as mining and manufacturing technology research associations. In 1966 the government introduced research contracts on large-scale

industrial technology R&D where private sector was delegated R&D in developing new technology and products in selected advanced technology fields. In 1981 the government initiated research contracts on 12 themes of next generation industrial basic technology. The Mining and Manufacturing Technology Research Association Law (1961) involved collective research by firms in specific areas. Workers and funds were pooled into Mining and Manufacturing Technology research Associations. Preferential tax concessions and special depreciation for funds contributed to this effort were given to firms who participated. Finally the government introduced the Commendation system. Merit awards and medals were given to deserving research workers and firms.

Technological progress played an important role in the rapid growth and structural change of the Japanese economy. Krugman (Krugman, 1994) sums this up nicely when he says that Japan, unlike the East Asian “tigers,” seems to have grown both through high rates of input growth and through high rates of efficiency growth. The government played a supportive role that promoted the kind of technological progress effective in bringing about rapid economic growth. Industrial policies aimed at ensuring that Japan would gain as much as possible from imported technology. According to Katz (Katz 1998c) MITI forced foreign companies to license their technology to Japanese companies rather than selling their products directly themselves. The consistent use of policy goals in modernization and technological progress contributed a lot to Japan’s economic success.

### **3.8. Fostering and Regulating competition**

Did Japan’s economic and industrial policy measures bring about competition in the economy?

Japan made two choices after World War II, which made fostering competition inevitable for the growth of the economy. One was in choosing trade over autarky. Japan would have to depend on exports, which meant that its goods had to be internationally competitive. Secondly, Japan chose not to rely on state enterprises and made the private sector responsible for production of goods i.e. it sought an economy based on free competition. This meant that the easy opportunities after the World War were open to private firms. It was inevitable that there would be vigorous competition among them.

Lively competition became an important source of vitality for the Japanese economy. The Occupation policy that led to dissolution of the zaibatsu and institution of Anti-monopoly Law laid the foundation for inter firm competition [Kosai {in Komiya et al (eds) 1988m}]. Though much of the later industrial policy sought concentration by regulation of “excess competition”, inter firm competition did not decline. Indeed the presence of a few equally endowed firms made for quite harsh competition. The government gradually opened up the economy in the 60s and this brought about greater competition and an era of fewer controls. The government opened up access to international markets right at the beginning and provided every opportunity for introduction of foreign technology. This gave a further boost to inter firm competition as the firms faced a frontier of opportunities providing rapid growth. The government adopted a protectionist trade policy up to the early seventies, but free enterprise flourished within the framework [Tsuruta in {Komiya et al (eds) 1988n}]. The macroeconomic policies generated demand in the economy and this aided competition among firms to take risks and provide quality goods and services at reasonable prices.

Though the general policies of the government fostered competition, MITI also sought to regulate competition by trying to limit what it called “excess competition”. By rationalization laws, plans and administrative guidance the government sought to limit the number of firms in each industry and also sought to specialize the firm’s output. Mergers and reorganization were encouraged. Anti-recession cartels were allowed by the law. Were these measures harmful for the economy or did it have beneficial effects? There is no conclusive evidence on

either side. However these policies can be viewed as having led to economies of scale that made industries internationally competitive. On the other hand government despite its efforts could not limit competition in industry like automobiles, and later on, the governments' attempts were shown to be unnecessary. Ueno (Ueno 1980) defines when they were beneficial and when they stopped being so.

“Industrial Policy gave rise to the formation of an oligopolistic system in these heavy and chemical industries. However, initially, economies of scale brought about price reduction. This called forth competition in investment... Therefore, during this period, workable competition prevailed. The oligopolistic system was growth oriented and competitive. In this sense, industrial policy had more merits than demerits until about 1965...

“However as growth slows down, the tendency of collusion becomes stronger and the oligopolistic system becomes stagnant and collusive. 1967 seems to have marked the end to the effectiveness of industrial policy...”

The Japan government did have strong interventionist policies up to the 1970s. However its efforts were always to retain sufficient competitiveness so that Japanese goods could remain internationally competitive. The government was conscious of gradual opening up of the economy to expose industries to competition. Maintaining a competitive order was never disputed. The phenomenal growth rate vindicates the government's role in fostering competition.

Deferring to economists we have to concede in conclusion that these measures would not have succeeded unless they made sound economic sense. Japanese brand of industrial policy during the catch up era was not market defying. High growth is explained by the fact that the policies must have aided the normal market evolution. Indeed the prevailing viewpoint is that the measures simply accelerated the efficient outcomes, which would have been achieved if the market had been left to itself. What the policy measures did was to address market failures, remove information asymmetries and reduce transaction costs.

Here we may ask if everything about Japanese policy was good and led to growth. The answer is certainly no. There are a large number of undesirable outcomes as a result of some policy measures which have manifested themselves after the 1970s, most notably the emergence of the dual economy comprising of some inefficient protected domestic industries and some very efficient export industries. Furthermore Government sanctioned export and anti-recession cartels have been misused to produce oligopolistic collusions. Excessive intervention in firm level decisions was another undesirable part of industrial policy.

Such strong interventionist measures could have succeeded only during the period of catch-up. Once the Japanese economy had matured these types of policies were no longer relevant and would only produce distortions. Some of the policies may have been carried out too long by the Japanese government, which had an adverse impact on the economy. For example preferential loans and other concessions to steel and shipbuilding in the seventies and eighties only produced inefficiencies. As per Yasusuke Murakami (Murakami 1996), “If Japan fails to end industrial policy, its postwar developmentalism may be judged a failure.”

However, there is no doubt that quite a lot of the speedy success of Japanese industries during its catch up period can be attributed to the policy measures which sought to nurture the industries and create an environment for them to grow quickly. With Government so intimately involved in industry, “Japan Incorporated” does not sound so inappropriate a description for that period. The Government may have performed the role of a “helping hand” to Adam Smith's “invisible hand” which would explain Japan's miraculous growth.

## **4. India's Post Independence Industrial Policy**

We now take a look at India and the Industrial Policy pursued by it since gaining Independence in 1947. If Japan's industrial development and economic growth is a glittering success, India's achievements have failed to reach great heights. We shall take up analysis of the modest economic growth in the next Chapter. In this Chapter we survey the Industrial policy measures undertaken by India in the last five and a half decades.

### **4.1. Policy Choices**

After its independence from British rule, India made policy choices, which shaped its industrial development upto 1991 when it was forced by a macroeconomic crisis to reverse its policy directions.

The choice made by India was an import substitution policy, which emphasized self-reliance and gave no importance to exports. An autarkic approach was chosen over international trade.

Secondly, India sought to rely on the public sector or state owned enterprises for the production of goods. The private sector was largely distrusted. Foreign Direct Investment was discouraged.

Heavy Industry was emphasized and numerous public sector enterprises were created to build up the industrial base of India.

The price mechanism was not allowed to function as the government sought to control every aspect of industry. Competition was not promoted.

Licensing was all pervasive. A license was needed to start or expand substantially any industrial activity giving employment to more than fifty workers. The regime became known as the "Permit Raj".

Labour Laws became highly protective. Even in the private sector it was illegal to sack anyone without permission.

The system created was a "high- cost inflexible capital intensive industrial structure with a preponderance of very large factories in the public sector" (Joshi and Little 1996a).

India went in for a centrally planned economy over a market driven economy. The development path was charted through five-year plans. The public sector was envisaged to occupy the "commanding heights" of the economy and produce capital goods. The private sector was restricted to production of consumer goods. The private sector remained insulated from foreign competition by high tariff barriers. Economic rationality was usually less important than ideological considerations of social justice in the policy framework.

Indian Industrial Policy can thus be now divided into two sharply contrasting periods. The first was from 1947 to 1991 and can be called the Import Substitution period or period of Control. The second from 1991 onwards can be called as the period of Liberalization or period of Industrial Revival.

## **4.2. The Import Substitution Period**

The policies adopted by India during this period were as follows.

- Planning to play a critical role in mobilizing savings, allocating scarce resources and coordinating balanced development.
- Public ownership and control of critical sectors were felt necessary. The public sector was to take initiative in the early phase, as the private sector was not felt to be capable of mobilizing required resources and unable to take the needed risks.
- The scarce resources of savings and foreign exchange were to be allocated through import licensing and domestic production permits.
- Economic development was to mean industrialization through self-reliance and was to be based on science and technology.
- Primary emphasis was to be on heavy and basic capital goods industries.
- Medium scale, small-scale and cottage industries were to be promoted and protected in order to generate employment and lower capital needs.
- Foreign capital was to be obtained mainly as loan capital. Borrowing was to be done by the government and distributed to domestic entrepreneurs through financial institutions.
- Direct foreign investment was to be permitted only if it did not involve political influence or interference by foreign vested interests. Foreign ownership or control over key sectors had to be prohibited.

### **4.2.1 Industrial Policy Resolution 1948**

This was the document that sought to define India's post independence industrial policy. The Resolution emphasized a mixed economy. Full state ownership was to be imposed on railways, ordnance and atomic energy. In six other sectors – coal, iron and steel, aircraft manufacture, shipbuilding, telecommunications and minerals – the government reserved the exclusive right to start new ventures while existing private sector enterprises in these sectors would not be nationalized. The Policy resolution laid down that any proposal for foreign capital and management would have to be approved by the Central Government. The Resolution divided Industry into three groups. The first were the industries exclusively for Government as stated above which would be the “commanding height” industries. The second would be the in-between category open to both public and private initiative for e.g. machine tools, Ferro alloys and fertilizers. The third including most consumer goods industries were left to the private sector. All was to be subject to licensing of production and investment.

### **4.2.2. Other Policy Statements**

The Industries (Development and Control) Act 1951 codified the regulatory regime to control industry and capital. The Act set up provision for licensing of all existing industrial units, or of any new ones or substantial expansions in most sectors.

The Industrial Policy Resolutions of 1956 and the Industrial Policy Statements of 1973, 1977 and 1980 did not signal any significant change of direction except for the last one, which stated the need for promoting competition in the domestic market, technological up gradation and modernization.

Thus in this period the public sector became dominant in the areas reserved for it. Production in these firms became extremely inefficient. Only the petroleum sector made consistent profits. The public sector absorbed a lot of resources and gave little back. For instance in 1986-87 it absorbed 50% of investment while producing 27% of GDP. A large number of central as well as State public sector undertakings became loss making. The rationale behind the public sector based industrial policy was that depressing consumption would release extra

savings for future investment and by switching resources to production of capital goods, the share of investment goods would be increased while the share of consumption goods in GNP would decrease (B.R. Tomlinson 1998a). The public sector would establish a socialistic pattern of society where the principal means of production are under social ownership and control.

The policies during this period reflected, “export pessimism”. Table 3 shows the declining export performance of India as percent share in GDP and World exports. The relatively high price of Indian goods and discrimination against exports in exchange rate and domestic interest rate policies compounded the position. This also led to strict import control and foreign exchange restrictions as a result of weak balance of payments position. The planning and control regime was paramount as the Indian government pursued self-reliance. Balance of payments problems gradually eased attitudes to foreign investments. A large number of collaborations between Indian and foreign firms took place in the late 50s and 60s. Foreign technology began to be imported but was restricted to consumer goods.

**Table 3: Export performance, India 1950-90**

Year	Percentage share in GDP (%)	Share in World exports (%)
1950	6.5	1.90
1955	5.9	1.35
1965	3.1	0.89
1970	3.6	0.65
1975	5.1	0.50
1980	4.9	0.43
1985	4.2	0.47
1990	6.1	0.53

Source: Economic Survey, 1995-96, Government of India

Foreign aid, deficit financing and indirect taxation sustained import substitution policy. Though total industrial output increased by 7.4 per cent between 1951 and 1965, the GDP had an average growth of 3 per cent due to poor agricultural output. However employment in industry grew only at about 3 per cent and reached a plateau of 11 per cent in the early 60s.

During this period India did succeed in creating a diversified industrial base. However most of the industries were not industrially competitive and produced substandard goods at high prices using considerable physical and financial resources. India pursued a policy of self-reliance that permitted only selective imports of technology and in which import content was reduced in a planned way. However many of the industries seemed to need to import technology again. The public sector was developed in order to reach the “commanding heights” of the economy and to generate investible surplus. Instead it absorbed large amounts of resources without commensurate returns and crippled the economy with infrastructural bottlenecks and inefficiency. Another problem exacerbating the situation was “sick companies” which meant bankrupt private companies that were not allowed to close down but were nationalized in the interests of the workers.

The period also saw widespread rent seeking behavior among politicians, government officials and protected businessmen.

### **4.3. The Liberalization Period**

A macroeconomic crisis where foreign resources fell to just enough for two weeks of imports and inflation rose to 13 per cent forced the government to initiate rapid reforms. The period from 1991 onwards saw a sharp change India’s economic and industrial policies, which are seemingly succeeding in lifting India out of the slow-track growth. The Statement of

Industrial Policy in 1991 signaled the change for Indian industry. The following policy changes were initiated.

- Licensing requirement was removed for all but eight environmentally sensitive industries.
- List of industries reserved for public sector was reduced from 17 to 6. These have now been further reduced to two. Private sector participation was even allowed on industries in the reserved list.
- Technology imports were made freer. Ceiling on royalties were reduced.
- Indian rupee was devalued by 35 per cent in 1991 and periodic devaluation was continued for some time.
- Tariffs were significantly reduced which trend has also continued.
- Import, except for consumer goods, was freed from permits.
- Rupee was made convertible on current account.
- Rules governing foreign investment were relaxed. Foreign investment upto 51 per cent was permitted in thirty-four primary industries and even 100 per cent was permitted in certain infrastructure sectors such as power.
- Indian firms were permitted to commercially borrow funds abroad and sell equity abroad.
- Foreign investment in Indian equity was permitted and encouraged by tax concessions.

Disinvestments in public sector enterprises was contemplated but postponed. It begun only in 2000.

The slew of reforms since 1991 unleashed private initiative from the stifling constraints of the permit-quota raj. Deregulation and liberalization led to a remarkable transformation of the Indian economy over a short period. Exports grew at twenty percent a year. The economy grew in excess of 6 per cent throughout the nineties.

The economy in the last decade was freed significantly from the plethora of controls, procedures, permits and bureaucratic restrictions. Competition, at last, was infused in the economy – both domestic and global. Trade liberalization boosted exports, improved the quality of products and increased competition from foreign goods, which pressured Indian industries to become more competitive. Tariff barriers, though considerably reduced, remained relatively high for a number of products. There was a substantial flow of foreign funds since 1991. However, foreign direct investment has not reached its potential due, as Bouton and Oldenburg {Bouton and Oldenburg (eds) 2000a} says, to the requirement of procedural and bureaucratic clearances which have not been fully streamlined.

The drag on the economy by the public sector firms continues. Political and Labour Union opposition has slowed down the disinvestments process. It was only in 2002 that some progress was made with the selling of three Public sector undertakings.

The focus of Indian industrial policy in this period thus changed from import substitution to export orientation. The development of the software industry boosted the efforts. Domestically the focus shifted on freeing up private initiative and fostering competition. The Government for the first time sought Foreign Direct Investment.

In spite of the changes in policy, implementation lagged behind as the Government slowed down whenever opposition to reforms became severe. However the regime of liberalization continues albeit at varying pace.

## 5. Reasons for India's Modest Economic Development

The reasons for India's modest economic development are not hard to find. An analysis of the policy measures, which prevented rapid growth, is attempted below.

### 5.1. Import Substitution

Though the debate among economists continues and the final word has not yet been pronounced, it is now well recognized that import substitution policies with limited exports and insufficient domestic competition leads to inefficient resource allocation, rent-seeking activities, unproductive foreign investment and may lead to less competition and innovation (Bhagwati 1988c). In India these ills were observed. Whenever a product was domestically available or was thought to be capable of being manufactured in the country, imports were not permitted. A particular technology could be imported only once.

This policy resulted in drop of imports but no reduction in the domestic cost of production [Parikh {in Bouton and Oldenburg (eds) 2000b}]. The high-cost domestic industry was protected against foreign imports. Heavy industries required large sums of investment with high capital-to-output ratios, long gestation lags and large imports of capital goods. Costs increased and cascaded into all industries using these inputs. To stimulate investment capital was subsidized resulting in more capital-intensive techniques than desirable. The economy provided tremendous scope for rent-seeking activities to industrialists, traders, bureaucrats and politicians. It became much more profitable to seek these rents rather than increase the efficiency of domestic production. Vested interests were created in virtually all industrial sectors from downstream final goods to upstream capital goods. The domestic industry became inefficient. The balance of payments position suffered as a result of little exports.

**Table 4: Share of Public Sector in Industry (%)**

<i>Industry/ Sector</i>	1960/61	1970/71	1980/81	1990/91
Mining	19	31	91	100
Manufacturing	5	10	13	14
Electricity	79	92	91	95
Construction	6	7	16	20
Trade & Hotels	1	3	6	3
Railways	100	100	100	100
Other transport	24	9	31	20
Communications	100	100	100	100
Banking&Insurance	35	69	85	86
Defence	100	100	100	100

Source: Mohan (1996) quoted in Joshi and Little, India's Economic Reforms 1991-2001

### 5.2. The Public Sector

The public sector was given the responsibility for putting India on the road to rapid development. Table 4 shows the pervasive share of the public sector in industry. It failed miserably. Inevitably it proved inefficient. It absorbed a lot of investment. Many units ran at a loss. It failed to generate surpluses. Its gross savings never exceeded 40 per cent of the investment in public sector over 1950-95. Instead of accelerating investment it has drawn substantially from public savings.

Public sector also became a high wage island in the economy. It lowered the growth rate of the economy and pushed wages higher in the organized sector resulting in more capital-intensive techniques and constraining employment. The enterprises, which generated profits, did so on a scale much lower than what would have been possible in private sector

manufacturing. The enterprises were a drain on the central budget. The government resources and capacity have also been over-extended by the numerous public sector enterprises.

### **5.3. Extensive Government Control of the Economy**

The Government implemented a regime of strict control and close economic management. Thoughts of economists like Rosentain-Rodan (Rosenstein-Rodan 1943) in favour of government activism were quite influential to Indian planners. The extensive web of government regulations inhibited growth and distorted distribution. There was official interference in the allocation and pricing of resources.

Licensing: The licensing system demarcated the private sector's sphere of operation and determined its production capacity. Licensing did not lead to creation of capacity in priority areas. Kyoko Inoue (Inoue 1992a) finds that in fast growing areas with high profit margins, industrial groups adopted an offensive strategy in obtaining licenses and cornered monopoly profits. On the other hand in areas of slow demand and low profits these industrial groups preempted capacity by obtaining licenses in order to prevent others from entering the market but did not use their license to increase capacity. Profits thus tended to increase through price manipulations rather than through cost reductions or quantity improvements. Licensing could neither curb monopoly nor channel investment in a planned way. It was only in the 1990s when much of licensing was abolished that dynamism was injected in the economy.

Government also rigidly controlled foreign investment. Prior to 1980 existing foreign-controlled enterprises were compelled or persuaded to exit or relinquish control. New investments were very much restricted. Foreign shareholdings were required to be reduced to 40 percent. All these led to an absence of foreign investment. Investment in the economy became limited and infusion of foreign technology and practices were severely restricted until the 1990s.

The whole regulatory and licensing policy system became cluttered with detail and exceptions producing inconsistencies and contradiction. As Kyoko Inoue (Inoue 1992b) says, "the whole policy structure grew to a complicated labyrinth where industry could not progress except through byways of exceptions and additions".

Finally the system fostered a lot of vested interests that became interested in maintaining the license-quota system at the cost of growth.

### **5.4. Restriction of Competition**

The policies for the first three decades after independence did not foster competition in the economy but restricted it. Industry was protected from foreign competition by high tariff barriers. Domestic competition was severely restricted by industrial licenses, permits and quotas. The rates of effective protection became high. Industry could remain profitable with low levels of productivity and efficiency. Quality of goods remained low. Product reservation for small industries was another policy leading to inefficiency. Small firms produced complex products instead of components for larger factories. The reduction of competition both between large and small companies and among small resulted in low quality of products and inefficient productivity.

The highly protected industries showed capital to labour ratios five times than low-protected industries while employing only 19 per cent of the labour against 78 per cent by low protected industries. According to Kirit S. Parikh [Parikh {in Bouton and Oldenburg (eds) 2000c}] if only fifty percent of the capital from highly protected industries were to use the same capital-

to-labour ratio as the low- protected industries, industrial employment would have been 50 percent higher. This indicates the cost of development strategy in terms of lost employment.

### **5.5. Obsessive Labour and Industry Protection**

The government went to great lengths to protect labour and bankrupt industries at the cost of the economy. No worker, both in public and private sector could be sacked or even working conditions changed, without permission (which was rarely given). This made for an unproductive and inefficient workforce. Wages were kept high for protected workers by favourable legislation and industry wide labour unions. The laws succeeded in pampering the small workforce in the organized sector and excluded the large number of people with no jobs in the factories. As the laws discouraged employment in private sector, the government could not resist encouraging unproductive employment in the public sector at relatively high wages. Labour market became totally inflexible. Entrepreneurs had incentives to restrict regular employment.

Loss-making, bankrupt companies were not allowed to be liquidated. Instead the Government nationalized these companies. Thus the Government imposed on itself a drain of resources that could be better spent elsewhere. Liquidation was only started from 1985 when the Sick Industrial Companies Act was passed.

### **5.6. No Economies of Scale**

The Indian government's policies did not promote economies of scale among private enterprises. Large public sector enterprises did not bring about any significant cost reductions that would make them internationally competitive. Conversely, there were a series of concessions to small scale, tiny and cottage industries. A lot of products were reserved for manufacture by these sectors. However these enterprises did not bring about any great increase in employment, proved to be capital intensive and did not have economies of scale to succeed. For example, Indian Textile policy severely handicapped mill production and sought to expand handloom production. India's share in the world textile market halved in the 1960s and 1970s and India missed out on the world boom in garment exports until the last decade.

There was excessive fragmentation of production capacity into thousands of small uneconomic enterprises. Product reservation prevented the needed economies of scale for exports. The labour intensive export oriented industries could not rise due to a large number of such products getting reserved for small-scale industries.

### **5.7. Social Justice over Economic Growth**

Emphasis on the political goal of social justice has distorted India's industrial development policy, not because the goal was wrong but because the government was concerned with achieving direct results. The government connected the solution of unemployment with the promotion of labour intensive industries, which in its view consisted mainly of small-scale and rural industries. This proved to be wrong, as employment was not generated to the desired level.

The dispersal of industries to backward areas increased burdens on industry and made them unprofitable. Progressive and protective labour laws created an entrenched, secure labour force and discouraged employment.

The government could not take many steps where economic rationality demanded a more practical approach than ideology would allow.

The path to social justice taken by India was to increase state control over industrial assets and activities and restrict the level of economic power in private hands in order to “subserve the common good”. Market mechanism was distorted as social justice goals were pursued through licenses, exceptions, rules, laws and interventions. The end result was that neither economic growth nor reduction in income disparity or poverty eradication took place to the desired level.

## **6. What India can Learn from Japan**

Having studied the industrial development policies of Japan and India we now come to the important part of this study. What can India learn from Japan? It is true that the situation of each country is different and each country should pursue its own path to development. However the transition is made easier if a country can successfully apply some of the best practices followed by a successful country and use the experience of other countries to avoid policies that have proved unsuccessful. Japan is an astounding success story in the world having made an amazing transformation from the ruins of the Second World War to becoming one of the most successful economies in the World. East Asian countries like South Korea, Taiwan and to a lesser extent Hong Kong and Singapore successfully adopted several policies used by Japan in their own country’s rapid transformation. India has only in the past decade begun its transition to a modern market economy. It still has a big lag in industrial development and technological catch-up. Though the disparities of India with Japan are large, India can do worse than try to adapt some policies, which will put it into the developmental autobahn. Lets us then look at some of Japan’s policies that may be used by India to accelerate its industrial development.

### **6.1. Catch-up Policies**

India has a lot of ground to cover in its industrial base. There is a lot of catching up to do for India to begin competing with the rest of the world on an equal footing. This position is also an opportunity as the path forward has been trodden by several nations that have come through a similar experience. Japan is the country, which was perhaps the most successful in its catch up policies after the World War. Its policies for catch-up are well known and documented. India thus has a role model that it can follow. Catch-up policies followed by Japan may be successfully adapted to the Indian situation.

Which are the catch-up policies that India can follow? During its high growth period Japan’s policy makers identified growth industries for promotion by the following criteria.

- Industries that produced goods with a high-income elasticity of demand. That is, as income of people rose, there would be an increased demand for these goods.
- Industries experiencing a rapid increase in productivity.

Though critics of the policy say that these type of industries will grow by themselves and there is no particular need for government intervention [for e.g. Komiya {in Komiya et al (eds) 1988o}], it must be beneficial for the government to identify the industries which will lead the economy on the high growth path and if not promote at least try to see that there are no policies harmful to these industries. In India, even in 2003, on an average people spent 64% of their income on food. This implies that almost all industries will show high-income elasticity of demand, as consumption levels for non-food items are quite low. Therefore the government needs to identify all these growth industries and promote them possibly phase wise like Japan did. Basic industries may be followed by knowledge intensive industries and then with innovative and creative ventures. However for the export sector India needs to jump up the industrial ladder and promote its knowledge, creative and service industries. The promotion tools used may be tax breaks including favourable depreciation policies. Subsidies

and tariff protection are also possible promotion tools but given the inefficiencies they generate it would be better for India not to emulate these aspects of early Japanese policy. Besides, WTO commitments would make it extremely difficult to follow such policies. In addition to tax breaks the industry can be provided with easy access to finance on favourable terms.

Together with promotion of growth industries the area most vital for India to catch up is in technological up gradation. Long insulation has resulted in Indian industry having lower technological levels. During the catch up period Japan followed an effective policy for reducing the technology gap and assimilating modern technology. In India today, the most viable option for rapid technological catch up may be through Foreign Direct Investment. Besides this, India may do well to promote industry R&D efforts as also the acquisition of technology.

For rapid catch up India needs to increase factor inputs on a large scale. This would mean increasing investment in the growth sectors and development of human capital. Like Japan, India has a fairly high savings rate, which is about 24 per cent of the GDP at present. Large public savings are available in the nationalized banks of India. These shall have to be released into industrial investment. Lower interest rates might channel increased funds into the growth and export industries.

## **6.2. Declining Industry Policies**

Among the policies of Japan worth emulating, one of the most beneficial would be the declining industry policy. Japan was able to achieve transition of industries that had lost their competitive advantage with almost no social disruption and achieved a gradual reduction of capacity and redeployment of manpower with ease. Adjustment assistance policies facilitated employment switchovers by workers, resource transfer, in some cases revitalization of the industry, mergers to cut capacity, modernization of equipment assistance etc. The Industry Stabilization Law of 1978 aimed at suspension or scrapping of capacity in depressed industries, which was target, oriented. Laid off workers were covered by insurance and firms were encouraged to submit reemployment assistance plans. Occupational training and guidance were given through Employment Stabilization Bureaus. Finally distress loans were given to small and medium enterprise to affect business switchover.

India's declining industry policy has been one of the most irrational and a drain of resources. Firms were not allowed to go bankrupt and lay off workers. Instead "sick industries" were nationalized and the firm continued to operate at a loss and with public funding. Only in the 1990s was a Board of Financial Reconstruction set up to decide on revival, sale or closure of the "sick" industries.

India would do well to emulate Japanese policies, which made for painless death of the depressed industries, transfer of resources to growth industries and redeployment of workers in new industries. Instead of adopting a protect-the-workers-at-all-costs attitude, the Government would be well advised to follow the Japanese style of transfer of resources and manpower to modern industries without much disruption.

## **6.3. Infrastructure Development**

Infrastructure remains a main impediment to development of industries in India. Given its vast size and scarce resources, infrastructure development is a difficult task. In the past the Government relied solely on public funds and its own machinery for development.

Japan on the other hand stressed infrastructure from very early on and used infrastructure to spur rapid development. Like Japan, India should aim to bring about increase in infrastructure development expenditure to 3-4 per cent of its GDP. Efforts should be made to develop industrial sites on a larger scale. Power and Telecom infrastructure capacity needs rapid augmentation. Though it has started, India needs to adopt policies that make it easier for private sector to participate in Infrastructure Development so that the resource gap can be met.

The government needs to ensure cheap and easily available land for industry with adequate power, water and communications facilities. Ports, Railroads and Highways need to be modernized and developed. India would do well to accord the same priority as Japan to infrastructure development so that investment decisions of industry can be made easily and transaction costs are minimized.

#### **6.4. Export Promotion Strategies**

India has now abandoned its import substitution policies and has adopted export promotion. However exports are still not growing at the desired rate.

India has in place several incentives for exporting industries. Export subsidies and import flexibility are provided to encourage exports. India may well have to think of schemes like tax breaks, special depreciation schemes and easier finance (like the priority financing scheme of Japan) to promote exports. An export insurance scheme like Japan can be introduced.

One major area, which can greatly help exporters, is the timely dissemination of trade information pertaining to market environment in foreign countries. JETRO has been performing the job admirably for Japan. India might consider redeployment of part of its embassy staff to carry out the function of gathering market intelligence and promoting exports.

#### **6.5. Promoting Economies of Scale**

The Gandhian ideology of promoting village industries led India to develop policies protecting small scale, cottage and village industries. Achieving economies of scale has never been a policy with the Indian Government so far.

India now needs to aggressively pursue achievement of scale economies so that its products become competitive. Japan was the country whose policies were dominated by the thought of achieving economies of scale. India would do well to emulate aspects of the policies pursued by Japan in achieving scale economies. First of all it should remove the reservation of products for the small-scale industries. Promotion rather than protection should be the policy choice. Since an industry needs time and huge set up costs to achieve scale economies, limited protection against foreign competition is a viable option. However, this may be difficult in the current WTO regime. Hence, India should aim at making available easy finance for these industries and giving them tax holidays for a fixed term. Various other incentives may be given. Foreign Direct Investment may be encouraged on a sufficient scale for the high growth industries. Mergers and tie ups may be encouraged in the Japanese style so that there is firm level specialization and workable competition between a few large firms. However this should be more for products aimed at the international market rather than for domestic competition. India has taken steps in the 1990s to relax some provisions of the quite draconian Monopolies and Restrictive Trade Practices Act that would remove some impediments to industries achieving larger scale.

India may also try out promoting rationalization plans for industry without coercion so that firms achieve scales, production efficiency and quality required for international competitiveness.

## **6.6. Fostering Competition**

Upto the last decade India's policies were not conducive to competition. India has now realized the need for a market economy based on free competition to induce economic growth.

Though concerned with "excess competition" the Japanese Government always realized the need for free enterprise and competitive domestic economy. India can learn from Japan in promoting policies that lead to free competition. The reservation of items for the public sector has been removed substantially already. However in some areas the Government needs to get out of the market. This calls for a massive effort for disinvestments of Government public sector enterprises. A start has been made but this needs to be accelerated.

Effective regulation and transparency in rules is also needed for free competition. Coupled to this there should be exposure to foreign competition for improving productivity and quality. Tariffs have been lowered. They are set to be further lowered in accordance with WTO commitments from 2005. Indian domestic industry that was heavily protected from foreign competition by tariffs and from domestic competition by licensing and permits, have now no option but to be competitive and attain world standards to survive. Agrawal *et al* (Agrawal, Gokarn, Mishra, Parikh and Sen 2000a) finds that:

"...if the downstream end is still accorded high protection, one major source of efficiency inducement is lost. There is, therefore an argument for reducing the protective barriers around consumer goods." "...the leverage that East Asian economies obtained from exports may be replicated by forcing domestically-oriented downstream production into efficiency-inducing environments."

The licensing and permits have been dismantled to some extent but need to be totally removed to free industries from red tape and rent seeking.

## **6.7. Functioning of Financial Institutions**

Indian financial sector is dominated by the Government. The Government wholly owns most of the financial institutions and banks functioning in India. Industrial financing so far was mostly disbursed through the Industrial Development Bank of India (IDBI) and Industrial Credit and Investment Corporation of India (ICICI). Nationalized Banks also provide financing to industries especially small scale and rural industries.

Inefficient credit allocation by banks is one of the reasons for the low productivity of investment in India. Statutory requirements of having to maintain a Cash Reserve Ratio, Statutory Liquidity Ratio, quantitative targets for priority sector lending, administered interest rates and lax supervision have led to a low performing, almost bankrupt financial sector. India needs to free up the banks so that they can make investment decisions on basis of returns and not political influence.

After 1991 a number of reforms has made the financial sector more healthy and transparent. The setting up of a regulatory body for the Stock Exchange, the Securities and Exchange Board of India has made the functioning of stock exchange more transparent.

Nevertheless, India can learn from Japan in a lot of aspects in making funds available to industry. Japan is one of the successes in providing directed credit. Some of its policies may be adopted by India. Like the Japanese Post office savings, India has built up a sufficient reserve from savings schemes and Government controlled insurance companies. The area where the performance is poor is in allocation of credit. India needs to abandon the priority sector lending program that was biased to agriculture and unproductive lending to small industries and poor individuals. A substantial chunk of lending needs to be diverted to productive industries. Further where there are incentives for priority areas they should be performance based and the government should follow a carrot and stick policy. The experience of the Japan Development Bank and the Export- Import Bank of Japan may be studied to find out the focused lending to different industries at different times, which were a factor in Japan's growth. Improvement in the performance of the Government owned financial institutions is vital and India can study some of the better practices of Japan in this matter.

### **6.8. Promoting Efficiency and Productivity**

India has never been known for the efficiency and productivity of its industries. Japan on the other hand was successful in having policies that facilitated efficiency and increase of productivity.

The two vital areas for India to exercise policy options for improvement of efficiency and productivity would be to liberalize international trade further and to withdraw the government from participation in industrial activities. Agrawal *et al* (Agrawal, Gokarn, Mishra, Parikh and Sen 2000b) argue that the lessons lie not so much in terms of what industries to promote and what instruments to use, but rather in terms of the introduction of as many autonomous efficiency – inducing forces into the system as possible. India needs to promote technical up gradation, modern management methods and quality practices. The government may have a role in disseminating information on these aspects. Training is another aspect that needs to be promoted. Firms must be encouraged to constantly move towards modernization and international competitiveness. Easy finance for technological development and modernization, tax breaks, government support for R&D may be the tools used, like Japan, to nudge industries towards greater productivity.

Use of policy bodies like *shingikai* in Japan, using industry and government representatives for the purpose of sharing information and best practices, may be used by India for improving efficiency and productivity.

### **6.9. What not to Learn**

The experience of Japan will also be beneficial to India since it can learn lessons from some failures or distortions generated by certain policies. Indeed, what not to learn may be as important as what India can learn. For one thing India can learn not to develop a dual economy i.e. highly protected inefficient domestic sectors and a very efficient export sector. Protection in all forms should be not desirable to build up a competitive, open economy. Infant industry protection was used successfully by Japan but backfired when continued too long after the industry matured. Infant industry protection should be withdrawn immediately after maturity (provided WTO has not already compelled withdrawal!).

Secondly India may resist the temptation of taking up a too interventionist approach. Japan sought to regulate the internal organizations of particular industries, closely influence investment decisions and output quantity and regulate competition. Some of these policies resulted in distortions and inefficient output. India would be better off in avoiding coercive

measures and let free enterprise take its path. Policies may be restricted to provide just the stimulus for directing activity towards desired activity.

India may also do well to avoid the Japanese obsession with restricting of “excess” competition. There have been no proven benefits of these policies. On the other hand at certain times they might have led to inefficient outcomes. The government was not always successful in its efforts to restrict competition; like in its efforts to have automobile firms restricted to three, and were proven wrong later on. Formation of cartels always leads to inefficiencies and government condonation of such cartels only provides wrong signals.

## **7. Conclusions**

In the last chapter we surveyed what India could learn from Japan. India at present is a contradiction in terms of its stage of development. On one hand it has some of the advanced industries of the world employing state of the art technology like in software and pharmaceuticals. On the other it is still a country heavily dependent on agriculture and employing primitive production methods in a number of products

Therefore we see that India is at an interesting phase of development. As Japan tries to recover from its prolonged economic slump, India is trying to accelerate its catch up in order to join the ranks of the developed nations within two decades. As Nicholas Stern (Stern 2003) says, “India has experienced the costs of excessive rigidity and has, particularly in the last decade, demonstrated that adjusting to international change, and channeling it to productive purpose, can raise growth and reduce poverty”. Several countries most notably the East Asian economies have traversed the path to rapid development and India has a wealth of experience and policy practices to learn from. The Japanese success has been replicated by several East and South East Asian nations, so why not India? In the current world WTO requirements and the global division of labour have made it difficult for a country to pursue protectionist policies to aid its industry. Nevertheless there are several other policy paths to emulate. Whatever policy options India exercises, Indian policy makers would do well to learn from the dedicated nationalistic approach, constant monitoring and attention to detail of their erstwhile Japanese counterparts.

In this study we surveyed the post World War industrial development measures of Japan and India and then attempted to draw some lessons on what India can learn from Japan at its present state of development. A detailed study on each aspect of industrial policy may be attempted by policy makers in order to chart the future course of industrial development of India. If some useful pointers can be drawn, this study will have served its purpose.

## References

- Agrawal, P., S.V. Gokarn, V. Mishra, K.S. Parikh and Kunal Sen (2000), *Policy Regimes and Industrial Competitiveness: A Comparative Study of East Asia and India*. UK: MacMillan.
- Bhagwati, Jagdish (1988), *Export-Promoting Trade Strategy: Issues and Evidence*. World Bank Research Observer . Vol. 3, No. 1 (January 1988):
- Bouton, Marshall and Philip Oldenburg (Editors) (2000), *India Briefing: A Transformative Fifty Years*. New York: M.E. Sharpe.
- Callon, Scott (1995), *Divided Sun: MITI and the Breakdown of Japanese High- Tech Industrial Policy*. Stanford: Stanford University Press.
- Denison, E.D. and W.K. Chung (1976), *Asia's New Giant, Chapter 2: Economic Growth and its Sources*. New York: Columbia University Press.
- Johnson, Chalmers (1982), *MITI and the Japanese Miracle: The Growth of Industrial Policy, 1925-1975*. Stanford, CA: Stanford University Press.
- Joshi, Vijay and I.M.D. Little (1996), *India's Economic Reforms 1991-2001*. Delhi: Oxford University Press
- Kanamori, Hisao (1982), *Economic Growth and Exports*. Tokyo: Chuoukeizaisha
- Katz, Richard (1998), *Japan: The System that Soured: The Rise and Fall of the Japanese Economic Miracle*. New York: M.E. Sharpe Press.
- Komiya, Ryutaro (1990), *The Japanese Economy: Trade, Industry and the Government*. Tokyo: University of Tokyo Press.
- Komiya, Ryutaro and Keiichi Yokobori (1991), *Japan's Industrial Policies in the 1980s*. Tokyo: Academic Press.
- Komiya, Ryutaro, Masahiro Okuna, Kotaro Suzumura (Editors) (1988), *Industrial Policy of Japan*. Tokyo: Academic Press.
- Kosai, Yutaka, *Chapter 2: The Reconstruction Period*.
  - Okuna, Masahiro and Kotaro Suzumura, *Chapter 21: Conclusion*.
  - Tsuruta, Toshimasa, *Chapter 3: The Rapid Growth Era*.
  - Baba, Masao, *Chapter 21: Conclusion*.
  - Uekusa, Masu, *Chapter 4: The Oil Crisis and After*.
  - Ogura, Seiritsu and Naoyuki Yoshino, *Chapter 5: The Tax System and the Fiscal Investment and Loan Program*.
  - Itoh, Okuno, Kiyono and Suzumura, *Chapter 10: Industry Promotion and Trade*
- Krugman, Paul (1994), *The Myth of Asia's Miracle*, Foreign Affairs Nov/ Dec 1994
- Kyoko Inoue (1992), *Industrial Development Policy of India*. Tokyo: IDE.
- Murakami, Yasusuke (1996), *An Anti-Classical Political-Economic Analysis: A Vision for the Next Century (English translation Kozo Yamamura)*. Stanford: Stanford University Press
- Nakayama and Arisawa (1952), *Tsusansho Kigyo Kyoku*
- Okimoto, Daniel I. (1989), *Between MITI and the Market: Japanese Industrial Policy for High Technology*. Stanford, CA: Stanford University Press.
- Patrick, Hugh (ed.) (1986), *Japan's High Technology Industries*. Seattle: University of Washington Press.
- Porter, Michael (1998), *The Competitive Advantage of Nations*. Free Press.
- Rosenstein-Rodan, P. (1943), 'Problems of industrialization in Eastern and Southeastern Europe', The Economic Journal, No. 53.
- Stern, Nicholas, World Bank Chief Economist (2003), *Keynote Address for the Annual Bank Conference on Development Economics* in Bangalore, 2003
- Stiglitz, Joseph E. (1996), *Some Lessons from the East Asian Miracle*. The World Bank Research Observer, Vol 11, No. 2 (August 1996).
- Tomlinson, B.R. (1998), *The Economy of Modern India 1860-1970*. ( The New Cambridge History of India , Vol. 3, Part 3). Cambridge: Cambridge Press
- Ueno, Hiroya (1980), *Conception and Evaluation of Industrial Policy* in Kazuo Sato, ed., *Industry and Business in Japan*. New York: M. E. Sharpe.